F. NO. 09(06) NBAIM/store/RC/printing/2013-14/ Date: 12.01.2015

TENDER NOTICE FOR PROCUREMENT OF EQUIPMENT

On behalf of the President, ICAR, Director, National Bureau of Agriculturally Important Microorganisms, Kushmaur, Mau (U.P) invites sealed tenders from various firms for the FOLLOWING EQUIPMENTS (Also in Annexure I).

<table>
<thead>
<tr>
<th>S. NO</th>
<th>Particulars</th>
<th>Detail Specifications</th>
<th>Bid Security (EMD) in Rs.</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Zeta Sizer</td>
<td>Please see in Annexure-II</td>
<td>Rs. 10,000/</td>
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<td>2.</td>
<td>FTIR</td>
<td>Please see in Annexure-II</td>
<td>Rs. 40000/</td>
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<td>3.</td>
<td>Nanodrop Spectrophotometer</td>
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<td>HPLC system with FID, RID and fluorescence detector</td>
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<td>27.</td>
<td>Laminar Air Flow</td>
<td>Please see in Annexure-II</td>
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The schedule of tender is as follows:

**Last date of acceptance of tender**: 05.02.2015 at 10:00AM  
**Date of opening of tenders**: 05.02.2015 at 11:00AM

- The institute will not be held responsible for any sort of postal delay.  
- Double bid system will be followed.

Duly filled in and sealed tender form should be submitted for aforementioned items along with required **Bid security (Earnest Money Deposit) in shape of Demand Draft (DD)** along with tender fee of Rs 500/- (Five hundred only) for each equipment. The DD should be in favour of ICAR Unit NBAIM, Mau payable at SBI, Maunath Bhanjan Branch (code 01671) on the scheduled date and time positively. Any tender form received after stipulated date & time or received without Bid security and tender fee as specified above shall be deemed as rejected. Tender forms so received will be opened on the stipulated date & Time in the presence of tenderer or their authorized agents. The Competent Authority reserves the right to accept or reject the tenders at any time without assigning any reason thereof. Terms & Conditions and Tender form can be downloaded from our website [www.nbaim.org.in](http://www.nbaim.org.in) and [www.mgrportal.org.in](http://www.mgrportal.org.in).

(Administrative officer)
Dear Sir,

We have a requirement of above said items for which you are invited to submit your most competitive quotation for the same. The envelope containing the tenders should be superscribed as “TENDER FOR ………………….. (Name of Equipment). Tender should reach this office ON 05.02.2015 at 10:00AM which will be opened at 11:00AM onwards on 05.02.2015. Double bid system will be followed. Details Term & condition and Tender form is mention below.

(Administrative Officer)

1. Description of the required and Quantity : (As enclosed in Annexure-I)
2. Guiding specification and other Technical Details : (As enclosed in Annexure-II)
3. Terms of delivery (Delivery at site) : FOR NBAIM, MAU
4. Last date of acceptance of tenders : 05.02.2015 at 10:00AM

5. Price structure:
   a. The tender shall quote for the complete requirement of services and for the full quantity as shown price in the list of requirements in Annxure-III.
   b. The rates and prices quoted shall be strictly in Indian Rupees otherwise the tenders will be cancelled.
   c. All duties, taxes and levies application as per Government of India rules by the supplier under the contract shall be included in the quoted priced.
   d. The rates and prices quoted by the supplier shall remain firm and fixed during the currency to the contract and shall not be subject to variation on any account whatsoever, including statutory variations, if any.

6. Receipt of good and Terms of Payment:

   a. Payment terms for supply of equipment

      Immediately on receiving the goods at site, the NBAIM will verify the quantities of the items supplied as specified in the delivery challan of the supplier and also check for any superficial damage etc.

7. Warranty Clause: Manufacturer’s standard warranty clause in acceptable.

8. Dispute Resolution Mechanism:
   a) If any dispute or difference arises between the NABIM and the supplier relating to any matter connected with the contract, the parties shall make every effort to resolve the same amicably by mutual discussions.
   b) You are also required to fulfill the following conditions and furnish the details as indicated in subsequent paragraphs.
c) The NBAIM reserves the right to increase or decrease, the quantity of goods and services as specified in the list of Requirements, without any change in the unit price or other terms and conditions.

d) Please furnish a certified copy of IT registration/PAN details.

e) Please indicate if you are currently registered with any Govt. Organization and if registered, furnish all relevant details.

f) Please states whether business dealings with your firm presently stand banned by any Government organization and, if so, furnish relevant details.

g) A supplier shall not submit more than one quotation for the same set of goods. No pooling should be done in association with any other supplier.

h) Correction or over-writing in the tender document in not permissible. The quotation(s) as well as the contract shall be written in English language. All correspondence and other documents pertaining to the quotation(s) and the contract, which the parties exchange, shall also be written in English.

The quotation and all correspondence and documents relating to the quotation Exchanged between the bidder and the NBAIM may also be written in Hindi language provided that the same accompanied by an English translation, in which case, for the purpose of interpretation of the quotation, the English translation shall govern.

i) The contract shall be governed by the laws of India and interpreted in accordance with such laws.

j) The quotation/offer shall remain valid for acceptance for a period not less than 90 days after the specified date of opening of the offers.

k) A DD/Banker’s cheque as Bid security (EMD) in favor of ICAR Unit NBAIM, Mau payable at SBI, Maunath Bhanjan, Branch code 01671” is to be enclosed along with the quotation. No quotation shall be considered without the Bid security (EMD) and tender fee.

l) In case, the successful bidder shows in inability at any stage, after the contract is finalized and awarded for whatsoever reason(s), to honor the contract, the EMD/Performance Security deposited would be forfeited.

m) PAN No./TIN No. and other details should be provided in Annexure-IV.

n) The firm whom the tender will be awarded, will have to deposit the performance security equal to 10% of the total amount tentatively arrived till such time the period of contract expires. If the supply/services are not found to be satisfactory, the performance security is liable to forfeited.

9. The tender shall be sealed in an envelope. The envelope shall be addressed to the Director NBAIM and it should also bear the “Tender for ............(Name of Equipment) and the words “DO NOT OPEN BEFORE 11:00 AM ON 05.02.2015 (the time and date of opening of the tenders)” The tender envelope will bear the full address of the NBAIM. The supplier must ensure that its tender duly sealed as above, reaches the NBAIM at the time and date. The supplier may, at its choice, send the tender by regd. Post/ speed post. Alternatively, the supplier may also hand submit delivery the tender to the NBAIM in which case the NBAIM shall give the supplier a receipt, indicating the time & date of receipt of the tender.
10. Late received tenders by the NBAIM will be ignored. Further, the NBAIM does not accept any liability and responsibility for the tenders in case the same are not properly sealed and marked and/or sent as above.

11. The tenders, which are received on time, will be opened at NBAIM’s office at 11:00 hrs on 05.02.2015. The NBAIM will open the tenders in the presence of the tender’s duly authorized representatives, who choose to attend the tender opening if any.

12. The NBAIM will evaluate and compare the tenders which are substantially responsive i.e. specifications etc. the NBAIM will award the contract to the supplier whose tender will be determined to be responsive and offering the best evaluated deal.

13. In spite of the above, the NBAIM reserves the right to accept or reject any tender or annual the tendering process and reject all tenders at any time prior to award of the contract, without assigning any reason, whatsoever, and without incurring any liability or obligation, whatsoever, to the affected tenders or tenders.

14. Tenderer may enclose documentary evidence of undertaking such type of jobs with other government/non-government agencies in past.

15. Please submit tender accordingly. You shall sign all the pages of your tenders. Your price may be furnished in the format enclosed as Annxure-III. You are also required to return this original tender enquiry (all the pages), as it is, duly signed by you on every page, for our record. You may retain a photocopy of this tender enquiry for your records.

**Encl:** Annexure-I, II, III

**Note:** kindly furnish the following information along with your tender:

<table>
<thead>
<tr>
<th>Name of the firm</th>
<th>Account No. of the firm</th>
<th>Name to the bank and branch with code where A/c exists</th>
<th>Whether branch is CBS, if yes, the RTGS/IFSC code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>
Other terms and conditions:

SUBMISSION OF BID

The Bidding Process shall be in three parts, viz.

Part-I: Qualifying documents & EMD

Part- II: Technical Bid

Part- III: Financial Bid

SUBMISSION OF BIDS:

The proposal must consist of three separate envelopes as follows:

“Qualifying Documents & EMD”

The First envelope must enclose the following documents and should be marked in bold letter as “Qualifying Documents & EMD”.

1. A brief description of the firm and an outline of recent experience in assignments of a similar nature
2. Firm / companies should have ISO 9000/ 2014 certification (desirable)
3. Proof of registration central or State Govt. or equivalent
4. Proof of Sales Tax Registration, PAN Card Details
5. Copy of sales tax return
6. Copy of Income tax return
7. Firm / Companies should have minimum annual financial turnover of Rs.50 lakh
8. List of user Departments with their contact number/ address, so that technical committee may visit if required
9. Firm / Companies has to give an undertaking on non judicial paper worth Rs.100.00 (duly signed by the notary), that his/ her firm/ company is not barred or black listed & also declare that his company having no legal case by any department or institute
10. Firm / Companies may have to give technical presentation in front of a committee or official, if need be.
Technical & Financial Bids are to be submitted on same date and time. The Technical bid and financial bid will be sealed in different envelopes super scribing “TECHNICAL BID” AND “FINANCIAL BID” respectively. Both the bids will be sealed in a bigger envelope and super scribed as “Tender for………… (Name of equipment)”. The bid document should be properly numbered and signed on each page by the authorized signatory of the company under company seal and submitted in proper manner.

Bids with all the relative annexure and the detailed proposal of the bidders solicited herewith in this document should be submitted to the address mentioned above and by the date of Submission of Bid.

Schedule & Venue

To ensure uniformity at the time of evaluation and finalization of offers the bidders shall strictly follow the format & procedure indicated in the Annexure.

Document Fee

The Bid should be submitted along with the Document Fee of Rs 500/(Rupees Five Hundred only) for each equipment separately in favour of “ICAR Unit NBAIM, payable at Mau, Uttar Pradesh

Earnest Money Deposit (EMD) and Performance Guarantee

Technical bids must be accompanied by an EMD of above said amount in the form of Demand Draft in favour of “ICAR Unit NBAIM, payable at Mau, Uttar Pradesh”

Technical bids not accompanied with the document fee and/or EMD shall be summarily rejected. The EMD of unsuccessful bidders will be returned to them on selection and execution of agreement with successful bidders. No interest shall be paid on the EMD. If the selected bidder, refuse/ or is unable to accept the order, his EMD will be forfeited.

Evaluation of Technical Bid

The Technical bid will be examined by NBAIM which may call for clarifications/additional information from the bidders. The same must be furnished to NBAIM within the Request for Proposal for Net House

Validity of Proposal

Financial Bid of the bidders who have been short-listed by the Evaluation Committee will only be opened. The price quoted in Financial Bid should be inclusive of all taxes, duties, transpiration and any other charges. No price escalation on any ground whatsoever will be entertained during the period of validity of the rates.
INSTRUCTIONS TO THE BIDDER

General Terms & Conditions of the Quotation

- The proposal is being invited in Single Stage Double Envelope Process. The technical details with the relevant information / documents / acceptance of all terms and conditions strictly as described in the RFP document should be submitted. If short listed, the Financial Bid of the bidder will be opened.
- Any incomplete or ambiguous terms/conditions/quotes will disqualify this bidder/
- NBAIM reserves the right to accept/ reject any or all Proposal/s without assigning any reason thereof.
- NBAIM reserves the right to stop the process at any stage and go in for fresh bidding without assigning any reasons thereof.
- NBAIM may, in its absolute discretion, seek additional information or material from any bidder after the bidding closes and all such information and material provided shall be taken to form part of that bidder’s proposal.
- Bidder should provide details of their Fax, email and full address(s) to ensure that replies to Bids could be conveyed promptly.
- Details of Bid document
- Please read the term & conditions laid down in this document carefully.
- Please fill in the relevant information in the blanks provided.
- Please sign in full by the Authorized Signatory(ies) with company seal in all the relevant Annexure and return the complete set in sealed cover.
- Bids not fulfilling any or all of the conditions prescribed or which are incomplete are liable to be rejected.
- No advance copy of bid through Email/Fax or in any other form should be disclosed to any the employee NBAIM.
- No consideration will be given to bids received after the time stipulated above. Any extension of time shall be sole discretion of NBAIM.
- Canvassing/Cartel in connection with bidding process in strictly prohibited and bids submitted by bidders who resort to canvassing are liable to be rejected.
- The firm should not have been black listed by any Govt. Bodies/ PSUs etc.

(Signature of the Proprietor/representative of the firm)
# LIST OF REQUIREMENTS

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Note: The NBAIM reserves the right to increase or decrease the item and quantity.
Specification of equipment

1. **Zetasizer**
   - Zeta potential using patented M3-PALS technology.
   - A ‘Quality Factor’ and ‘Expert Advice System’
   - 21CFR part 11 software option to enable compliance with ER/ES.
   - Research software option to give access to further features and analysis algorithms for the light scattering specialist.
   - Automation of measurements using an auto-titrator option.
   - Alternative laser, 50mW at 532nm for samples incompatible with the standard 633nm laser.
   - Optical filter option to improve measurements with fluorescent sample.
   - Temperature range extension option to 120°C.
   - Warranty: at-least 1 year
2. FTIR

1) Spectral resolution must be 0.8 cm\(^{-1}\) or better.

2) Standard spectral range of 375-7800 cm\(^{-1}\). Completely covering Mid IR region and advantage of getting region of interest in near infrared region.

3) High performance dynamically aligned Michelson interferometer. Software controlled interferometer alignment and automatic tuning to provide consistent result.

4) Peak to peak noise of 22,000:1 for one minute or better.

5) Broad range of accessories like ZeSe ATR, Diffuse reflectance, gas cell etc can be attached with the FTIR system. Instrument can even accommodate normal FTIR accessories available in the market.

7) Software for quantitative and qualitative analysis. Spectral match, curve fitting, normalization, peak area, peak height calculations. Advanced high resolution spectral library is available.

8) Standard transmission accessory with the instrument, which can accommodate pellets, films, liquid cells and at least 10cm length gas cells.

9) Rugged and sealed design. Suitable for humid conditions.

10) Automatic system performance verification.

11) User replaceable desiccant cartridge, option for spectrometer and sample compartment purging, automatic desiccant life alert.

12) Student proof, rugged design to fit into any academic laboratory.

13) Anti fog coated (CaF\(_2\) or other coating) KBr window for moisture resistance.

A latest data processor compatible with the machine at least i3 processor 4\(^{th}\) generation; at least 500GB HDD 4GB RAM, 20” System with genuine OS, window 8.1 should be provided with preferably All In One with High speed printer cum scanner cum copier with fax.
3. **Nanodrop Spectrophotometer**

- Fast measurement time of less than five seconds
- Innovative software to create custom methods and options to design reports and export data
- Perfect for proteins with low wavelength absorbance, such as peptides at 205 nm
- Sample volumes as small as 0.5 μl, which is ideal for precious high concentration samples
- Concentration measurement capability up to 15,000 ng/μl which eliminates the need to dilute highly concentrated samples
- Minimum Sample Size: 0.5 μl

Sample Number: 1

Path Length: 1 mm (auto-ranging to 0.05 mm)

- Light Source: Xenon flash lamp
- Detector Type: 2048-element linear silicon CCD array
- Wavelength Range: 190 – 840 nm
- Wavelength Accuracy: 1 nm
- Spectral Resolution: <1.8 nm (FWHM at Hg 253.7 nm)
- Absorbance Precision: 0.002 (1 mm path)
- Absorbance Accuracy: 2% (at 0.76 at 257 nm)
- Absorbance Range: 0.02 – 300 (10 mm equivalent)
- Detection Limit: 2 ng/μl (dsDNA)
- Maximum Concentration: 15,000 ng/μl (dsDNA)
- Measurement Time: < 5 seconds
- Footprint: 14 x 20 cm
- Weight: 2.0 kg
- Sample Pedestal Material of Construction: 303 stainless steel and quartz fiber
- Provided with suitable UPS for power back up.
- A latest data processor at least i3 processor 3rd generation; at least 500GB HDD 4GB RAM, 20” System with genuine OS should be provided with preferably All In One.
- AMC prices of accessories prices should be quoted separately.
- Operating voltage: 12 vdc
- Operating Power Consumption: 12 – 18 W (max 30 W)
- Standby Power Consumption: 5 W
- Software Compatibility: Windows 8 (64 bit)
4. Thermal cycler

- Thermal Cycler with gradient facility, capable to run 96 well fast well block
- Modular system Block option should be 48x48x0.2ml & 384 well with gradient
- Maximum ramping rate 4-5 degree centigrade and average 3.3 degree centigrade
- Temperature range should be 0-100 degree centigrade
- Temperature differential range should be 1-24 degree centigrade
- Temperature accuracy ±0.2 degree centigrade of programmed target at 90 degree centigrade
- Gradient accuracy ±0.2 degree centigrade of programmed temperature at end rows
- Temperature Uniformity ±0.4 degree centigrade well to well with in 10sec of arrival at 90 degree centigrade.
- Should come with O ring hermetic seal for heat adsorption
- Should come with honey comb block for great precision and accuracy
- Input power 400 W maximum
- Memory ≥ 1000 typical programs onboard
- Temperature control modes Calculated and block
- Programming options Semi-Graphical, text – based automatic
- Security features password protected folders
- PC compatibility windows XP or higher, USB peripheral compatibility Mouse, USB flash Drive bar code reader.
- Display Touch, color
- Reporting : exportable run logs, system error logs
- System should be Upgradeable to 6 channel Real – time PCR.
5. Horizontal electrophoresis unit with power pack

Horizontal Electrophoresis with Power Pack Assembly

Technical Specification: (Mini, Midi, Large)

**Large:**
Large format horizontal electrophoresis cell  
Size: 29 X 30-30.5 X 9-9.5 cm  
24-96 well accommodation  
Buffer volume: 2 lt.  
Accessories: 26 and 51 well combs (1 mm, 1.5 mm & 2 mm), gel caster, 25 X 10 cm, 25 X 20 cm & 25 X 15 cm UV transparent tray  
Bubble level, adjustable height combs to fit variable needs

**Midi:**  
Midi format horizontal electrophoresis cell  
Size: 18 X 40-40.5 X 9-9.5 cm  
15 and 20 well accommodation  
Buffer volume: 1 lt.  
Accessories: 15 and 20 well combs, gel caster, 15 X 20 cm UV transparent tray

**Mini:**  
Mini format horizontal electrophoresis cell  
Size: 25-25.5 X 9-9.5 X 5.5-6.0 cm  
8 and 15 well accommodation  
Buffer volume: 250-300 ml.  
Accessories: 8 and 15 well combs, gel caster, UV transparent tray  
With power pack for basic power supply  
Safety features- No load, sudden load change, over load, short circuit detector

**Power Pack:** Suitable High voltage power pack with power leads, stabilizer and spike buster  
Current Voltage: 10-2000mA; Volt: 240 V  
**Warranty:** at least 2 years

- **Cell size:** medium or larger dimensions 29x30/40x9  
- **Gel tray:** 25 x 10/ 25 x 15/ 25 x 20/ 25 x 25  
- **Samples throughput:** 24  
- **Base buffer volume:** 2-3 L  
- **Buffer recirculation** – Yes  
- **Migration of Tracking dye:** 6.2 cm/hr  
- **Lid:** Transparent made of polycarbonate  
- Reservoir with platinum electrodes and attached anode power lead & safety cover with electrical interlock

**Accessories**
- **Combs:** Teflon combs (2 each 1-well combs and 2 each 16-rectangular well combs)  
- Gel casting Unit/Gel tray and gel scoop to be provided with the instrument
6. DGGE Unit

1. System can be used for detecting single base change in a DNA segment through gel based-mutation detection method such as DGGE (denaturing gradient gel electrophoresis) & TTGE (temporal temperature gradient gel electrophoresis)

2. Should consist of an electrophoresis module with a temperature control module.

3. Gradients may be formed parallel or perpendicular to the direction of electrophoresis

4. Should come with temperature control (PID type) ±0.5°C variation within gel area, ±0.5°C actual in the range of 45–70°C

5. Maximum set temperature 70.5°C.

6. Electrode should be placed at 0.010” diameter platinum with straight and flexible electrical leads

7. Should include a buffer recirculating pump and other accessories for casting specific.

8. A manual 475 gradient former to create linear gradient gels should be included.

9. System should be Casts two 16 x 16 cm, two 16 x 10 cm, two 16 x 20 cm, or four 7.5 x 10 cm gels per setup

10. Should come with combs 16-, 20-, 25-, and 32- (1 mm only) well combs, and 1-well comb (prep comb for perpendicular gradient gels)

11. Should have an Winmelt of analysis software

12. Regulatory: Meets requirements of IEC 1010-1 and FCC, Class A
7. Table top cold microcentrifuge

Provision for Pre cooling
Acceleration Profiles : 9
Deceleration Profiles : 9
Provision for Fast Spin
Calibration window on lid for speed
Display: LCD
Control Communication : Digital
Self-Diagnostics of errors
PC connectivity with software : Bi-directional encoder
Parameters setting switches
Brushless motor with frequency drive
Inverter fault detection with auto shut down
CFC free refrigeration system
No. of Programs : 99
Last set parameters recall
Choice of rpm / rcf setting: RPM / RCF
Temperature display : °C / °F
Digital countdown timer 0-99 min & Continuous run
Log of cumulative run time
User defined program name : for 5 programs
Automatic door opening
Automatic Rotor Identification
Motor overload protection
Emergency lid lock release
Imbalance detection with centrifugation cut off
Password protection
Gas Hinge to prevent door falling
Min. Speed : 19500 rpm
Min. RCF : 36500 g
Lowest Temp. : - 7 °C
Rotor Size : 1.5 ML, 15 ML, 50 ML, 100 ML
With Servo Stabilizer
8. HPLC system with FID, RID and fluorescence detector

1. Delivery System - Quaternary Low Pressure Gradient Pump with dual reciprocating pistons in series driven by techometer controlled motor with CAM resolution of 0.001uL with on-the-fly compression with pressure transducer purge valve
   - Flow rate range: 0.001–10 mL/min
   - Flow rate accuracy: ±0.1%
   - Flow precision: < 0.05% RSD
   - Pressure range: 8500 psi
   - Proportioning accuracy: ±0.5% (of full scale)
   - Proportioning precision: < 0.15% SD
   - Solvent degassing: Built-in, 4-channels

2. Diode Array Detector
   - Optical System: Single-beam, reverse optics design with concave holographic grating
   - Maximum Data Collection Rate: 80 Hz or more
   - Wavelength Range: 190 to 800 nm
   - No. of Diodes: 512
   - Noise Wide slit: < ±8µAU at 254 nm
   - Narrow slit: < ±10 µAU at 254
   - Drift: < 1 mA/h
   - Linearity: <3% RSD
   - Wavelength Accuracy: ±1.0 nm, self-calibration with D-alpha line, verification with holmium oxide filter
   - Pixel resolution: <1 nm

3. Injector – Automated.

4. Column Oven –
   - Temperature Range: 5 °C to 80 °C (maximum 18 °C below ambient)
   - Temperature Accuracy: ±0.5 °C
   - Temperature Stability: ±0.1 °C
   - Temperature Precision: ±0.1 °C
   - Maximum column length: 30 cm

5. CHROMATOGRAPHY SOFTWARE
   - Chromatography data system for control, acquisition, processing, & reporting software.
   - Chromatography Software package should be Oracle based.
   - It should have flexible reporting as users desires for complete chromatography information Reporting.
   - It should also record the instrument event such as injection, complete instrument settings, changes & conditions in real time.
   - Software should have 3rd party interfacing facility.

7. Columns – C18, C8 along with guard Columns.

8. Branded PC and Printer for operating HPLC system
9. Fluorescent detector wave length range 190-750 nm; Xenon Lamp; Cell volume approx 12ul; band with approx 20nm
10. RID RI range approx 1-1.75 R/u, flow rate up to 20ml/min, temp. Control
11. A latest data processor compatible with the machine at least i3 processor 4th generation; at least 500GB HDD 4GB RAM, 20” System with genuine OS, window 8.1 should be provided with preferably All In One with High speed printer cum scanner cum copier with fax.
9. Sonicator

- Applications include cell disruption, nano-particle dispersion, homogenization, shearing
- DNA, mixing, disaggregation, focused cleaning, degassing, Sonochemistry.
- Fully digital design
- Touch screen/LCD with keypad control and Programmability
- Amplitude control
- Total energy output display
- Auto tuning
- Overload protection
- Temperature monitoring
- Pulse mode
- RoHS compliant
- Power rating: 400W or above
- Operating Frequency: 20kHz or above
- Input: 100–240VAC
- Programmability: Up to 10 memories
- Programmable timer: 1 sec to 10 hours or above
- Adjustable Pulse On/Off: 1 sec to 50 sec or above
- Working volume up to 1000ml with different type of tips
- Sound proof box : 20 dB(A)
- To supply technical brochure, literature, authorization from principal and compliance.
- Warranty: Minimum of two years from date of installation, user list and original company
- literature must be supplied and any other essential accessory.
- Should include other accessories like
  - Microtip probe/horn for processing volume: 0.2–5ml or better
  - Microtip probe/horn for processing volume: 5–50ml or better
  - Probe/horn for processing volume: Upto 1000 ml
- Laboratory Jack and footswitch if needed.
- Device for maintenance of laboratory temperature for smooth functioning of the equipment.

Voltage stabilizer to be quoted if required for efficient use of equipment.
10. BOD cooling incubator

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Volume (Liters)</td>
<td>275</td>
</tr>
<tr>
<td>Number of Shelves</td>
<td>Not less than three (3)</td>
</tr>
<tr>
<td>Temperature Range &amp; Accuracy</td>
<td>5°C to 60°C, ± 0.5°C</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Microprocessor with PT-100 sensor</td>
</tr>
<tr>
<td>Display</td>
<td>1&quot; - 7 Segment, Big Size LED</td>
</tr>
<tr>
<td>Power Failure Alarm</td>
<td>Audio Visual Alarm</td>
</tr>
<tr>
<td>Door Open Alarm</td>
<td>Audio Alarm in case door open for over one minute</td>
</tr>
<tr>
<td>Temperature Variation Alarm</td>
<td>Set Temperature ± 2°C, Audio Visual alarm</td>
</tr>
<tr>
<td>Illumination</td>
<td>8 Watts Fluorescent Lamp</td>
</tr>
<tr>
<td>Internal Body Material</td>
<td>Stainless Steel - 304 grade</td>
</tr>
<tr>
<td>External Body Material</td>
<td>Powder Coated CRCA Steel</td>
</tr>
<tr>
<td>Insulation</td>
<td>70 mm min for Body &amp; 80 mm for Door, CFC free PUF</td>
</tr>
<tr>
<td>Noise Level</td>
<td>Less Than 65 db(A)</td>
</tr>
<tr>
<td>Cooling</td>
<td><strong>Required to ISI Marked CFC free</strong></td>
</tr>
</tbody>
</table>
11. **Hot air oven**

Technical Specification

- **Capacity:** 300-400 L
- **Head up control panel:** for convenient operations
- **Inner Chamber:** made up of triple walled with special grade of stainless steel
- **Outer wall:** made up of mild steel sheet, duly powder coated
- **Insulation:** by glass wool/blanket insulation
- **Air circulation:** by fan/blower
- **Temperature range:** 40°C – 250°C with an accuracy of 0.2°C
- **Digital temperature control:** thermostatically control temperature
- **Heaters:** two heater of 750 watts made of high quality chrome wire
- **Door:** Insulated door with toughened glass view panel
- **MCB:** at the back protect the unit from voltage fluctuation
- **Electric supply:** 220-240 Volt
- **Shelves:** no of shelves can vary from 3-4
- **Equipment adheres to CE requirement and ISO certification**
- **Free of cost installation and demonstration**
12. **PCR**

13. **Block capacity and version:** High quality 96 well gradient metal/alloy block with peltier based heating and cooling technology.

14. **Sample capacity:** 96 x 0.2ml PCR tubes with exchangeable block facility.

15. **Temp range:** 3°C to 99°C with control accuracy of +/-0.1°C

16. **Temperature gradient:** enabled with Range ≥ 40°C; **Gradient Block:** 12 columns

17. **Gradient Temperature:** 30°C-99°C.

18. **Ramping speed:** (5.0°C/sec heating and cooling)

19. **Lid:** Heated lid with temperature of at least 30-99°C and high precision smart lid to avoid condensation and to provide optimized pressure (smart lid control)

20. **Memory:** minimum of 1000 typical programs in up to 30 directories

21. **Noise emission:** Extremely low

22. **Auto restart after power failure:** compulsorily required

23. **Hold at:** 4°C

24. **USB ports:** for data retrieval

25. Extra-large LCD display with user friendly controllable software.

26. PCR machine should be licensed with ISO certification

27. It should come with related software features pre-loaded, automatic block recognition and backlit display screen for convenient analysis of data, Gradient calculator

28. Working should be on standard Indian power supply of 230 V

29. A cooling system (split type AC 1.5 ton) of chamber/installation site

30. **Warranty:** 2 years from date of installation and

31. Free of cost installation & demo.
13. Gel Electrophoresis

1. Vertical

**Large:**
Large format vertical electrophoresis cell, 16 x 16 or 16 x 20 cm gel size, 4 gel capacity, 1.0 mm Gel thickness
Tank capacity – 2 litre
Accessories: two 15-well combs, 2 sets of glass plates, 2 sets of sandwich clamps, casting stand, upper buffer dam, alignment card with leveling bubble

**Midi:**
Midi format vertical electrophoresis cell
1-2 Gel capacity
Size – 14- 14.5 x 22-22.5 x 19-19.5
1.0 mm Gel thickness
Tank capacity - 1 Litre
Accessories: buffer tank, lid, power cables, sample loading guides (18 well, 26 well and 12 well), Gel casting stand

**Mini:**
Mini format vertical electrophoresis cell
4- gel capacity
1.0 mm gel thickness
Accessories: 10 well combs, 1.0 mm spacer plates, casting stands, casting frames and buffer dam
With Power Pack for power supply

2. Horizontal

**Large:**
Large format Horizontal electrophoresis cell
Size – 29 x 30- 30.5 x 9- 9.5
24 - 96 well accommodation
Buffer volume 2 litre
Accessories: 26and 51 well combs (1mm, 1.5 mm and 2.0 mm), Gel caster, 25 x 10 cm, 25x20cm and 25x15 cm UV transparent tray
Bubble level, adjustable height combs to fit variable needs

**Midi:**
Midi format Horizontal electrophoresis cell
Size – 18 x 40- 40.5 x 9- 9.5
15 and 20 well accommodation
Buffer volume 1 litre
Accessories: 15 and 20 well combs, Gel caster, 15 x 20 cm UV transparent tray

**Mini:**
Mini format horizontal electrophoresis cell
Size – 9 – 9.5 x 25- 25.5 x 5.5- 6.0
8 and 15 well gel accommodation
Buffer volume 250 – 300 ml
Accessories: 8 and 15 well combs, Gel caster, UV transparent tray

With Power Pack for basic power supply
Safety features – No load, sudden load change, over load, short circuit detector

Warranty for at least 2 years
14. **Gel documentation system**

- Imaging system should have Automatic capabilities with Application driven, user selected or recalled by a protocol.
- System should have stain-Free capability for stain-free gels and blots.
- Should have 100% repeatability via recallable protocols.
- System should have pre-calibrated focus for any zoom settings & sample height.
- Should have appropriate flat fielding correction automatically & consistently applied to image data for every application.
- Auto exposure: 2 user defined modes (Faint or intense bands)
- Versatile system to support wide range of applications like- Fluorescent dye like syber green, syber safe, Western blotting, 2-D, 1-D, Dot Blotting, Nucleic acid detection, Qunatitation etc.
- Should have true 12 bit true CCD camera with image resolution > 4 megapixel.
- System can take max. Sample size 28 X 36 cm.
- System should have precalibrated & optimized dynamic image flat fielding.
- It should universal dark hood & upgradeable to Chemiluminescence.
- Should have motorized zoom lens- f/1.2, 12-51mm with numerical feedback value to reduce the experimental variation -Capable of Optimizing, saving, and quickly recalling the imaging acquisition settings
- Safe DNA Imaging without UV exposure- using the XcitaBlue Conversion screen to prevent damage from UV and preserve samples for downstream protein production.
- Reproducibly position or center the sample on the image platen by using gel alignment templates.
- Should come with dedicated analysis software with following features
  - Single mouse click from image capture to results and reports, very fast and efficient.
  - Should have comprehensive automated quantitative analysis of proteins & DNA samples in seconds.
  - Intuitive and well organized (efficient) selection of workflows based on applications
  - Should calculate precisely continuous focus curves that are consistently and automatically applied for every zoom position and sample height. No user intervention for focusing. All calculations are done at setup, once and for all image captures.
  - Should generate the publication ready images with one clock export option.
  - Should generates customizable reports.
15. **Solvent exactor**

**Fully Automatic Programmable Four Place Auto sequencing PC Compatible Solvent Extraction System with data logger**

Casted Aluminium Alloy Heaters for uniform heating, Independent loading of sample with individual mechanical controls, Direct USB Port for PC/Laptop Connectivity, Integrated autosequencing time/temperature domain of 60 programs or more with at least 10 sequencing steps in each programme, Data logging with real time clock, Memory stick for data storage with separate port in mother board, Auto Phase change over of 5 stage extraction includes boiling, Condensation, rinsing, solvent recovery and Predrying steps., Programmable user ID with Programmable scan rate, PC software performs Live graphical representation of time / temperature gradient, Live process view display of various stages with facility to have print options, Software enables multiple unit monitoring with multi user login feature, Data table export to excel, Inbuilt safety features with CE Certification to fulfill all statutory requirement of Good laboratory Practice, Inbuilt Airpump with SS Manifold for pre drying and solvent cloud evaporation, Automatic collection of recovered Solvent with optical sensor to prevent overflowing of solvent. Versatile to handle different sizes of thimble, Extraction beakers & Nitro Cellulose thimble Size : (25 mm dia X 80mm L) and (33 mm dia x 80mm), Remote control module for wireless data monitoring, control and transfer, Additional one set beakers & Thimble box. ISO 9001: 2008 Certified, Electrical Requirement:230V/50Hz. AC Mains. List of similar installations in India to be enclosed along with proof for performance track record.
16. **Real Time PCR**

- Real time PCR with block of 96 x 0.2 ml tubes or plate to run typical 0.2ml tubes, strips, and plates.
- The base thermal cycler should be able to be used for standard PCR
- Gradient capacity in Real-time with Dynamic ramping.
- Detection of FIVE different fluorescent reporters in the same tube.
- Six excitation and Six emission channels each filter corresponds to one dye that ensures smooth differentiation of even dyes having high degree of spectral overlap. Should be capable of Detecting Cy5, FAM/Sybr Green, VIC/JOE, TAMRA/Cy3, Texas Red, Quasar705
- Peltier Cooling & Heating for uniform temp control
- Should have one channel dedicated for FRET experiments.
- Excitation –Emission range: 450- 730nm
- No internal reference dye (Rox) should be required. True 5 Color Multiplexing with use of 5 different fluorophores without the need of addition of any internal reference dye,
- LED excitation source with Photodiode detector.
- Dynamic range of 10 orders.
- Open system capable of running various chemistries so that Different chemistries using TaqMan, Molecular Beacon, SYBR green etc all can be performed.
- Temperature range 0– 100 °C with accuracy of ±0.2 °C and uniformity of ±0.4 °C within 10 sec of arrival at 90 °C
- Minimum sample vol : 1-50 µl
- Should detect ≤ 10 fmol of fluorescein
- Should have multiple scan modes with a FAST scan option for reading all wells in 3 seconds.
- Automatic allelic discrimination by end point fluorescence or threshold cycle.
- Gene expression analysis by relative quantity (ΔCt) or normalized expression (ΔΔCt).
- End point analysis for upto 5 fluorophores
- Should have mode for Melt curve analysis
- Comparison of upto 5000 Ct values from different data files should be possible
- Maximum Ramping Rate 5-6 °C per sec.
- Analysis of multiple experiments from a single plate should be possible
- Should come with factory Calibrated optics for minimal setup.
- Software should have express load feature which allows entry of data after experiment.
- System should be compliant with the MIQE Guidelines
- System should provide an additional qbase plus software license which is RDML compliant.
- The System should be capable of analyzing multiple platform data in a single window using qbase Plus.
- A latest data processor compatible with the machine at least i3 processor 4rd generation; at least 500GB HDD 4GB RAM, 20” System with genuine OS, window 8.1 should be provided with preferably All In One with High speed printer cum scanner cum copier with fax.
- With 3 years warranty.
17. Refrigerated BOD Incubator shaker

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Range &amp; Accuracy</td>
<td>5°C to 60°C, ± 0.5°C</td>
</tr>
<tr>
<td>Internal Volume (Liters)</td>
<td>210</td>
</tr>
<tr>
<td>Platform Size</td>
<td>575mm x 595mm</td>
</tr>
<tr>
<td>Max. Shaking Cap. (Vol x No. of flasks)</td>
<td>100ml x 49, 150ml x 49, 250ml x 33, 500ml x 24, 1000ml x 15, 2000 ml x 9</td>
</tr>
<tr>
<td>Shaking Speed range (RPM)</td>
<td>20 to 240</td>
</tr>
<tr>
<td>Shaking Amplitude</td>
<td>25 mm</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Microprocessor with PT-100 sensor</td>
</tr>
<tr>
<td>Display</td>
<td>4” LCD Screen, Large size Display for ease of reading</td>
</tr>
<tr>
<td>Power Failure Alarm</td>
<td>Audio Visual Alarm</td>
</tr>
<tr>
<td>Door Open Alarm</td>
<td>Audio Alarm in case door open for over one minute</td>
</tr>
<tr>
<td>Temperature Variation Alarm</td>
<td>Set Temperature ± 2°C, Audio Visual Alarm</td>
</tr>
<tr>
<td>Illumination</td>
<td>8 Watts Fluorescent Lamp</td>
</tr>
<tr>
<td>Internal Body Material</td>
<td>Stainless Steel - 304 grade</td>
</tr>
<tr>
<td>External Body Material</td>
<td>Powder Coated CRCA Steel</td>
</tr>
<tr>
<td>Insulation (CFC free polyurethane foam)</td>
<td>70 mm minimum for Body &amp; 80 mm for Door</td>
</tr>
<tr>
<td>Noise Level</td>
<td>Less Than 65 db(A)</td>
</tr>
<tr>
<td>Electrical</td>
<td>220-240 volts, 50Hz, Single Phase</td>
</tr>
<tr>
<td>With Servo Stabilizer</td>
<td></td>
</tr>
</tbody>
</table>
18. Rotary Evaporator

Rotavapor glass with Heating bath and Condenser.

Vapor duct with Combi-Clip.

Evaporating flask (min. 1 liter).

Receiving flask (min. 1 liter).

Vapor temperature sensor.

Rotation speed (80-200 rpm).
19. **Trans illuminator**

- 312 mm fixed/dual intensity
- 6x8 watts uv tube
- Detection limit: 0.1 ngm of stained DNA
- Quartz UV filter
- 20x20 cm with with uv protected shield
20. Horizontal Gel Electrophoresis System (mini, midi, large, with power pack)

Gel Electrophoresis system (Mini, Midi & Large) with Power pack

**Large:**
- Large format horizontal electrophoresis cell
- Size: 29 X 30-30.5 X 9-9.5 cm
- 24-96 well accommodation
- Buffer volume: 2 lt.
- Accessories: 26 and 51 well combs (1 mm, 1.5 mm & 2 mm), gel caster, 25 X 10 cm, 25 X 20 cm & 25 X 15 cm UV transparent tray
- Bubble level, adjustable height combs to fit variable needs

**Midi:**
- Midi format horizontal electrophoresis cell
- Size: 18 X 40-40.5 X 9-9.5 cm
- 15 and 20 well accommodation
- Buffer volume: 1 lt.
- Accessories: 15 and 20 well combs, gel caster, 15 X 20 cm UV transparent tray

**Mini:**
- Mini format horizontal electrophoresis cell
- Size: 25-25.5 X 9-9.5 X 5.5-6.0 cm
- 8 and 15 well accommodation
- Buffer volume: 250-300 ml.
- Accessories: 8 and 15 well combs, gel caster, UV transparent tray
- With power pack for basic power supply
- Safety features- No load, sudden load change, over load, short circuit detector

Warranty: at least 2 years

In addition **Power pack is mandatory.**
21. Spin win

RPM: 12000 or more
RCF: 12225 x g
Capacity: 1.5 ml, 2.00 ml x 12
Control: Digital Feedback control with job shuttle switch (turn + Push)
Display: Digital Back tight LCD
Timer: Continuous mode
Cooling Device: Air cooling
Drive System: Bushless DC Motor, Direct Drive
Acceleration time: < 15 sec for maximum speed
Breaking time: < 15 sec for maximum speed
Safety System: Motor error detection, Auto stop when opening door
Noise level: < 57 dB
22. Refrigerated centrifuge

- Temperature range -4 to 40 C
- Max Speed : 14,000 rpm or more
- Max. RCF : 16000xg or more
- Noise level : < 60db
- Large bright LCD Display for Speed/RCF & Time
- Soft Start and soft stop, short run functions
- Maintenance free brushless motor drive
- Motorized Lid lock & Emergency lid release
- Automatic opening of lid at the end of the run
- Time pre-selection up to 99 sec or continuous
- Operating voltage 230V, 50HZ
- ISO, CE or equivalent make

Rotors:
- Angle Rotor for 24x1.5/2.0ml, with adapters for 0.2/0.5/0.8ml eppendorf tubes
  Angle rotor for 50 ml Falcon’s tube or Oakridge tube
23. Autoclave

SUITABLE FOR

- Suitable for sterilization of microbiological media and solutions.
- In pressure range of 15 to 22PSI (can be controlled).

CONSTRUCTION

- With boiler made of Stainless Steel 16 gauge sheet.
- Outer shell is also made of Stainless Steel Sheet.
- Lid is made of Stainless Steel Sheet and tightened around by radial locking.
- Neoprene rubber gasket.
- Fitted with water level arrangement.
- Pressure gauge, Air/Steam release cock two safety valve are also provided.
- With pizzostat may be set between 10 to 22PSI.
- Immersion type heating element.
- Cut-off automatically when the autoclave is dry.
- Supplied complete with S.S. basket, cord and plug.
- Work on 220 Volts 50 cycles A.C. supply.
- Capacity: not less than 50 litre.

OPTION:- Fully automatic by PID Controller having facility for:-

- Auto purging: Set Temp.
- Purging Stop: Set Temp.
- Auto Exhaust: Cool
- Elapse Time
- Set Temperature: Could be set
- Facility for temp. Control
- Auto cycle stop
- Buzzer at cycle over
24. Circulating water bath

- Suitable for the Washerman, Kolmer and khan Test inactivation, Paraffin Embedding etc.
- Double walled inside, made of stainless steel 304 qly.
- Outside of Mild steel sheet duly painted with epoxy powder coated.
- 25mm mineral wool insulation on five insides.
- Temperature is controlled by a Hydraulic type thermostat from few °C above ambient to 80 deg.C with maximum temperature 100 degree C ± 0.5.
- Heating element are of copper Nickel plated tabular type.
- With perforated and removable diffuser shelves.
- Stainless steel cover, brass drain plug, cord with plug.
- Work on 220/230 volts A.C. (But without Rack and Thermometer)
- FHP Pump fitted for circulating the liquid inside.
- Quick heating and cooling is necessary for the systems of standard quality.

SIZE INSIDE CHAMBER

605300 x 175mm  Suitable for 8 racks  32 Ltrs (Minimum).
25. **Cooling water bath**

- Ideal for application where temperature uniformity and control are critical, such as enzymes and serology
- Should include a stainless steel gable cover and diffuser shelf
- Temperature controller provides ± 0.05°C uniformity at 37°C and control resolution of ± 0.05°C with stainless steel gable cover
- Microprocessor control with digital LED display
- Set temperature in 0.1°C increments
- Water flow directed around bath perimeter
- Elevated sample platform for more thorough circulation
- Over-temperature protection capability
- Single switch control for heater and circulator pump
- Stainless steel construction, exterior finished with baked-on epoxy –polyester
- Includes a stainless steel gable cover, diffuser shelf, three wire cord and plug and duck
- Temperature range: +5 to 99.9
- Temperature control resolution: ± 0.05°C
- Capacity: not less than 19 lt.

- Voltage rating approx: 120 Volts

- Frequency: approx. 50/60 Hz; Current rating: approx 8.3 Amp

- Warranty: 1 year, parts and labour
26. **Vortex**

Variable speed for precise mixing from gentle to vigorous
Broad range attachment for most tubes (including microfuge tubes), plate other container
Hand free or touch control speed 600-3200,
Dimension 6.5x4.8x6.5 inch,
Weight approx. 4 kg
May be used in cold room & incubator
27. **Laminar air flow**

- **Working table size:** 3 x 2 ft made up of stainless steel
- **Chamber height feet:** 2 meter
- **Side panel:** 6 mm aluminium framed acrylic
- **HEPA filter type:** DOP tested
- **No. of HEPA filters:** 01
- **Hepa filter dimension:** 36 x 24 x 6 in
- **Hepa filter efficiency:** 99.97% removal upto 0.3 micron
- **Hepa filter initial pressure:** < 25 mwg
- **Air circulation:** Balanced blower
- **Inner chamber sterilization:** UV germicidal tube
- **Inner chamber illumination:** Fluorescent tube
- **Gas cock:** multipurpose for gas, vaccum or air

Optional

- Gas connection with advanced Bunsen burner (gas flow controlled via pedal)
- Automatic multiple loop sterilizer
### Annexure-III

## FORMAT OF PRICE QUOTATION

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Goods Name of equipment</th>
<th>Model name/Make</th>
<th>Unit Price</th>
<th>TAXES</th>
<th>Other charge if any</th>
<th>Total amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VAT</td>
<td>ST</td>
<td></td>
</tr>
</tbody>
</table>

- “Details of applicable VAT/S.T. to be paid extra and the current rate of the same.
- We agree to provide the services. We confirm that the same and attached the relevant documents.
- We confirm that our offer will remain valid or acceptance for……………..days after the date of opening of tenders.

…………………………….

(Signature, name and designation of the authorized executive of the tendering firm)

For and on behalf of……………………………..

Date:                                                                       (Name Seal and address of the tendering firm)
Annexure: IV

<table>
<thead>
<tr>
<th></th>
<th>Name of the firm</th>
<th>Registered/Postal Address</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Phone number/Mobile number</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>E-mail Address</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>PAN No</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>VAT/TIN no., if applicable</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Bank Details:</td>
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</tr>
<tr>
<td></td>
<td>Bank Name:</td>
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</tr>
<tr>
<td></td>
<td>Branch Address with Phone No.</td>
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</tr>
<tr>
<td></td>
<td>Account No.:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of account</td>
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</tr>
<tr>
<td></td>
<td>(Current/Saving):</td>
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</tr>
<tr>
<td>6.</td>
<td>RTGS/IFSC code &amp; Branch</td>
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</tbody>
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