

**DIRECTORATE OF RESEARCH (VETY.)**  
**ASSAM AGRICULTURAL UNIVERSITY**  
**KHANAPARA, GUWAHATI-22**  
Tele Fax : + 91-361-2364941

NIQ Ref.:No.99/DRV/ 2018-19/246 -2

Dtd.10<sup>th</sup> Oct, 2018

**NOTICE FOR QUOTATION**

Sealed quotations are invited separately from reputed manufacturer/authorized dealer/suppliers for supply of the following laboratory equipments for the DBT funded DUCK PROJECT ON CONSORTIUM MODE for NE entitled "**Genetic up-breeding of duck production to strengthen livelihood security in NER of India by converging conventional and molecular techniques**" to the Department of ILFC, College of Veterinary Science, AAU(K).

1. Magnetic Stirrer
2. Autoclave
3. BOD incubator
4. Water bath
5. Electrophoresis
6. Centrifuge
7. UV Vis Spectrophotometer
8. PCR Machine

The quotations will be received at the office of the Department of ILFC, C. V. Sc., AAU, Khanapara, Guwahati-22 during office hours up to **30.10.2018**.

Details of the items along with the terms & conditions and specifications may be collected from the office of the undersigned or from the office of Department of ILFC, C. V. Sc., AAU, Khanapara, Guwahati-22 during office hours on payment of Rs. 100/ (non refundable) in the form of Bank Draft drawn in favour of Comptroller, AAU, Jorhat-13 and payable at Jorhat. The details may be downloaded from web site [www.vetbifguwahati.ernet.in](http://www.vetbifguwahati.ernet.in). The downloaded form must be accompanied by DD of Rs. 100/ at the time of submission.

(N.Kalita)

Director of Research (Vety)  
AAU, Khanapara-22

Memo No. 99/DRV/246-02/2018-19

Dtd. 10<sup>th</sup> Oct, 2018

Copy forwarded for information and necessary action to:-

1. The PI of the project entitled "**Genetic up-breeding of duck production to strengthen livelihood security in NER of India by converging conventional and molecular techniques.**"
2. The i/c ARIS cell, AAU, Khanapara with a request to upload the NIQ in the website.
3. The Advertising Manager, The Assam Tribune, Chandmari, Guwahati-781 003 with a request to publish the above advertisement in minimum size and space in one issue and submit the bill in quadruplicate along with the paper cut for payment.
4. Office copy.

  
(N.Kalita)

Director of Research (Vety)  
AAU, Khanapara-22

**DIRECTORATE OF RESEARCH (VETY.)**  
**ASSAM AGRICULTURAL UNIVERSITY**  
**KHANAPARA, GUWAHATI-22**

**NOTICE INVITING QUOTATION**

Scaled quotations along with IPO of Rs. 100/- (Rupees one hundred) only drawn in favour of Comptroller, AAU, Jorhat-13 are invited from authorized manufacturer/dealer for supply of some equipments for DBT's consortium Project entitled "Genetic up breeding ..... molecular techniques." within 15 days of advertisement. The detail specification, terms and condition may be collected from the office of the undersigned /P.I. or may be downloaded from the **website [www.vetbifg.ac.in](http://www.vetbifg.ac.in)**. The downloaded form must be accompanied by DD of Rs 100/- at the time of submission.



(Niranjan Kalita)  
Director of Research (Vety)  
AAU, Khanapara, Guwahati – 22

**TERMS AND CONDITIONS:**

1. Any item offered/quoted should conform to the technical specifications desired by the purchaser. Quotations for items beyond the scope of the technical specification asked for shall not be entertained.
2. The compliance statement (technical specification desired and offered) along with separate sheet of Terms & Conditions should invariably accompany the quotation both as 'hard copy' and 'soft copy' in a CD typed in MS word in A4 size paper in landscape orientation (Font size 12, Times New Roman) in the prescribed format (Annexure-I), without which the quotation shall not be considered.
3. In case the tender document is downloaded from the website, the bidder shall have to deposit Rs. 100.00 in the form of Bank Draft drawn in favour of Comptroller, AAU, Jorhat and payable at Jorhat.

**INSTRUCTION TO BIDDERS**

1. All Quotations should mention in the cover of the Envelope distinctly the Name of the Item, Item No., NIQ Ref. No., Bidder's Name & Address, Contact No. etc. as shown below:-

QUOTATION FOR SUPPLY \_\_\_\_\_  
TO DEPARTMENT OF ILFC, CVSC., AAU, KHANAPARA, GUWAHATI

NIQ REF NO.....DATED.....,

LAST DATE FOR SUBMISSION.

To,

The Head,  
Department of ILFC  
College of Veterinary Science  
Assam Agricultural University  
Khanapara, Guwahati- 781022  
Assam, India  
Telefax: +91-361-2364941

From: M/s \_\_\_\_\_

Contact No.: \_\_\_\_\_

Email ID: \_\_\_\_\_

- Quotation for each Item will have to be submitted in separate envelope indicating Name of the Item, Item No. in NIQ, NIQ Ref. No. on the cover of the Envelope. In case the bidder submits multiple quotations the envelope of each item will have to be put in one large envelope mentioning the Sl. Nos. of NIQ and Bidder's Address.
- The bidder must submit a compliance statement mentioning technical specification desired and offered both as 'hard copy' and 'soft copy' typed in MS word in A4 size paper in landscape orientation (Font size 12, Times New Roman) in the prescribed format (Annexure-I), without which the quotation shall not be considered.
- Standard Technical literature preferably printed & supplied by manufacturer concerned on each of the items offered.
- Dealership certificate on the offered products in case of dealer/s.
- List of reputed organizations/Institutions, where similar orders have been executed (copies of the purchase/work orders will have to be enclosed).
- Up-to-date Sales Tax clearance certificate (for vendors outside the State of Assam)/VAT Registration Certificate indicating also the TIN number (for vendors from within the State of Assam) OF THE FIRM will have to accompany the quotation to be submitted. (According to the GST rule)
- In case the offered price is inclusive of GST, the tax components in details should be shown separately.
- Details of nature and maximum period of **warranty** offered by the Bidder/Vendor.
- After Sales Service: The name & address of the available authorized service centre nearest to College of Veterinary Science, Assam Agricultural University, Khanapara, should be stated in the quotation.
- NOTE: The bid documents are not transferable and the firm's seal and signature of the authorized official must appear on all the papers and envelopes submitted.
- At the time of delivery/Instillation the supplier should put a Sticker in front side of the instrument/Machine indicating the following:-

**The name of the company/supplier:-**

**Date of Delivery:**

**Department/Office:-**

**Date of Installation:-**

**Expiry date of warranty period as per tender:-**

**Date of start for AMC:-**

**Contact No.:**

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## **TERMS & CONDITIONS:**

(Please note the term '**both imported & indigenous**' wherever mentioned, means the term is applicable to both foreign & indigenous purchase)

1. **Rates:** Rates quoted for indigenous items must be on FOR Department of ILFC, College of Veterinary Science, Assam Agricultural University, Khanapara Guwahati- 781022 on DOOR DELIVERY Basis, with break-ups as per details below (For imported items please refer 'Additional Terms for imported goods' below).

### **Break-ups of cost:**

2. Basic Price
3. CGST/AGST as per GST
4. (+) Freight & Insurance Charge, if any
5. (+) Installation & Commissioning Charge, if any
6. Grand Total F.O.R. Department of ILFC, College of Veterinary Science, Assam Agricultural University, Khanapara Price

*Note: Vague terms like "packing, forwarding, transportation etc. extra" without mentioning the specific amount will not be accepted. Such offers shall be treated as*

*incomplete and rejected. Bidders shall indicate their rates in clear/visible figures as well as in words and shall not **alter/overwrite/ erase/ cut** in the quotation. In case of a **mismatch, the rates written in words will prevail.***

2. **Validity** (Both foreign & indigenous): Quoted rates must be valid for minimum 120 **days.**
3. **Earnest Money** (Both foreign & indigenous):

All firms are required to submit Earnest Money along with the Quotation. The EMD of unsuccessful bidders shall be returned after award of contract. All tenders received without EMD shall be summarily rejected.

Refundable earnest money deposit, amounting to minimum 2.5% of the total quoted value ( rounded off to the nearest thousand rupees) through demand draft, drawn in favour of Comptroller, Assam Agricultural University, Jorhat - 785013, Assam, India payable at Jorhat, will have to accompany all quotations to be submitted. Quotations submitted without appropriate amount of earnest money are likely to be rejected.

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Accumulated earnest money for instruments should be shown in your forwarding letter.

Earnest money deposit will not bear any interest, and have to be in the form of demand draft only.

4. **PENALTY FOR DELAYED DELIVERY** (for both foreign & indigenous):

In case of supply order for the SCIENTIFIC EQUIPMENTS/ APPARATUS, the date of delivery should be strictly adhered to. In the event of delayed delivery, installation & commissioning i.e. after the expiry of the period as agreed by both the parties, the vendor shall be liable for a penalty deduction at a percentage of the value of the

Undelivered equipment at the rate as detailed below:

@1% up to one week;

@2.5% up to twoweeks;

@5% up to three weeks;

@10% for four weeks and above

For the purpose of this clause, part of the week is considered as a full week. In case of delayed delivery, the Chairman, Purchase committee, CVSc., AAU, Khanapara, Guwahati reserves the right not to accept the subject consignment.

5. **IN CASE OF INDIGENOUS SUPPLIES**, the goods should be insured against theft, loss or breakage during transit and insurance charges should not exceed 1% of the cost of material supplied, the rates of GST etc. (as applicable) should be clearly indicated.
6. **PRE-INSTALLATION REQUISITES** (Both imported & indigenous): Pre-installation requisites (electrical/floor/space/air-conditioning etc.), if any should invariably be mentioned clearly. Installation/ Training will be the full responsibility of the supplier/ Indian Agent.
7. **GENUINE PRICING** (Both imported & indigenous): Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold, particularly to other SAU/ IIT/ICAR Institutes and other Government Organizations. Copy of the latest price list for the quoted item, applicable in India, must be enclosed with your offer.
8. **EXCISE DUTY(if applicable)**: The Institute is exempted from payment of Customs vide Govt. Notification No.51/96-Customs, dated 23.07.96 (as amended by Notification No. 28/2003 dtd. 01/03/2003 & Notification No. 43/2017 dtd. 30.06.2017 ) with Regn. No. TU/V/RG-CDE (500)/2017 dated 07/11/2017.

9. **TAX:** As per GST.

**10. DELIVERY:**

(a) Delivery of goods at Department of ILFC, CVSc, Khanapara, Guwahati, will have to be maximum within 45(Forty-five) days from the date of issue of the Purchase Order.

(b) **SAFE DELIVERY OF GOODS:** All aspects of safe delivery shall be the exclusive responsibility of the vendor. At the destination site, the cartons will be opened only in the presence of CVSc, Khanapara, Guwahati user/representative and vendor's representative and the intact position of the seal for not being tampered with, shall form the basis for certifying the receipt in good condition.

(c) **NO PART DELIVERY:** Part shipment will not be allowed.

11. **Mode of Payment** for Indigenous Purchase (For import items please refer 'Additional Terms for imported goods'):

Payment for Indigenous Purchases will be made after successful delivery and installation of goods at Department of ILFC, CVSc., AAU, Khanapara Guwahati-22, generally through A/c payee cheque. In case payment is to be made by DD, the Draft commission will be deducted from the bill amount.

**Note: Please note as per Institute's norm advance payment is not allowed for any purchase.**

12. **The offers** (Both foreign & indigenous) submitted by telex/ telegram/ fax/ E-mail etc. shall not be considered. No correspondence will be entertained on this matter.

13. **Late and delayed tender** (Both foreign & indigenous):

Late and delayed tender will not be considered. In case any unscheduled holiday occurs on prescribed closing the next working day shall be the prescribed date of closing.

14. **Conditional tenders not acceptable** (Both foreign & indigenous): Conditional tenders shall not be accepted on any ground and shall be rejected straightway. In other word, printed conditions mentioned in the tender bids submitted by vendors will not be binding on CVSc, AAU, Khanapara. All the terms and conditions for the supply, payment terms, penalty etc. will be as those mentioned herein and no change in the terms and conditions by the vendors will be acceptable.

15. **Specifications are basic essence of the product** (Both foreign & indigenous): It must be ensured that the offers are strictly as per our specifications. At the same time it must also be kept in mind that merely copying our specifications in their quotation shall not make firms eligible for consideration. A quotation has to be supported with the printed technical leaflet/literature (wherever applicable) and the specifications mentioned in the quotation must be reflected/ supported by such printed technical leaflet/literature, model quoted/tendered specifications should invariably be highlighted in the leaflet/literature for easy reference.

16. **Enquiry during the course of evaluation not allowed** (Both foreign & indigenous): No enquiry shall be made by the bidder(s) during the course of evaluation of the tender till final decision is conveyed to the successful bidder(s). However, the Committee/its authorized representative and office of DR (VETY), AAU, KHANAPARA, GUWAHATI can make any enquiry/seek clarification from the bidders. In such a situation, the agency shall extend full co-operation. The bidders can also be asked to arrange demo of the offered items, in a short period notice, as such the bidders have to be ready for the same.
17. **The acceptance of the quotation** (Both foreign & indigenous) will rest solely with the DR(Vety.), AAU, Khanapara, Guwahati, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reasons.
18. **Force Majeure** (Both foreign & indigenous): If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows: (I) any law, statute or ordinance, order action or regulations of the Government of India. (II) Any kind of natural disaster and (III) Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage.
19. **Termination for default** (Both foreign & indigenous): Default is said to have occurred:-
- If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by FVSc, AAU, Khanapara, Guwahati.
  - If the supplier fails to perform any other obligation(s) under the contract. If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of the default notice from FVSc., AAU, Khanapara, Guwahati (or takes longer period in-spite of what FVSc., AAU, Khanapara, Guwahati may authorize in writing), FVSc., AAU, Khanapara, Guwahati, may terminate the contract/ purchase order in whole or in part and forfeit the EMD as applicable. In addition to above, FVSc., AAU, Khanapara, Guwahati, may at its discretion also take the following actions:  
  
FVSc., AAU, Khanapara, Guwahati, may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate FVSc., AAU, Khanapara, Guwahati, for any extra expenditure involved towards goods and services obtained.
20. **Applicable Law** (Both foreign & indigenous):
- (a) The contract shall be governed by the laws and procedures established by Govt. of India and **subject to exclusive jurisdiction of Competent Court and Forum in Guwahati, India only.**

(b) Any dispute arising out of this purchase shall be referred to the DR(Vety), AAU, Khanapara, Guwahati, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the DR(Vety), AAU, Khanapara, Guwahati. The decision of such Arbitrator shall be final and binding on both the parties.

#### **21. ADDITIONAL TERMS FOR IMPORTED GOODS**

Following terms besides the fore mentioned terms will be applicable in case of foreign purchases:

All Items including for imported items, the code should be strictly F.O.R., Khanapara, Guwahati Campus of the University. Logistic expenditures towards Customs Duty, Clearing Charges, Transportation cost etc. should be included in the rate and shown separately.

**22. Rates:** Quoted rates and charges to be stated in the following break-ups:

- (a) Ex-works value
- (b) + Documentation & Handling Charge, if any
- (c) + Estimated Overseas Freight to be paid at actual against authentic documents and monetary receipt
- (d) + Estimated Overseas Insurance Charge to be paid at actual against authentic documents and monetary receipt (In case the firm holds open insurance policy, the Insurance Certificate relating to the consignment will have to be provided).
- (e) Total CIP/CIF Kolkata value.

**23. After Sales Service:** In case of imported items, foreign manufacturing firms should indicate facilities available for after sales service, detail address and contact number of their local representative in India without which their offers are liable to be ignored.

#### **24. Delivery:**

- (a) Delivery of goods at FVSc., AAU, Khanapara, will have to be maximum within 90 (ninety) days from the date of issue of the Purchase Order.
- (b) Delivery at Kolkata Airport only: As we do not have clearing agent in any other Airport/Seaport, delivery is to be made only at Kolkata.
- (c) While transshipment will be allowed, part shipment will not be allowed.

#### **25. Payment:**

On request by the supplier/s 100% payment by FDD will be made. In this case on receipt of your Order Acknowledgement an FDD will be established for total ordered value, thereupon, a Xerox copy of the FDD will be sent to you which will enable you to send the

materials. On satisfactory receipt and acceptance of the materials or satisfactory installation and commission of the equipment the Original FDD will be sent to you.

**Note:** Please note FDD will not be opened unless and until Letter of Acknowledgement in original is received at FVSc, AAU, Khanapara directly from the principal (Even in case of firms having subsidiary office in India). The Indian agents are therefore advised to submit quotation after consultation with their respective principals).

- 26. Customs Duty:** The Institute is generally exempted from payment of Customs Duty vide GOI Notification No.51/96-Customs, dated 23.07.96 (as amended by Notification No. 28/2003 dtd. 01/03/2003 & Notification No. 43/2017 dtd. 30.06.2017) with Regn. No. TU/V/RG-CDE (500)/2017 dated 07/11/2017. [CUSTOMS DUTY EXEMPTION CERTIFICATE WILL BE MADE AVAILABLE BY THE INSTITUTE IN REGARD TO QUOTES IN FOREIGN CURRENCY ONLY [ NOT AGAINST QUOTES MADE BY A FIRM IN INDIAN CURRENCY, UNLESS THE CONCERNED FIRM IS A FOREIGN HOLDING COMPANY WITH 'FDI' CERTIFICATE ISSUED BY THE MINISTRY OF FINANCE, GOVT. OF INDIA ].
- 27. Agency Commission:** The percentage of ex-works value to be paid to Indian agent in equivalent to Indian currency as agency commission as applicable will have to be clearly stated in the quotation wherever applicable.
- 28. Country of Origin:** While Country of Origin Certificate will not be insisted, the same however will have to be stated in the Original Invoice for payment through L/C.
- 29. L/C Amendment:** L/C/FDD amendment charges due to mistake on the part of the supplier including delay in delivery of goods, if any, will have to be borne by the supplier.

  
(Niranjan Kalita)  
Director of Research (Vety)  
AAU, Khanapara, Guwahati-22

Annexure I

Format for Quotation

| Sl. No. | Sl. No. in NIT | Name of the Item | Desired Specifications of NIT | Offered Specifications | Quoted Unit Price* | GST | Extra charges, if any, for delivery at destination | Custom duty, if applicable | Total amount* | Other terms and conditions |
|---------|----------------|------------------|-------------------------------|------------------------|--------------------|-----|--|----------------------------|---------------|----------------------------|
|         |                |                  |                               |                        |                    |     |  |                            |               |                            |

\*In case of foreign currency, value in Indian Rupee at the current rate must be mentioned.

  
(Niranjan Kalita)

Director of Research (Vety)  
AAU, Khanapara, Guwahati-22

**SPECIFICATIONS FOR EQUIPMENTS FOR THE DBT PROJECT entitled "Genetic up-breeding of duck production to strengthen livelihood security in NER of India by converging conventional and molecular techniques"**

|   |   |
|---|---|
| <p><b>Deep Freezer</b><br/>(-20°C)</p>    | <p>Gross Capacity: 245liter<br/>           Dimension(W x D x H inch):22 x 24 x 57<br/>           Temperature range: -16°C - 25°C<br/>           Temperature display: optional<br/>           Microprocessor controller: optional<br/>           Lock: optional<br/>           No of Shelves/Drawers: 5 drawers<br/>           Wheels: 2 (rear)<br/>           Digital micro processor controller with display<br/>           Quick freezing function<br/>           EFS Series tropicalized at 43°C<br/>           Extremely low power consumption -A+<br/>           High / Low temperature alarm, Door open alarm, Exterior contact for remote alarm, Acoustic alarm.<br/>           Right hand hinged reversible door<br/>           Sealed drawers - prevent frost loss from open door</p>  |
| <p><b>Autoclave (Portable)</b></p>        | <p><i>Should be fitted with pressure gauge upto 20 psi, the unit should have spring loaded safety valve for pressure adjustment and a dead weight safety valve. It should be hydraulically tested upto 40 psi. And supplied with electric fittings, cord and plug to work on 220/230 volts A.C. Supply. Should be supplied complete with tripod stand. Size 300x300 mm. Body should be made of S.S (JOINTLESS)</i></p>  |
| <p><b>BOD Incubator</b></p>               | <p>Should be most versatile for Biochemical Oxygen Demand determinations. Should be castor wheel Mounted cabinet should be doubled walled with inner chamber of S.S. and outer wall of M.S. Sheet duly painted. The gap of 75mm between the outer and inner wall should be filled with special grade glass wool to prevent thermal losses. Triple walled back of unit should be fitted with two air circulation fans for maintaining temperature uniformity throughout the chamber. Should have full view inner glass door permits inspection of specimens, without disturbing the same. Lock and key arrangement should be provided in the doubled walled outer door. Unit should be fitted with door operated illumination lamp inside the chamber. Refrigeration unit should be formed by ISI marked compressor. The front panel should be provided with separate indicator lamps for main, heating and incoming voltage. Should be supplied complete with 3 shelves, cord and plug to work on 220/230V A.C. Supply. Temperature from 5°C to 60°C should be controlled by SOLID STATE ELECTRONIC DIGITAL TEMPERATURE INDICATOR-CUM-CONTROLLER with LCD Display, with an accuracy of ±0.5°C.</p> <p>SUPER DELUXE DIGITAL MODEL : 455× 610× 410 mm<br/>           CAPACITY : 4.0 Cu. Ft<br/>           VOLUME : 113 ltrs</p> |
| <p><b>THERMAL-CYCLER GRADIENT PCR</b></p> | <ul style="list-style-type: none"> <li>❖ Block-96-well x 0.2ml and upgradable to 384 well x 0.1ml wells with gradient features in both the format 96 wells and 384 wells.</li> <li>❖ Ramp rate: 6°C/Sec for 96 wells</li> <li>❖ Block Temperature range: 4°C to99°C</li> <li>❖ Temperature accuracy: ±0.2° (@ 95°)</li> </ul>   |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>❖ Temperature Uniformity: <math>\pm 0.4^{\circ}</math> (@ <math>95^{\circ}</math> C)</li> <li>❖ Gradient: Yes with 12 temperature zone gradient functionality without sacrificing uniformity</li> <li>❖ Gradient Temperature Range <math>30^{\circ}</math> C to <math>99^{\circ}</math> C</li> <li>❖ Maximum Gradient <math>30^{\circ}</math> C</li> <li>❖ Volume Capacity 10-100<math>\mu</math>l</li> <li>❖ The System has a Display Size 7 inches at least with Display Type Full Touch Screen and Ports 2 x USB 2.0</li> <li>❖ Warranty 2 year</li> <li>❖ The System should have Memory Capacity for 10,000 protocols with Pre-loaded Protocols available and PCR Wizard</li> </ul>  |
| <p><b>Double beam UV-Visible Spectrophotometer</b></p> | <p>Lamp selection enables conserving the life of the lamps.<br/> Stand alone unit offers an advanced technology with data processing features for Scanning, Discrete Wavelength, Concentration determination by standards and <math>\epsilon</math>-factor method, Time scan with minimum time interval of 1.0 sec, Auto-zero facility, Self check and Self diagnostic modes.<br/> Data in the form of graph and table can be printed directly on to a printer.</p> <p>Multi Tasking user friendly PC Software provides the Analysis to run all the features available in Standalone Unit and additionally has techniques to view, analyse and display upto 4th order Derivate Spectra, Overlay of maximum ten Spectra, Peak Picking Facilities, % Concentration mode, Auto Zero Facility, Spectra Zooming, Smoothing, Data Saving, Retrieval and Printing.</p> <p>Software is 21 CFR Part 11 compliant with password method protection, Instrument logbook etc. cGLP compliance addressed.</p> <p>For any Spectrophotometric or Colorimetric measurement where applications require very high-resolution bandwidth and cGLP compliance is mandatory.<br/> Enzyme Kinetics.<br/> Organic compounds in Biological matter.<br/> Glucose, Fructose, Carbohydrates, Proteins etc., in Foods.<br/> Edible Dyes, Alcohols etc., in Beverages.<br/> Purity of constituents in Pharmaceuticals.<br/> Toxic elements like Cadmium, Lead, Arsenic and Mercury etc., in Effluents.<br/> Constituents in compositions used in Metallurgy, Fertilizer, Pesticide, Chemical, Petrochemical, Steel, Cement, Glass &amp; Other Industries.<br/> Micronutrients like N, P, K, S, Ca, Mg, Zn, Cu, B, Mo, etc., in Agricultural soil, Plants etc.<br/> Life Science Applications.</p> <p><b>SPECTRAL</b><br/> Range 190 to 1100 nm<br/> Bandwidth 1.8 nm<br/> Readability 0.1 nm<br/> Accuracy <math>\pm 0.5</math> nm<br/> Repeatability <math>\pm 0.2</math> nm</p> <p><b>PHOTOMETRIC</b><br/> System Double beam optics<br/> Range <math>\pm 3</math> Abs<br/> Accuracy <math>\pm 0.005</math> Abs at 1.0 Abs<br/> <math>\pm 0.010</math> Abs at 1.5 Abs<br/> Repeatability <math>\pm 0.002</math> Abs at 1.0 Abs</p> |

|   |  |
|---|--|
|   | <p>Stability <math>\pm 0.003</math> Abs/hr. after<br/>(Baseline) 2 hour warm up<br/>Stray Light <math>&lt;0.05\%</math> T at 220 nm with NaI 10g/L<br/>Readability %T 0.01<br/>Abs 0.0001</p> <p><b>MONOCHROMATOR</b><br/>Concave holographic grating with 1200 lines/mm</p> <p><b>CONTROL</b><br/>Standalone Microprocessor &amp; Micro controller<br/>Optional Through Computer</p> <p>PC Connectivity<br/>PC Port - PC Connectivity</p> <p><b>LIGHT SOURCE</b><br/>Deuterium Lamp (D ) &amp; 2 Tungsten (W) Halogen Lamp<br/>DETECTOR : Silicon Photo Diode</p> <p><b>DATA PRESENTATION</b><br/>Display 4 line 20 Character Dot Matrix Backlit LCD Module<br/>Hard Copy On printer (Centronics)</p> <p><b>DATA PROCESSING</b><br/>Standalone Spectrum, Discrete Wavelength, Concentration, <math>\epsilon</math> - Factor, Time Scan, Auto Zero and Printing.<br/>PC Mode: Spectrum, Discrete Wavelength, Concentration, <math>\epsilon</math> - Factor, Time Scan, Enzyme Kinetics, Overlay, Ratiometric, Peak Picking, Upto 4th order Derivative, Spectra Zooming, Smoothing, Data Saving &amp; Retrieval, Auto Zero facility and Printing.</p> <p><b>PHYSICAL DIMENSIONS</b><br/>Size (WxDxH) in mm 500 x 375 x 180<br/>Weight (in kg) Approx. 15</p> <p><b>POWER REQUIREMENT</b><br/>90-260 V AC, 50-60 Hz, 1<math>\phi</math>, 170 VA Max.</p> |
| <p><b>MAGNETIC STIRRER WITH HOT PLATE</b></p> | <p>It should have compact stirring device utilizing a rotating magnetic field (created by a PERMANENT MAGNET) which induces variable speed stirring action.<br/>Stirring should be accomplished by means of small Teflon rotor, which when placed in the liquid to be stirred should be capable on rotation by magnetic field applied from below the container.<br/>The unit is fitted with pilot lamp. To work on 220/230 volts A.C. Supplied complete with one stirring Teflon bar.</p> <p>CAPACITY : 2ltr</p>   |
| <p><b>Water Bath</b></p>                      | <p><i>Double walled bath with inner chamber made should be of stainless steel and outer wall should be made of Mild steel duly powder coated.<br/>The gap between outer and inner walls should be filled with special grade glass wool insulation.<br/>The concentric rings should be removed to accommodate containers of various sizes.<br/>Temperature should be controlled by t Digital temperature controlled.<br/>Temperature range from ambient to 100 °C <math>\pm 1</math> °C.<br/>Should be supplied complete with two indicator lamps, concentric rings, ON/OFF</i></p>   |

|   |  |
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|   | <p><i>Switch, cord &amp; plug.</i><br/> <i>Suitable to operate on 220/230 volts single phase, 50 Hz. AC supply.</i></p> <p><b>Digital Temperature Controlled:</b><br/> <i>300 x 250 x 100mm(6 holes of 75mm dia)</i><br/> <i>Capacity: 8 ltrs</i></p>  |
| <p><b>Gel Electrophoresis Unit and Accessories including Power Supply</b></p> | <ul style="list-style-type: none"> <li>• A midi horizontal electrophoresis system should be able to run the gel size of 15 x 7 cm, and 15 X 10 cm. The system should be supplied with 15 X 7, 10 x 7 gel trays with Gel tank with safety lid.</li> <li>• The supplied gel trays should be UV proof and the trays can be directly kept on the UV Transilluminator and should have a integrated fluorescent ruler in the tray. The ruler should get illuminated on exposure to UV Light for easy and safe calculation of the band movements.</li> <li>• A system should include tape free gel casting module for leak free operations.</li> <li>• A system should include two 1.5mm combs, 15- &amp; 20-well fixed height combs each.</li> <li>• A system should have the option for adjustable height combs with comb holders.</li> <li>• Migration rate of Bromophenol Blue dye should be similar to 4.5cm/hr(at 75 V).</li> <li>• A system should have a lid with the safety banana Jacks, which breaks the circuit when the lid is running.</li> <li>• Should be provided with a bubble leveler for even gel casting.</li> <li>• The gel caster should have 3 height adjustable screws for balancing the uneven platforms for uniform gel casting.</li> <li>• The electrodes should be color coded to remove the confusion of wrong orientation.</li> <li>• The Lid should have a safety option so that the lid cannot be closed in the wrong orientation.</li> <li>• The Lid should have a integrated cables to connect it to the power pac directly.</li> </ul> <p><b>Power Supply Basic-</b></p> <p>Programmable power supply should be capable to operate four electrophoresis units simultaneously for four identical runs with graphic LED display.</p> <p>The output range should be 10-300 V , 0.4-400 mA, 1-75 W .<br/> Constant voltage, current or Power with Automatic crossover<br/> Memory storage: 9 programs , 9 steps, Timer Control : 99 hr, 59 min<br/> Automatic Power up after Power failure, Safety features: No-load detection; sudden load change detection.</p> |

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| <p><b>Centrifuge</b></p> | <ul style="list-style-type: none"> <li>❖ Maximum speed should be 15000 RPM</li> <li>❖ Minimum speed should be 100 RPM</li> <li>❖ Maximum Gravitational field Should be 21,381 x G</li> <li>❖ Maximum Volume should be 36 (mL) (24 x 1.5mL)</li> <li>❖ Speed Range should be 100 – 15000RPM</li> <li>❖ Should have Digital Speed controller</li> <li>❖ Should have Digital speed setting</li> <li>❖ Should have Digital speed display</li> <li>❖ Should have LCD Display for current and Pre-set values</li> <li>❖ Should have Maintenance free Brushless drive motor</li> <li>❖ User Interface should be Operating Panel with buttons</li> <li>❖ Should have Linear Acceleration &amp; Deceleration curves 0-9</li> <li>❖ Quadratic Acceleration &amp; Deceleration curves should be 10-19</li> <li>❖ Braking system should be Dynamic Electric Braking (Acoustic signal at the end of the run)</li> <li>❖ Running time should be (H:M:S) : 99:59:59 (H:M:S)</li> <li>❖ Temperature range should be Ambient +/- 5 °C to 40°C</li> <li>❖ Dimensions should be (D x W x H) in mm : 335 x 370 x 350</li> <li>❖ Should have 30 KGs (66 lbs) Net Weight</li> <li>❖ Noise level at Max speed (approx.) : &lt;60db(A)</li> <li>❖ Electrical requirements : 230 Volts 50 Hz 6 AMP Single Phase</li> <li>❖ Total Power consumption should be 500watts</li> </ul> <p><b>Accessories:</b></p> <ul style="list-style-type: none"> <li>❖ Angled rotor 24 x 1.5 ml (fits microspin/R)</li> </ul> |
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