



University of Ruhuna
Wellamadama
Matara

01.08.2022

The Manager,
.....

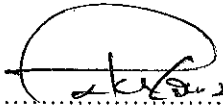
Invitation for Bids (IFB)

Contract: Supply, Delivery, Installation, Commissioning and Testing of Laboratory Equipment for Faculty of Science, University of Ruhuna

IFB No - AHEAD/RA2/ELTA-ELSE/RUH/SCI/GOODS/2022/NS-204

The Chairman, Department Procurement Committee on behalf of the University of Ruhuna invites sealed bid from you for **Supply, Delivery, Installation, Commissioning and Testing of Laboratory Equipment for Faculty of Science, University of Ruhuna** indicated in the annexed bid document.

01. Bidding will be conducted through National Shopping method of procurement.
02. You may obtain further information if any from the **Deputy Director- Procurement (AHEAD Project) Supplies Branch, University of Ruhuna, Wellamadama, Matara. (T.P 041- 2227027/ Fax No. 041 – 2227027)**
03. Bids must be delivered by mail in sealed envelopes addressed to **Director/OTS, AHEAD Project-OTS Office, University of Ruhuna, Wellamadama, Matara** before **02.00 p.m. on August 14, 2022**. Late bids will be rejected.
04. This contract is subject to,
 - Providing of performance security of 10% of the total contract price in accordance with the format attached and issued with this in favor of the Vice Chancellor, University of Ruhuna.
 - Entering in to the formal agreement with the University of Ruhuna.

 01/08/2022

Deputy Director - Procurements,
University of Ruhuna,
Wellamadama,
Matara.

Mr. D. V. L. Krishani
Deputy Director - Procurement
Operations Technical Secretariat
AHEAD Project
University of Ruhuna
Wellamadama, Matara.



UNIVERSITY OF RUHUNA

**PROCUREMENT OF GOODS UNDER
NATIONAL SHOPPING PROCEDURES**

**INVITATION FOR QUOTATIONS
FOR**

**Supply, Delivery, Installation, Commissioning and Testing
of Laboratory Equipment for Faculty of Science, University of Ruhuna**

IFB No: AHEAD/RA2/ELTA-ELSE/RUH/SCI/GOODS/2022/NS-204

**Ms. D. V. L. Krishani
Deputy Director - Procurement
Operations Technical Secretariat
AHEAD Project
University of Ruhuna
Wellamadama, Matara.**

Section I. Instructions to Vendors (ITV)

| A: General | |
|---|---|
| 1. Scope of Bid | 1.1 The Purchaser named in the Data Sheet invites you to submit a quotation for the supply of Goods as specified in Section III Schedule of Requirements. |
| B: Contents of Documents | |
| 2. Contents of Documents | <p>2.1 The documents consist of the Sections indicated below.</p> <ul style="list-style-type: none"> • Section I. Instructions to Vendors (ITV) • Section II. Data Sheet • Section III. Schedule of Requirements • Section IV. Technical Specifications & Compliance with Specifications with price schedule • Section V. Quotation submission Form(s) |
| C: Preparation of Quotation | |
| 3. Documents Comprising your Quotation | <p>3.1 The Quotation shall comprise the following:</p> <ul style="list-style-type: none"> (a) Quotation Submission Form and the Price Schedules; (b) Technical Specifications & Compliance with Specifications |
| 4. Quotation Submission Form and Price Schedules | <p>4.1 The vendor shall submit the Quotation Submission Form using the form furnished in Section V. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.</p> <p>4.2 Alternative offers shall not be considered. The vendors are advised not to quote different options for the same item but furnish the most competitive among the options available to the bidder.</p> |
| 5. Prices and Discounts | <p>5.1 Unless specifically stated in Data Sheet, all items must be priced separately in the Price Schedules.</p> <p>5.2 The price to be quoted in the Quotation Submission Form shall be the total price of the Quotation, including any discounts offered.</p> |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Operations Technical Secretariat
 ANHAD Program
 University of Hyderabad
 Hyderabad - 500046, India

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| | <p>5.3 The applicable VAT shall be indicated separately.</p> <p>5.4 Prices quoted by the vendor shall be fixed during the vendor's performance of the Contract and not subject to variation on any account. A Quotation submitted with adjustable price shall be treated as nonresponsive and may be rejected.</p> |
| 6. Currency | 6.1 The vendors shall quote only in Sri Lanka Rupees. |
| 7. Documents to Establish the Conformity of the Goods | <p>7.1 The vendor shall furnish as part of its quotation the documentary evidence that the Goods conform to the technical specifications and standards specified in Section IV, "Technical Specifications & Compliance with Specifications".</p> <p>7.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods, demonstrating substantial responsiveness of the Goods to the technical specifications, and if applicable, a statement of deviations and exceptions to the provisions of the Technical Specifications given.</p> <p>7.3 If stated in the Data Sheet the vendor shall submit a certificate from the manufacturer to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in Sri Lanka.</p> |
| 8. Period of Validity of quotation | 8.1 Quotations shall remain valid for the period of sixty (60) days after the quotation submission deadline date. |
| 9. Format and Signing of Quotation | 9.1 The quotation shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the vendor. |
| D: Submission and Opening of Quotation | |
| 10. Submission of Quotation | <p>10.1 Vendors may submit their quotations by Registered post in sealed envelopes addressed to the Purchaser and bear the specific identification of the quotation number.</p> <p>10.2 If the quotation is not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the quotation.</p> |
| 11. Deadline for Submission of Quotation | 11.1 Quotation must be received by the Purchaser at the address set out in Section II, "Data Sheet", and not later than the date and time as specified in the Data Sheet. |

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 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University of Kelaniya
 Wellamulla-Maduruwa.

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| 12. Late Quotations | 12.1 The Purchaser shall reject any quotation that arrives after the deadline for submission of quotations, in accordance with ITV Clause 11.1 above. |
| 13. Opening of Quotations | 13.1 The Purchaser shall conduct the opening of quotation in public at the address, date and time specified in the Data Sheet. 13.2 A representative of the bidders may be present and mark his attendance. |
| E: Evaluation and Comparison of Quotations | |
| 14. Clarifications | 14.1 To assist in the examination, evaluation and comparison of the quotations, the Purchaser may, at its discretion, ask any vendor for a clarification of his quotation. Any clarification submitted by a vendor in respect to his quotation which is not in response to a request by the Purchaser shall not be considered. 14.2 The Purchaser's request for clarification and the response shall be in writing. |
| 15. Responsiveness of Quotations | 15.1 The Purchaser will determine the responsiveness of the quotation to the documents based on the contents of the quotation received. 15.2 If a quotation is evaluated as not substantially responsive to the documents issued, it may be rejected by the Purchaser. |
| 16. Evaluation of quotations | 16.1 The Purchaser shall evaluate each quotation that has been determined, to be substantially responsive. 16.2 To evaluate a quotation, the Purchaser may consider the following: (a) the Price as quoted; (b) price adjustment for correction of arithmetical errors; (c) price adjustment due to discounts offered. 16.3 The Purchaser's evaluation of a quotation may require the consideration of other factors, in addition to the Price quoted if stated in Section II, Data Sheet. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods. |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Quotations Technical Secretariat
 PPAU Bidhan
 University of West Bengal
 Kolkata, India.

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| 17. Purchaser's Right to Accept any Quotation, and to Reject any or all Quotations | 17.1 The Purchaser reserves the right to accept or reject any quotation, and to annul the process and reject all quotations at any time prior to acceptance, without thereby incurring any liability to bidders. |
|---|--|

| F: Award of Contract | |
|--|---|
| 18. Acceptance of the Quotation | 18.1 The Purchaser will accept the quotation of the vendor whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the documents issued. |
| 19. Notification of acceptance | 19.1 Prior to the expiration of the period of validity of quotation, the Purchaser will notify the successful vendor, in writing, that his quotation has been accepted. |
| 20. Signing of Contract | 20.1 Within (14) days after notification, the Purchaser shall complete the Agreement, and in form the successful Bidder have to sign it. 20.2 Within fourteen (14) days of receipt of such information, the successful Bidder shall sign the Agreement. |
| 21. Performance Security. | 21.1 Within fourteen (14) days of the receipt of notification of award from the Purchaser, the successful Bidder is required furnish the Performance Security in accordance with the CC, using for that purpose the Performance Security Form included in Section VII contract forms, The Employer shall promptly notify the name of the winning Bidder to each unsuccessful Bidder and discharge the Bid Security of the unsuccessful bidders. 21.2 Failure of the successful Bidder to submit the above mentioned Performance Security or sign the contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or execution of the Bid-Securing Declaration. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the purchaser to be qualified to perform the contract satisfactorily. |

Ms. D. V. L. Mishra
Deputy Director - Procurement
Operations Technical Secretariat
A/CAD Project
University Of Botswana
Gaborone, Botswana

Section II: Data Sheet

| | |
|--------------------------|---|
| ITV Clause Reference | |
| 1.1 | The Purchaser is: Vice Chancellor Address : University of Ruhuna, Wellamadama Matara. |
| 5.1 | If the bidder is allowed to quote for lesser number of items than the total number of items specified, indicate the details. |
| 7.3 | Manufacturer's Authorization is required. |
| 11.1 | Address for submission of quotations is Director/ OTS, AHEAD Project, University of Ruhuna, Wellamadama, Matara. Deadline for submission of quotations is at 2.00 P.M on August 14, 2022 |
| 13 | The Quotations shall be opened at the following address: AHEAD PROJECT, OTS-Office, University of Ruhuna, Wellamadama, Matara. |
| 16 | Other factors that will be considered for evaluation are (List and describe the methodology): |
| Additional Clause | |
| 17. Payment | Payment shall be made within eight weeks after receiving the invoice and other required documents to the Office for each item supplied. |
| 19. Liquidated Damages | The supplier should deliver the items within the delivery period stipulated in the schedule of requirements. The supplier should make payment to the purchaser for each week of delay in delivery, at the rate of 0.5% of the contract sum per each week of delay, up to a maximum of 10% of the contract sum. |
| 21. Performance Security | If required, the supplier should forward performance security of 10% of the total contract price. This should be issued in favor the Vice Chancellor, university of Ruhuna, valid for 365 days from the date of acceptance of the order. |

Mr. E. V. L. KUTSALI
 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University Of Ruhuna
 Wellamadama, Matara.

Section III: Schedule of Requirements

- Note:
 1. Bidders a) May quote whole item.
 2. Evaluation will be based on: a) separately.

| Item No. | Brief Description of the Goods | Specification and Requirements | Quantity | Delivery Period | Bidder's offered Delivery Date |
|----------|-----------------------------------|--------------------------------|----------|-----------------|--------------------------------|
| 01 | Digital USB Microscope with stand | Annexure I | 02 | 2 weeks | |
| 02 | Flake Ice Maker Machine (120L) | Annexure II | 01 | 2 weeks | |
| 03 | Digital Ceramic Hot Plate Stirrer | Annexure III | 01 | 2 weeks | |
| 04 | Ion Selective Meter | Annexure IV | 01 | 2 weeks | |
| 05 | Dissolved Oxygen Meter | Annexure V | 01 | 2 weeks | |
| 06 | Salinity Meter | Annexure VI | 01 | 2 weeks | |
| 07 | Turbidity Meter- Type I | Annexure VII | 01 | 2 weeks | |
| 08 | Turbidity Meter- Type II | Annexure VIII | 01 | 2 weeks | |

Place of Delivery: Faculty of Science, University of Ruhuna, Wellamadama, Matara.

Ms D.V.L. Krishnan
 Deputy Director, Procurement
 Operations Technical Department
 AHEAD Project
 University of Ruhuna
 Wellamadama, Matara

Section V Quotation Submission Form

[The Vendor shall fill in this Form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions will be accepted.]

Date:

To:.....

[insert complete name of Purchaser]

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the document issued;
- (b) We offer to supply in conformity with the documents issued and in accordance with the Delivery Schedules specified in the Schedule of Requirements, the following Goods [insert a brief description of the Goods];
- (c) The total price of our quotation including any discounts offered is: [insert the total quoted price in words and in figures];
- (d) Our quotation shall be valid for the period of time specified in ITV Sub-Clause 8.1, from the date fixed for the quotation submission deadline in accordance with ITV Sub-Clause 11.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) We understand that this quotation, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us.
- (f) We understand that you are not bound to accept the lowest evaluated quotation or any other quotation that you may receive.

Signed:.....

[insert signature of Person whose name and capacity are shown]

Name:

[insert complete name of person signing the Bid Submission Form]

Dated:

Ms. D. V. L. Krishani
Deputy Director - Procurement
Operations Technical Secretariat
ANEAD Project
University of Palikma
Walla Walla, WA, USA

Dr. D. V. L. Krishnan
 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University of Ruhuna
 Welisara, Matara.

PRICE SCHEDULE –IV

Contract: Supply, Delivery, Installation, Commissioning and Testing of Laboratory Equipment for University of Ruhuna.

IFB No - AHEAD/RA2/ELTA-ELSE/RUH/SCI/GOODS/2022/NS-204

| Item No. | Description | Qty. | Unit Rate. (Without VAT) (Rs. & Cents) | VAT (Rs. & Cents) | Total Amount (With VAT) (Rs. & Cents) |
|----------|-----------------------------------|------|---|----------------------|--|
| 01 | Digital USB Microscope with stand | 02 | | | |
| 02 | Flake Ice Maker Machine (120L) | 01 | | | |
| 03 | Digital Ceramic Hot Plate Stirrer | 01 | | | |
| 04 | Ion Selective Meter | 01 | | | |
| 05 | Dissolved Oxygen Meter | 01 | | | |
| 06 | Salinity Meter | 01 | | | |
| 07 | Turbidity Meter- Type I | 01 | | | |
| 08 | Turbidity Meter- Type II | 01 | | | |

We agree to supply and delivery the above goods in accordance with the technical specifications for a total contract price of Rupees..... (amount in figures) (..... amount in words) within the period specified in the Invitation for Quotations.

We also confirm that the warrantee/guarantee specified shall apply to the offered goods.

.....
Signature of the Bidder **Name of the Bidder** **Date**

01. Specification of Digital USB Microscope with Stand

| Specification | Requirement | Bidder's Compliance | |
|------------------|--|---------------------|------------------------------|
| | | Yes/ No | If 'No', indicate your offer |
| Make | Please Specify | | |
| Model | Please Specify | | |
| Focusing range | 0mm- 40mm | | |
| Magnification | 300x to 500x | | |
| Connectivity | USB | | |
| OS Compatibility | Windows 10 | | |
| Resolution | 2-5 MP | | |
| Illumination | Build in LED light (adjustable) | | |
| Warranty | All inclusive minimum 01 years comprehensive warranty | | |

Mr. D. V. L. Krishan
 Deputy Director, Procurement
 Operations Technical Secretariat
 ABEAD Project
 University Of Andhra
 Waltamchuru, 515 002.

02. Specification for Ice Flake Maker Machine (120L)

| Specifications | Requirements | Bidders compliance | |
|-----------------------------|--------------------------|--------------------|-----------------------------|
| | | Yes/No | if "No" indicate your offer |
| Ice making capacity in 24 h | 150 kg | | |
| Ice storage capacity | 100kg or (120 L) | | |
| Ice shape | Amorphous fine granulate | | |
| Water Supply | Tap Water | | |
| Power Supply Voltage | 220V- 240V , 50/60hz AC | | |
| Warranty: | 1 year or more | | |

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 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University Of Karnataka
 Wellbama, Tumkur - 572 102.

03. Specification for Digital Ceramic Hot Plate Stirrer

| Item | Quantity |
|-----------------------------------|----------|
| Digital Ceramic Hot Plate Stirrer | 01 |

| No | Specifications | Requirements | Bidders compliance | |
|----|--|--|--------------------|-----------------------------------|
| | | | Yes/ No | if "No" indicate your offer |
| 1 | Brand | Please specify | | |
| 2 | Model | Please specify | | |
| 3 | Construction material | Techno polymer structure | | |
| 4 | Type | Laboratory Bench top | | |
| 5 | Stirring Capacity (Stirring volume (H2O)) | 15 L | | |
| 6 | Stirring Speed range | Up to 1500 rpm | | |
| 7 | Dimensions of the heating plate: | 180x180mm | | |
| 8 | Heating plate: | Ceramic material | | |
| 9 | Electronic temperature control: | from room temp. to 550 °C | | |
| 10 | Excellent resistance to chemicals scratches and surface abrasions | yes | | |
| 11 | Programmable timer: | up to 999 minutes with automatic switch off | | |
| 12 | Over temperature protection | yes | | |
| 13 | Display | Digital LED display or LCD | | |
| 14 | Power | 800 W | | |
| 15 | Electrical Requirements | 230V /50 - 60Hz | | |
| 16 | Warranty | All inclusive minimum 01 year comprehensive warranty | | |
| 17 | Accessories included | | | |
| 18 | Magnetic stirring bar 6x35 mm - 3 stirring bars | yes | | |
| 19 | Magnetic stirring bar 10x60 mm - 3 stirring bars | yes | | |
| 20 | Magnetic stir bar, Ø8x40mm - 3 stirring bars | yes | | |
| 21 | Hemispheric bowl for 100 ml flasks -2 supports for round-bottomed flasks | yes | | |
| 22 | Hemispheric bowl for 250 ml flasks -2 supports for round-bottomed flasks | yes | | |

04. Specification for Ion Selective Meter

| Item | Quantity |
|--|----------|
| Supply and delivery of bench top ion selective electrode (ISE) meter | 01 |

| Item | Quantity |
|---------------------|----------|
| ISE Meter with ISEs | 01 |

| Specifications | Requirements | Bidders Compliance | |
|--------------------------|--|--------------------|-----------------------------|
| | | Yes/No | If "No" indicate your offer |
| Country | Please specify | | |
| Make and Model | Please specify | | |
| pH Range | 0-15 | | |
| pH resolution | 0.001/0.01/0.1 | | |
| pH calibration points | Up to 5 | | |
| pH calibration modes | Auto buffer recognition with option to edit values | | |
| ISE Range | 0.0001 to 19900 | | |
| ISE resolution | 3 significant digits | | |
| Stirrer probe inputs | At least one | | |
| Display type | Graphic LCD | | |
| Power supply | Universal, 100-240VAC, 50-60Hz | | |
| Temperature Range | 0 to 40 °C | | |
| Warranty | Two Years | | |
| Accessories | Stirrer probes, electrode stand, | | |
| Ion Selective Electrodes | Chloride, Fluoride, Nitrate, Lead | | |
| Warranty | Two years | | |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Operations Technical Specialist
 AHEAD Project
 University of J
 Mysore

05. Specification for Dissolved Oxygen Meter

| Specifications | Requirements | Bidders Compliance | |
|------------------------------------|---|--------------------|-----------------------------|
| | | Yes/No | If "No" indicate your offer |
| Country | Europe or Japanese | | |
| Brand | Please specify | | |
| Model | Please specify | | |
| Dissolved Oxygen (% saturation) | | | |
| Sensor Type | Optical (dynamic luminescence quenching lifetime detection) | | |
| Range | 0 to 500% air saturation | | |
| Resolution | 0.1% air saturation | | |
| Accuracy | 0 to 200% air saturation $\pm 1\%$ of the reading or $\pm 1\%$ air saturation, whichever is greater; 200 to 500% air saturation $\pm 10\%$ of the reading | | |
| Dissolved Oxygen (mg/L) | | | |
| Sensor Type | Optical (dynamic luminescence quenching lifetime detection) | | |
| Range | 0 to 50 mg/L | | |
| Resolution | 0.01 or 0.1 mg/L (auto-scaling) | | |
| Accuracy | 0 to 20 mg/L ± 0.1 mg/L or $\pm 1\%$ of reading, whichever is greater; 20 to 50 mg/L $\pm 10\%$ of the reading | | |
| Temperature ($^{\circ}\text{C}$) | | | |
| Range | 5 to 70°C | | |
| Resolution | 0.1°C | | |
| Accuracy | $\pm 0.2^{\circ}\text{C}$ | | |
| Barometer (mmHg) | | | |
| Range | 375 to 825 mmHg | | |
| Resolution | 0.1 mmHg | | |
| Accuracy | ± 1.5 mmHg from 0 to 50°C | | |
| Storage Temperature | (-20 to 70°C) | | |
| Calibration | DO - one point or two point with a zero % value; barometer - one point | | |
| Connectors | MS (military spec) waterproof with bayonet lock | | |
| Power | 2 alkaline C-cells or USB power; approximately 80 hours - ambient conditions in manual sampling mode | | |
| Cable length | 4 to 5 M | | |
| Data Memory | 5000 data sets (sensor data, date, time, site and user defined information) | | |

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| Typical Response Time | 90% in 25 seconds; 95% in 45 seconds | | |
| Certifications | RoHS, CE, WEEE, C-Tick, VCCI, IP-67, 1-meter drop test | | |
| Connectivity | USB 2.0; communications saddle and USB cable included | | |
| Probe/Sensor Materials | Titanium | | |
| Installation and Delivery | Required | | |
| Warranty Period | Please specify | | |
| Number of free services | Please specify | | |
| Condition of service agreement and fee after warranty period | Please specify | | |
| Availability in stock | Please specify | | |
| Delivery period in "Days" from the placement of purchasing order | Please specify | | |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University Of Ruhuna
 Weligama Estate, Matara.

06. Specification for Dissolved Oxygen Meter

| | |
|----------------|----------|
| Item | Quantity |
| Salinity meter | 01 |

| No | Specifications | Requirements | Bidders compliance | | |
|-------------|--------------------------|--|----------------------------------|-----------------------------|--|
| | | | Yes/No | if "No" indicate your offer | |
| 1 | Country of Origin | Please specify | | | |
| 2 | Country of Manufacture | Please specify | | | |
| 3 | Brand | Please specify | | | |
| 4 | Model | Please specify | | | |
| 5 | Salinity | Range | 0 to 50 ppt | | |
| | | Resolution | 0.01 | | |
| | | Accuracy | ±1 % full scale | | |
| | | Calibration | Manual; 1 point | | |
| | Conductivity | Range | 0 to 200 mS; | | |
| | | Resolution | 0.01 µS to 0.1 mS | | |
| | | Accuracy | ±1 % full scale | | |
| | | Calibration | Auto/manual; one point per range | | |
| | TDS | Range | 0 to 200 ppt (TDS factor 1.0) | | |
| | | Resolution | 0.01 ppm to 0.1 ppt | | |
| | | Accuracy | ±1 % full scale | | |
| | | Calibration | Manual; 1 point/range | | |
| Temperature | Range | -5.0 to 80.0 °C (25.0 to 175.0 °F) | | | |
| | Resolution | 0.1 °C/°F | | | |
| | Accuracy | ±0.9 °F | | | |
| 6 | Display | Custom LCD with backlight | Yes | | |
| 7 | Memory | Stores up to 500 data sets | Yes | | |
| 8 | Output | USB or RS232 | Yes | | |
| 9 | Real-Time Clock | Time and date stamp on calibration and stored data | Yes | | |
| 10 | Temperature Compensation | | Yes | | |
| 11 | Power | Two AA batteries (included), >100 hours (without backlight) or AC 220-240V , 50/60Hz | Yes | | |

| | | | | |
|----|--|---------------------------------|--|--|
| 12 | The meter should be delivered with probe and extra 2 probe | Yes | | |
| 13 | Warranty | One Years or more Comprehensive | | |
| 14 | For the sustainability parts of the instrument should be available continually | Yes | | |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Operations Technical Secretariat
 AHEAD Project
 University Of Ruhuna
 Sri Lanka

07. Specification for Turbidity Meter –Type I

| Item | Quantity |
|-----------------|----------|
| Turbidity Meter | 01 |

| Specifications | Requirements | Bidders compliance | |
|--|--|--------------------|-----------------------------|
| | | Yes/No | if "No" indicate your offer |
| Country | Manufacturing country should be Japan, Europe, or USA | | |
| Brand | Please specify | | |
| Model | Please specify | | |
| Light Source | Class II Laser light source | | |
| Accuracy | ±2% of reading plus 0.01 NTU from 0 to 40 NTU ±10% of reading from 40 to 1000 NTU | | |
| Touch screen control | Yes | | |
| USB ports for results | Yes | | |
| Warranty period | Please specify | | |
| Number of free services | Please specify | | |
| Condition of service agreement and fee after warranty period | Please specify | | |
| Availability in stock | Please specify | | |
| Delivery period in "Days" from the placement of purchasing order | Please specify | | |

Ms. D. V. L. Krishani
 Deputy Director - Procurement
 Operations Technical Secretariat
 ANEAD Project
 University Of Botswana
 Gaborone, Botswana

08. Specification for Turbidity Meter –Type II

| Item | Quantity |
|--------------------------|----------|
| Portable Turbidity Meter | 01 |

| Specifications | Requirements | Bidders compliance | |
|-------------------------------------|--|--------------------|-----------------------------|
| | | Yes/No | if "No" indicate your offer |
| Country | Manufacturing country should be Japan, Europe, or USA | | |
| Brand | Please specify | | |
| Model | Please specify | | |
| Accuracy | 2% of reading plus stray light | | |
| Data Logging | 500 records | | |
| Display Size | 240 x 160 pixels | | |
| Display Type | Graphic LCD | | |
| Interface | Optional USB | | |
| Light source | Tungsten filament lamp | | |
| Manual Languages | English | | |
| Max. operating humidity | 90% | | |
| Measurement Method | Ratio turbidimetric determination using a primary nephelometric light scatter signal (90°) and transmitted light scatter signal. | | |
| Measurement Modes | Normal (Push to Read), Signal Averaging, Rapidly Settling Turbidity | | |
| Operating Temperature Range | 0 – 50 ° C | | |
| Power Requirements | 240V AC/ 50/60 Hz (with optional power or USB+ Power | | |
| Power Requirements (Hz) | 50/60 Hz | | |
| Power Requirements (Voltage) | 240 VAC | | |
| Power Supply | Batteries or Optional Power Supply | | |
| Range | 0-1000 | | |
| Range 2: | NTU | | |
| Reading Modes | Normal (Push to Read) | | |
| Signal Averaging | Yes | | |
| Rapidly Setting Turbidity | Yes | | |
| Regulatory: EPA Method 180.1 | Yes | | |
| Repeatability | ±1 % of Reading or 0.01 NTU. | | |

| | | | |
|--|---|--|--|
| | whichever is greater | | |
| Resolution | 0.01 NTU on lowest range | | |
| Response Time | 6 s in normal reading mode | | |
| Sample Cell Compatibility | 25mm x 60mm borosilicate glass with screw cap | | |
| Sample Volume | 15mL | | |
| Signal Averaging | Selectable on/off | | |
| Storage Conditions | : 40°C to 60°C | | |
| Stray Light | <0.02 NTU | | |
| Detector | Silicon Photovoltaic | | |
| Units | NTU | | |
| User Interface | Button Graphic User Interface | | |
| User Interface Languages | English | | |
| Warranty | One years or more comprehensive | | |
| 2 extra tungsten filament lamp | Yes | | |
| Must have Network connection capability or use USB or other for data collection | Yes | | |
| For the sustainability parts of the instrument should be available continually | Yes | | |

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