

**DEMOCRATIC SOCIALIST REPUBLIC OF
SRI LANKA**



UVA WELLASSA UNIVERSITY

**SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF LABORATORY
EQUIPMENT FOR DEPARTMENT OF SCIENCE AND TECHNOLOGY
FACULTY OF SCIENCE AND TECHNOLOGY**

UWU/G/NCB/18/03

BIDDING DOCUMENT

Bid Opening On	11 th June 2018 - 2.00 p.m.
Bid Validity up to	91 days from 11 th June 2018

Uva Wellassa University
Passara Road,
Badulla,
Sri Lanka.


Deputy Bursar (Stores & Supplies)
Uva Wellassa University
Passara Road, Badulla.

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INVITATION FOR BIDS UVA WELLASSA UNIVERSITY



Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology UWU/G/NCB/18/03

The Chairman, Department Procurement Committee, on behalf of the Uva Wellassa University, invites sealed bids from eligible bidders and qualified bidders for **Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology**

1. Bidding will be conducted through the National Competitive Bidding (NCB) procedure.
2. Bidder should have at least three years' experience in the relevant field in Sri Lanka.
3. Interested eligible bidders may obtain further information from the Deputy Bursar / Supplies, Uva Wellassa University, Passara Road, Badulla, (Tel. No: 055-2226475, Fax No: 055-2226633), and inspect the bidding documents at the Supplies Division of the University between 9.00 am to 3.00 pm from **21st May 2018 to 10th June 2018 and up to 12.30 p.m. on 11/06/2018.**
4. A complete set of bidding documents in English may be purchased by interested bidders on submission of a written application to the Deputy Bursar/ Supplies, Uva Wellassa University, Passara Road, Badulla and upon payment of a non-refundable fee of Rupees 5,750.00 in cash at the Shroff Counter of the University. The bidder can also download the bidding documents from the University website www.uwu.ac.lk. Those who are obtaining bidding documents from the University website should submit the complete documents along with a Bank Draft drawn in favour of the "Vice Chancellor, Uva Wellassa University" for Rs. 5,750.00 as non-refundable fee or the payments could be made to any branch of Bank of Ceylon, to the Uva Wellassa University, Account No: 3114820, and the original of the cash receipt/deposit slip to be attached with the bidding documents. The documents may be purchased until **12.30 p.m. on 11th June 2018.**
5. Bids must be delivered to be addressing **Chairman, Department Procurement Committee, Uva Wellassa University, Passara Road, Badulla**, on or before **2.00 p.m. on 11th June 2018** Please indicate the "SUPPLY, DELIVERY, INSTALLATION & COMMISSIONING OF LABORATORY EQUIPMENT FOR DEPARTMENT OF SCIENCE AND TECHNOLOGY, FACULTY OF SCIENCE AND TECHNOLOGY - UWU/G/NCB/18/03" on the top left hand corner of the envelope.
6. All bids must be accompanied by a Bid Security addressed to the **Chairman, Department Procurement Committee, Uva Wellassa University**, valid for 120 days from the date of the bid opening. The Value of the Bid Security shall be **Rs. 270,770.00**
7. Pre Bid meeting will be held on **30th May 2018, 11.30 a.m.** In the Board Room of Uva Wellassa University.
8. The bids shall be deposited in the 'Tender Box' available in the Registrar's Office of the University, or sent under Registered Cover to be received before the deadline to the address given Clause No.5.
9. Late bids will be rejected. Bids will be opened immediately after the closing of bids, in the presence of the bidders or their authorized representatives who choose to attend the bid opening at the board room of the Uva Wellassa University.

Chairman,
Department Procurement Committee,
Uva Wellassa University, Passara Road,
Badulla
Tel/ Fax No: 055-2226475, 055-2226633


Deputy Bursar (Stores & Supplies)
Uva Wellassa University
Passara Road, Badulla.

Section I.

Instructions to Bidders (ITB)

This Bidding Document is based on the standard bidding document for National Competitive Bidding (NPA/Goods/SBD 01). Section I will not be provided with this bidding document. Bidders are instructed to refer the Section I of the standard bidding document (NPA/Goods/SBD 01). The document is available at the website of NPA, www.npa.gov.lk

Section VI.

Conditions of Contract

This Bidding Document is based on the standard bidding document for National Competitive Bidding (NPA/Goods/SBD 01). Section VI will not be provided with this bidding document. Bidders are instructed to refer the Section VI of the standard bidding document (NPA/Goods/SBD 01). The document is available at the website of NPA, www.npa.gov.lk

Section VIII. Contract Forms

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Contract Agreement

THIS CONTRACT AGREEMENT is made

the [insert: number] day of [insert: month], [insert: year].

BETWEEN

(1) [Insert complete name of Purchaser], a [insert description of type of legal entity, for example, an agency of the Ministry of or corporation and having its principal place of business at [insert address of Purchaser] (hereinafter called “the Purchaser”), and

(2) [Insert name of Supplier], a corporation incorporated under the laws of [insert: country of Supplier] and having its principal place of business at [insert: address of Supplier] (hereinafter called “the Supplier”).

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., [insert brief description of Goods and Services] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [insert Contract Price in words and figures, expressed in the Contract currency (ies)] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:

- (a) This Contract Agreement
- (b) Contract Data
- (c) Conditions of Contract
- (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
- (e) The Supplier’s Bid and original Price Schedules
- (f) The Purchaser’s Notification of Award
- (g) [Add here any other document(s)]

3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Democratic Socialist Republic of Sri Lanka on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: [insert signature]

in the capacity of [insert title or other appropriate designation]

in the presence of [insert identification of official witness]

For and on behalf of the Supplier

Signed: [insert signature of authorized representative(s) of the Supplier]

in the capacity of [insert title or other appropriate designation]

in the presence of [insert identification of official witness]

Performance Security

[The issuing agency, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated] ----- [Issuing Agency's Name, and Address of Issuing Branch or Office] ----- * Beneficiary:----- [Name and Address of Employer] -----

Date: -----

PERFORMANCE GUARANTEE No.: -----

We have been informed that ----- [Name of Supplier] (hereinafter called "the Supplier") has entered into Contract No. ----- [Reference number of the contract] dated ----- with you, for the ----- Supply of ----- [name of contract and brief description] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required. At the request of the Supplier, we ----- [name of Agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of -----

[Amount in figures] (-----) [amount in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein. This guarantee shall expire, no later than the day of, 20.. [Insert date, 28 days beyond the scheduled completion date including the warranty period] and any demand for payment under it must be received by us at this office on or before that date.

[Signature(s)]



Section II.

Bidding Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

[Instructions for completing the Bid Data Sheet are provided, as needed, in the relevant ITB Clauses.]

ITB Clause Reference	A. General
ITB 1.1	The Purchaser is: Uva Wellassa University
ITB 1.1	The name and identification number of the Contract are: Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology Contract No: UWU/G/NCB/18/03
ITB 1.2	The bidder should have at least three years' experience in the relevant industry in Sri Lanka and should submit documents to prove experience in the industry.
ITB 2.1	The source of funding is: GOSL
ITB 4.4	Foreign bidders are allowed to participate in bidding: Not allowed
	B. Contents of Bidding Documents
ITB 7.1	For Clarification of bid purposes only, the Purchaser's address is: Attention: Deputy Bursar/Supplies Address: Uva Wellassa University, Passara Road, Badulla. Telephone: 055-2226475 Electronic mail : supply@uwu.ac.lk
	C. Preparation of Bids
ITB 11.1 (e)	The Bidder shall submit the following additional documents: A complete company profile of the bidders including, but not limited to, the following: <ul style="list-style-type: none"> • Business Registration Certificate • VAT Registration Certificate • List of client who use the Products • Past 3 years relevant experience in the relevant Industry in Sri Lanka • Manufacturer's Authorization. • Certificate of Registration under Public Contract Act.
ITB 15.1	The bidder shall quote the local expenditure in Sri Lankan Rupees.
ITB 18.1 (b)	After sales service is: Required
ITB 19.1	The bid shall be valid for : 91 days from 11th June 2018
ITB 20.1	Bid shall include a Bid Security in any of following ways <ul style="list-style-type: none"> (a) A Bank guarantee issued by a reputed bank operated in Sri Lanka. (b) Cash deposit at the Shroff Counter of the University (c) Cash deposit from any branch of Bank of Ceylon, to the Uva Wellassa University, Account No: 3114820, and the cash receipt/deposit slip to be attached with the bidding documents.


 Deputy Bursar (Stores & Supplies)
 Uva Wellassa University
 Passara Road, Badulla.

ITB 20.2	The amount of the Bid Security shall be: Rs. 270,770.00 Beneficiary: Vice Chancellor, Uva Wellassa University. The validity period of the bid security shall be 120 days from the closing date of the Bid
	D. Submission and Opening of Bids
ITB 22.2 (c)	The inner and outer envelopes shall bear the following identification marks: SUPPLY, DELIVERY, INSTALLATION & COMMISSIONING OF LABORATORY EQUIPMENT FOR DEPARTMENT OF SCIENCE AND TECHNOLOGY, FACULTY OF SCIENCE AND TECHNOLOGY Contract No: UWU/G/NCB/18/03
ITB 23.1	For bid submission purposes, the Purchaser's address is: Attention: Deputy Bursar Address: Uva Wellassa University, Passara Road, Badulla. The deadline for the submission of bids is Date: 11th June 2018 Time: 2.00 p.m.
ITB 26.1	The bid opening shall take place at: Address: Board Room, Uva Wellassa University, Passara Road, Badulla. Date: 11th June 2018 Time: 2.00 p.m.
	E. Evaluation and Comparison of Bids
ITB 34.1	Domestic preference shall not be a bid evaluation factor.
ITB 35.3(d)	The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: (a) Deviation in Delivery schedule: Option 2 is selected and the adjustment is 0.5% per week or part thereof (b) Deviation in payment schedule: Not applicable (c) The cost of major replacement components, mandatory spare parts, and service: Applicable
ITB 35.4	The following factors and methodology will be used for evaluation: Not applicable
ITB 35.5	Bidders shall be allowed to quote for one or more lots. [refer to Section III Evaluation and Qualification Criteria] Purchaser will evaluate the bid item by item basis.


 Deputy Bursar (Stores & Supplies)
 Uva Wellassa University
 Passara Road, Badulla.

Section III.

Evaluation and Qualification Criteria

1. Evaluation Criteria (ITB 35.3 (d))

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14, one or more of the following factors as specified in ITB Sub-Clause 35.3(d) and in BDS referring to ITB 35.3(d), using the following criteria and methodologies.

(a) Delivery schedule

Option 2

The goods covered under this invitation are required to be delivered within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as nonresponsive. Within this acceptable range, an adjustment per week, as specified in the Bid Data Sheet, will be added for evaluation purposes only, to the bid price of bids offering deliveries later than the earliest delivery period specified in the Section V, Schedule of Requirements

(a) Deviation in payment schedule. **Not applicable**

(c) Cost of major replacement components, mandatory spare parts, and service:

The required spare parts for the goods covered under this invitation shall be available for at least five years of period and after sales service (Free service & Pay service).

(d) Specific additional criteria: **None**

2. Evaluation Criteria (ITB 35.4):

Not Applicable

3. Multiple Contracts (ITB 35.5)

The Purchaser shall award multiple contracts to the Bidder that offers the lowest evaluated combination of bids (one contract per bid) and meets the post-qualification criteria (this Section III, Sub-Section ITB 37.2 Post-Qualification Requirements)

The Purchaser shall:

- (a) Evaluate only lots or contracts that include items per lot and quantity per item
- (b) Take into account: The lowest-evaluated bid for each lot

3. Post qualification Requirements (ITB 37.2)

After determining the lowest-evaluated bid in accordance with ITB Sub-Clause 36.1, the Purchaser shall carry out the post qualification of the Bidder in accordance with ITB Clause 37, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

Qualification Criteria:

- (a) Bid may be submitted by any reputed supplier of **Laboratory Equipment** , registered business in Sri Lanka or any accredited local agent who takes fullest responsibility for the whole bid. The local agent shall submit evidence of status, obligations, power of attorney and any other documentary evidence that he is duly authorized and eligible to bid on behalf of the manufacturer.
- (b) The bidders should also have previous experience of at least three years in relevant industry in the supply and also technical and financial capability necessary to perform the contract.
- (c) Bids will be rejected as non- responsive if documentary evidence in proof of above has not been provided.
- (d) If an Agent submits bids on behalf of more than one supplier, unless each such bid is accompanied by a separate Bid Form for each bid, and a bid security when required for each bid, and authorization from the respective Manufacturer, and valid vendor certificate, all such bids will be rejected as non- responsive.
- (e) Bidders should possess the Certificate of Business Registration issued by a Governmental Authority/ Registrar of Companies/ Provincial Registrar of Business in the relevant category.
- (f) Bidders shall register the Contract under Public Contract Act and submit the certificate of registration (ITB 11.1(e)).
- (g) Bidders offering goods under their own brand names should provide along with their bids a current certification/s of quality; Bid not complying with this requirement may be treated as non - responsive.
- (h) Having a service center in Badulla or Uva Province will be considered as an added qualification.

4. Domestic Preference (ITB 34.1) – Not applicable

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FORM OF BID
UVA WELLASSA UNIVERSITY
UWU/G/NCB/18/03

To: Chairman
Procurement Committee
Uva Wellassa University
Passara road,
Badulla

We, the undersigned, declare that:

Having examined the Instructions to Bidders and Conditions of Tender, Conditions of Contract, Schedule of Requirements, Schedule of Particulars and Bills of Quantities, I/ We the undersigned, offer to **Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology Contract No: UWU/G/NCB/18/03** said Price Schedule amounting to Rupees
.....and cents.....(Rs) only

I / We undertake to **Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology** within the time stated in the tender documents, if our tender is accepted.

I / We agree to abide by this tender for period of 120 calendar days from the date fixed for receiving of Bids or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Unless and until a formal Agreement is prepared and executed, this Tender, together with your written acceptance thereof, shall constitute a binding Contract between us.

I / We understand that, you are not bound to accept the lowest or any tender, you may receive.

This day of20..... in the capacity of..... duly authorized to sign Bids for and on behalf (indicate whether the Freehold Owner or Power of Attorney Holder) of (Blanks to be filled in BLOCK CAPITALS)

Signature.....

Duly authorized for signed on behalf of
(Name of the Bidder)

Address.....
.....

Date.....



Price Schedule
Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology, Faculty of Science and Technology
Contract No: UWU/G/NCB/18/03

No	Items	QTY	Unit Price (excluding VAT)	Total Price (excluding VAT)	VAT 15%	Total Price including VAT
Laboratories: Chemistry and Materials						
1	Conductivity Meter	2				
2	Melting Point Apparatus	2				
3	Oven	1				
4	PH Meter Bench top	5				
5	Water Bath	4				
6	Ice Flake Maker	1				
7	Centrifuge	2				
8	Vacuum oven and vacuum pump	1				
Sub Total						
Laboratories: Mechatronics Laboratory						
16	Arc welding plant	2				
17	Hand drill	1				
18	Hand grinder	1				
19	3D printer	1				
20	Dividing Head For Milling (with accessories)	1				
21	Gas welding set	1				
22	Variable power supply	10				
42	Dual Trace Oscilloscope	4				
Sub Total						
Laboratories: Food Engineering and Bioprocess Technology Laboratory						
1	Analytical balance	1				
2	Digital top loading balance	1				
3	Digital Vortex mixture	2				
4	Magnetic stirrer with hot plate	1				
5	Bench top Glassware Drying cabinet	1				
6	Bench top pH meters	3				
7	Grinder	1				
8	Standard bench-top freeze drier with vacuum pump (complete system)	1				
9	Diaphragm Vacuum Pump for rotary evaporator	1				
10	Rotary evaporator	1				
11	Fraction collector (for chromatographic separations)	2				
Sub Total						
Laboratory: Mineral Processing Laboratory						
1	Hydrocyclone	1				
2	Humphrey Spiral	1				
3	Shaking Table	1				
4	Laboratory-scale Froth Flotation Unit	1				
Sub Total						

Laboratory: Petrology Laboratory						
1	Polarizing petrographic microscope	4				
2	Geologic Compass	2				
3	Geologic Hammer	2				
Sub Total						
Laboratory: Water Laboratory						
1	Bench top pH, Oxidation Reduction Potential (ORP), Dissolved Oxygen (DO) Meter with probes	5				
2	Bench top Electric Conductivity (EC) meter	5				
3	Bench top Turbidity meter	4				
4	Portable pH, ORP, DO meter with probes	2				
5	Portable Electrical Conductivity (EC) Meter with probe	2				
6	Portable Salinity Meter with probe	2				
7	Laboratory Incubator	1				
8	Analytical balance (Laboratory)	1				
9	Top loading balance (Laboratory)	4				
Sub Total						
Grand Total						-

Use separate price schedule for options

Total Price with VAT (in Words):

.....

Maintenance charges (as a percentage) after the warranty period (If any):

Vat Registration No:

Signature.....

Duly authorized for signed on behalf of

(Name of the Bidder)

Address.....

.....

Date.....



FORM OF BID SECURITY

[insert issuing agency's name, and address of issuing branch or office]

Beneficiary: Vice Chancellor, Uva Wellassa University, Passara road, Badulla

Date: ----- *[insert (by issuing agency) date]*

BID GUARANTEE No.: ----- *[insert (by issuing agency) number]*

We have been informed that -----
[name of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated -----
[date] (hereinafter called "the Bid") for the execution of
..... *[insert name of Contract]* under Contract No. -----

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we ----- *[insert name of issuing agency]*
hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of -----
----- *[insert amount in figures]* -----
----- *[insert amount in words]* upon receipt by us of your first demand
in writing accompanied by a written statement stating that the bidder is in breach of its obligation(s)
under the bid conditions, because the bidder:

- (a) has withdrawn its bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") ; or
- (c) having been notified of the acceptance of its bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) the successful bidder furnishing the performance security, otherwise it will remain in force up to ----- *(insert date)*

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

[Signature of authorized representative(s)]



MANUFACTURER'S AUTHORIZATION

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the BDS.]

Date: [insert date (as day, month and year) of Bid Submission]

No.: [insert number of bidding process]

To: [insert complete name of Purchaser]

WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 27 of the Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]



Deputy Bursar (Stores & Supplies)
Uva Wellassa University
Passara Road, Badulla.

Section V

Schedule of Requirements

1. List of Goods and Delivery Schedule

[The Purchaser shall fill in this table, with the exception of the column “Bidder’s offered Delivery date” to be filled by the Bidder]

No	Description of Goods	Qty	Final Destination as specified in BDS	Delivery Date 1		
				Earliest Delivery Date	Latest Delivery Date	Bidder’s offered Delivery date
1	As Listed in the Price Schedule		Uva Wellassa University	Within 4 Weeks of the Order	Within 4 Weeks of the Order	

* Destination of delivery: - Faculty of Animal Science and Export Agriculture
Uva Wellassa University,
Passara Road,
Badulla.

2. Technical Specifications

The bidder shall follow the following technical requirement and other requirement

General Conditions

For equipment, Bidders should provide following details:

Country of origin catalogues, Mother company registration letter, possible date of supply, Mother company warranty period, After sales and service facility, Service agreement cost and free service period, Approximate value for main spare parts, Installation & operational manual/s, installation and demonstration should provide free of charge if this product is purchased, Local agent should have necessary tools to carry out complete service and repair.


 Deputy Bursar (Stores & Supplies)
 Uva Wellassa University
 Passara Road, Badulla.

Technical Specifications

**Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Science and Technology,
Faculty of Science and Technology
UWU/G/NCB/18/03**

No	Item	Specifications	Qty	Bidders' Response
Laboratories: Chemistry and Materials				
1	Conductivity Meter	<p>The Bench top Conductivity Meter Kit should include all the accessories needed to start testing in the Laboratory.</p> <p>It should include the meter probe, integrated magnetic stirrer, electrode stand, standard calibration flasks and other accessories for quick start up.</p> <p>Meter should be water resistant to IP 42 standard.</p> <p>It should have a LCD display with backlight</p> <p>It should have automatic temperature compensation facility.</p> <p>It should have automatic conductivity standard recognition facility with standards 147 $\mu\text{S/cm}$, 1413 $\mu\text{S/cm}$, 12.88 mS/cm and 111.8 mS/cm</p> <p>Special calibration at any Conductivity, Salinity or TDS value should be possible.</p> <p>The meter should operate with mainspower supply, 230V,50 Hz.</p> <p>It should be supplied with Platinum sensor glass conductivity electrode.</p> <p>The electrode cable length should be at least 1 meter.</p> <p>It should read parameters: Conductivity, Salinity, Resistibility and Temperature.</p> <p>Specifications</p> <p>Conductivity Conductivity: 0.2 $\mu\text{S/cm}$ to 200 mS/cm Resolution: 0.00 to 199.9 mS/cm (Auto Ranging)</p> <p>Salinity Range: 0 mg/L to 200 g/L Resolution: 0.0 to 1999 mg/L, 2.0 to 50.0 g/L</p> <p>Resistivity Range: 0 Ohm to 500 M ohm Resolution: 0.0 to 1999 mg/L, 2.0 to 50.00 g/l</p> <p>Temperature Range: 0-80 $^{\circ}\text{C}$ Resolution: 0.1 $^{\circ}\text{C}$ Accuracy: $>0.3^{\circ}\text{C}$</p> <p>Meter should comply with CE standard.</p> <p>Should have a good after sales service. Please attach details of after sales service personnel, their qualification, and address of after sales division etc.</p> <p>Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.</p> <p>Letter of Authority required from manufacturer.</p>	2	
2	Melting Point Apparatus	<p>Melting-Point Meters with digital temperature controller</p> <p>Temperature range : ambient to 350 $^{\circ}\text{C}$ or better</p> <p>Accuracy : 0.3 $^{\circ}\text{C}$ or better</p> <p>Heating rate: 1 $^{\circ}\text{C}$ / minute of better</p> <p>Eye piece: 10x</p> <p>No. of capillary inserts: at least three capillaries</p> <p>Should have sealed keyboard for easy cleaning</p> <p>Should have integrated fan for automatic quick cooling</p> <p>Should have Safety classified at least IP20</p> <p>Should have RS-232 interface for data transferring</p> <p>Power : 230 V/50Hz</p>	2	

3	Oven	<p>Construction: The interior chamber should be made of stainless steel. The exterior cabinet should be made of heavy gauge steel with baked enamel finish.</p> <p>Insulation: It should have double-walled construction, and fiberglass insulation for good heat retention.</p> <p>Door gasket: Should be made of silicon to prevent heat loss.</p> <p>Shelves: It should include 2 stainless steel wire-rod shelves with adjustable shelf positions.</p> <p>Capacity: Not less than 100 Lts.</p> <p>Internal Dimension: Not less than 45x45x45 cm</p> <p>Display: Digital LED display</p> <p>Control System: Microprocessor system.</p> <p>Temperature range: Ambient +5 °C to 250 °C</p> <p>Temperature Resolution: 1 °C</p> <p>Temperature Accuracy: 0.1 °C at 180 °C</p> <p>Temperature Uniformity: ±3.0 °C at 180 °C</p> <p>Air Convection: Forced convection by Fan</p> <p>Timer: Digital Timer 10 Hrs (Approx)+Holding facility</p> <p>Safety: Over temperature alarm and cut-off device with audible and visible alarm</p> <p>Indicators: Indicators for power, Process Temperature value and Set Temperature value should be available</p> <p>Power: 230V;50 Hz</p> <p>Quality Standard: Should comply with ISO, CE, GMP Standards</p> <p>Warranty: Minimum 1 Year</p> <p>Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.</p>	1	
4	PH Meter Bench top	<p>The benchtop pH Meter Kit should include all the accessories needed to start testing in the laboratory</p> <p>It should include the meter, probe, integrated magnetic stirrer, electrode stand, standards, storage solution, calibration flasks and other accessories for quick start up.</p> <p>Meter should be water resistant to IP 42 standard</p> <p>It should have a LCD display with backlight</p> <p>It should have Automatic Temperature Compensation facility</p> <p>It should have automatic buffer recognition facility with pH 2.00, 4.01, 7.00, 9.25 and 10.01 buffers.</p> <p>The meter should be operated with mains power supply 240V; 50Hz</p> <p>It should be supplied with refillable, glass combination electrode with, clog-free sleeve junction</p> <p>The electrode cable length should be at least 1 meter</p> <p>It should read parameters pH,mV and Temperature</p> <p>Specifications</p> <p>pH Range: 0-14 pH Resolution: 0.01</p> <p>mV Range: ± 1999 mV Resolution: 0.1 mV</p> <p>Temperature Range: 0-60 °C Resolution: 0.1 °C Accuracy: >0.3 °C</p> <p>Compliance: CE compliance</p> <p>Should have a good after sales service. Please attach details of after sales service personnel, their qualification, and address of after sales division etc.</p> <p>Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.</p> <p>Letter of Authority required from manufacturer.</p>	5	

5	Water Bath	Should be suitable for biological, clinical research, medical, bio chemical applications Construction: Stainless Steel Molded (weld free) Square Tank Capacity: 22 L or better Temp. Contro: PID or better temperature control Temp. Setting: Digital Temperature setting Temp. Read out: Digital Temperature read out Temp. Range: Ambient to 99.9 °C Temp. Stability : +0.01 °C or better Temp. Uniformity: +0.01 °C or better Timer: Timer should be available Power Supply: 230V, 50 Hz Heater: Immersion type Heating Element with Temperature sensor and Water Circulator Should be supplied with Concentric rings , test tube racks and lid. Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.	4	
6	Ice Flake Maker	Ice produced for 24 hours: up to 120 kg Condensing unit cooling Air or water: consumption n. 24 litres per hour Refrigerant : R134a External structure: inox Absorbed power: 480 W Power supply : 230 V, 50 Hz Storage bin capacity: 27 kg	1	
7	Centrifuge	Should have a microprocessor control system with LED display to indicate time and speed. Speed range should be 200 – 5000rpm or better. Rotor type should be fixed angle rotor and capacity atleast 15mlx16 positions Should have a timer with minimum of 99minutes or better. Should have automatic RPM/RCM conversion facility. Troubles detection and indication, imbalance detection should be available. Chamber should be stainless steel to easy for cleaning ensuring to be free from contamination Should have interlocking lid system, automatic braking system as safety features. Should have brushless induction drive for quiet operation and maintenance free. Should have indicators for Spin, Alarm, Lid Lock, SV, RPM, RCF Should have error detection for Rotor Imbalance, Driver overheat, Motor overheat, Disengaged Connector, Overload, . Power should be 230V/50Hz. Should have international standards like ISO, CE, GMP and FDA. After Sales Services: Should have a good after sales service. Please attach details of after sales service personnel, their qualifications and address of the after sales division etc. Letter of authority required from the manufacturer. Documentary evidence of requested specifications should be provided by marking on manufacturer's literature.	2	
8	Vacuum oven and vacuum pump	Digital electronic control of: temperature, vacuum pressure and pre-selected programmable timer. Temperature sensor Pt100 Automatic air inlet at the end of the operation cycle. Heating element placed evenly around the chamber. Chamber made of AISI 304 stainless steel. Trays made of anodised aluminium. Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur. Vacuum port with bleed valve. Air valve at the front. Vacuum pump connection at the back. Vacuum pump should be provided* (appropriate pump should be provided) Epoxy covered outer case. RS-232 Interface output for parameters to a computer, printer or USB adapter	1	

Laboratories: Machatronics Laboratory

16	Arc welding plant	<ul style="list-style-type: none"> • 200 MPA welding Inverter type • Rated Input power 7.7KVA • Output current adjusting range 20-200A • Rated output voltage 25V • Voltage 220V 	2	
17	Hand drill	<ul style="list-style-type: none"> • Codeless drill 18V • Two Li-ion Batteries • 20000 rpm • Forward reverse function • 0.8 – 10mm tools holding • Torque setting • Plastic casing 	1	
18	Hand grinder	<ul style="list-style-type: none"> • Capacity 2000W • Voltage 220V • 8000 RPM • 180mm Disk size • M 14 Thread 	1	
19	3D printer	<ul style="list-style-type: none"> • Number of Extruders: 1 • Build Volume: 150 x 150 x 150 mm or similar • Layer Resolution: 0.1 to 0.3 mm • Nozzle diameter: 0.4 mm • Nozzle temperature: 250 °C MAX • Bed temperature: 100 °C MAX • Print File Type: .gcode • Power Requirements: 110-240 V AC, 250 W • Connectivity: SD card/USB • Filament: 1.75 mm • Printing Material: ABS, PLA • Filament colour: All 	1	
20	Dividing Head For Milling (with accessories)	<ul style="list-style-type: none"> • 5" 3-jaw lathe chuck, • center&driving dog, threaded back plate & 3 dividing plates • 1:40 ratio. Direct index plate of 24 holes allow direct dividing in 2,3,4,6,8,12 & 24 • Accessory plates 	1	
21	Gas welding set	<p>Set should contain</p> <ul style="list-style-type: none"> • Torch Handle • Oxygen Regulator Acetylene Regulator • Cutting Attachment • Cutting Nozzle • Welding Nozzles • Twin Hose 15' x 1/4" Welding Hose • Tip Cleaner • Goggles • Spark Lighter • Spanner • Carrying Case • Manual 	1	
22	Variable power supply	<ul style="list-style-type: none"> • Maximum Current Output 10 A • Maximum Voltage Output 30 V 	10	
42	Dual Trace Oscilloscope	<ul style="list-style-type: none"> • Color, 17.8 cm (7 in) liquid crystal display • Multi-language, on-display menu • 50 MHz bandwidth • 1 GSa/s maximum sampling rate • 10 ns/div to 50 s/div time base • 2 mV/div to 10V/div vertical sensitivity • ±3% accuracy • USB and RS 232 ports 	4	

Laboratories: Food Engineering and Bioprocess Technology Laboratory

1	Analytical balance	<ul style="list-style-type: none"> • Capacity: 60-120 g (should be within the range) • Readability: at least 0.1 mg • Reproducibility: ± 0.1 mg • Linearity: at least ± 0.07 mg • Response time: 2s or lesser • Tare range: full to capacity • Allowable Ambient Operating Temperature within the range : 10° C to 35° C • Pan size: 85 mm or higher • Display should be LCD Backlit • Calibration: Internal Automatic • Selectable Application Programs- Counting, Weighing in percent, Density determination, Peak hold, Unstable condition, Check weighing, Mixing, Conversion, Statistics, Components • Sensitivity Drift (10° - 35°C): ± 1.5 ppm / °C • Draft Shield Chamber Height (from pan to top of glass door)- 209 mm or higher • Interface: mini USB • Leveling: Manual with front level bubble with two front leveling feet • Balance should be featured with RS 232 output for directly connect to a printer • AC adapter should be provided with the balance • Electrical connection: 230 V/ 50 Hz compatible • Housing Design: Aluminum Die-cast base with coated ABS top housing • Interior and the exterior of the balance should be chemical resistance • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided clearly by making on manufacturer's literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka • The proposed model should have been recently introduced to the market and should not be in phase out stage. 	1	
2	Digital top loading balance	<ul style="list-style-type: none"> • Capacity shall not be less than 1500 g • Readability: 10 mg or better • Repeatability: at least 1 mg • Linearity: 2 mg • Stabilization time: 3s or lesser • External calibration function should be available • Pan size: Not less than 120 mm • Square draft shield with all glass panels including three sliding doors • Front mounted level indicator for easy viewing • The balance shall have RS-232 or better communication port • Weigh below hook shall be available for density measurement • The balance should have stability indicator • Auto tare facility • CE and ISO certificates should be available • Interior and the exterior of the balance should be chemical resistance • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided clearly by making on manufacturer's literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka • The proposed model should have been recently introduced to the market and should not be in phase out stage 	1	

3	Digital Vortex mixture	<ul style="list-style-type: none"> • Usage: used commonly in laboratories to mix small vials of liquid • Speed range: should be within 500 to 3000 rpm • Orbit: at least 4.9mm • Controls: 3-way power switch, LED display for time/speed, up/down keys for set-point control • Overall dimensions (L x W x H): at least 4.8 x 6.8 x 4.8"(12.2 x 17.3 x 12.2cm) • Continuous or touch modes • Microprocessor controls • LED display for speed and time • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided clearly by making on manufacturer's literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka • The proposed model should have been recently introduced to the market and should not be in phase out stage. • The proposed model should be recently introduced to the market 	2	
4	Magnetic stirrer with hot plate	<ul style="list-style-type: none"> • Speed control range: 250-1250 RPM (should be within the range) • Max. stirring volume (water): 15 litres or better capacity • Plate temperature regulation range: +30°C...+330°C or better range • Temperature uniformity on the plate: $\pm 3^{\circ}\text{C}$ • Working plate heating time till 330°C: 15 min • Diameter of working plate: at least 160 mm • Working surface material: Aluminium alloy • The entire stirrer should be made out of a material with chemical and corrosive resistant • Attachable stand size: not more than $\text{Ø } 8 \times 320 \text{ mm}$ • Length of magnetic stirring element: 10–50 mm • Max. stirring liquid viscosity: up to 1170 mPa.s • Fault indication: Outputs sound signal and turns off the heating • Overall dimensions (W×D×H): not more than 190x270x100 mm • Weight: not more than 2.9 kg • Nominal operating voltage: 230 V; 50/60 Hz compatible • Power consumption (Stirring): not more than 8.5 W • Power consumption (Heating): not more than 550 W • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided clearly by making on manufacturer's literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka • The proposed model should have been recently introduced to the market and should not be in phase out stage. • The proposed model should be recently introduced to the market 	1	

5	Bench top Glassware Drying cabinet	<ul style="list-style-type: none"> • Capacity should be 250 - 400 liters • Exterior should be stainless steel and epoxy coated finish • Interior should be stainless steel • Exterior and interior should be chemical resistant • Adjustable shelves should be available and four shelves should be available. • Maximum temperature should be up to 140°C • Over temperature protection should be available • Safety devices Built-in thermostat and ELCB. Fitted with temperature alarm to avoid overheating. • Sliding, toughened glass doors should be available. Door type Glass door with magnetic gasket for easy viewing of drying stocks. • Chamber thermal isolation by a mineral wool panels coating • Drying chamber coating in poish stainless steel AISI 304 • All levels are equipped with fully extendable telescopic bearing rails made of AISI 304 stainless steel with safety lock for the end position of extraction of the drawers • Drying circuit dedicated to a homogeneous heat distribution inside the storage chamber served by a blower • Partial air recirculation should be available to reduce energy consumption • 4.0 kW heating elements provide up to 140°C (184°F) air • Dryer blower flow rate up to 250 m3/h (8.828 ft3/h) • Temperature display Digital, display up to 0.1oC • Timer should be Built-in 999-minutes timer. • Interior dimensions (mm)- at least 620 W x 625 D x 1190 H • Exterior dimensions (mm) – at least 880 W x 705 D x 1635 H • Electrical supply 220-240 VAC, 50 Hz compatible <p>Letter of authority required from the manufacturer</p> <ul style="list-style-type: none"> • Documentary evidence of requested specifications should be provided clearly by making on manufacturer’s literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka <p>The proposed model should have been recently introduced to the market and should not be in phase out stage</p>	1	
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6	Benchtop pH meters	<ul style="list-style-type: none"> • pH meter kit should include all the standard accessories needed to start testing in the Laboratory • It should include buffers, standards, storage solutions, calibration tubes and accessories for quick start up. • Meter should be water resistant to IP 67 standard • It should have a LCD display with backlight • It should have automatic temperature compensation facility and automatic buffer recognition facility with pH 2.01, 4.01, 7.00, 9.21 and 10.01 buffers • The meter should be operated with AA batteries • Power adapter should be also provided to operate the meter using AC electricity • It should have gel filled pH glass combination electrode • The meter should read parameters pH, mV and temperature • Electrode cable length should be at least 1 meter • Electrode stand, universal power adapter, literature CD, printed quick start guide, computer interface cable and meter test certificate should also be provided with the meter pH • Range (pH): 0-14 pH • Resolution (pH): 0.01 or better • Accuracy (pH): ± 0.002 pH or better <p>Temperature</p> <ul style="list-style-type: none"> • Range (Temperature): 0 to 100° C • Resolution (Temperature): 0.1°C or better • Accuracy (Temperature): ± 0.1°C or better mV • Range (mV): 0 to 2000.0 mV • Resolution (mV): 0.1mV • Accuracy (mV): ± 0.2 mV • Iron electrode • Compliance- Meter should comply with CE standard • Warranty period of one year or more is required • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided clearly by making on manufacturer's literature where necessary. • Suggesting item should be a world reputed brand with at least ten years satisfactory sales record including in Sri Lanka <p>The proposed model should have been recently introduced to the market and should not be in phase out stage.</p>	3	
7	Grinder	<ul style="list-style-type: none"> • Function: Capable for wet and dry grinding • No of jars: Minimum 2 • Material type of jars: Material: Stainless steel or unbreakable liquidizing jars • Power: 500 W – 1000 W • Voltage: 220- 240V, 50Hz • No of blades: Minimum 3 • Material type of blades: Stainless steel • At least 2 year warranty period is required • After sales services: should have a good after sales service. Please attach details of after sales service personal, their qualifications and address of the after sales division etc. • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided by making on manufacturer's literature • Should be a world reputed brand and should contain at least 10 years acceptable working records including in Sri Lanka <p>The proposed model should be recently introduced to the market</p>	1	

8	Standard bench-top freeze drier with vacuum pump (complete system)	<ul style="list-style-type: none"> • Condenser capacity : in the range of 3-4 Kg • Condenser temperature: -55oC/-85oC • Condenser performance: at least 3-4 Kg/24 hours • Vacuum degree : should be <10Pa • Water capturing capacity: 3Kg/24h • 3 or 5 unheated shelves should be available • material loading capacity/shelf - 300 mL or better • 8-12 ports should be available • acrylic drying chamber should be available • -55oC for drying of aqueous products -85oC for drying solvents with low eutectic points • Display of vacuum, sample temperature, ice condenser temp • runtime vacuum control option • RS232 communication port. • Attachments for ampoules, round bottomed flasks, wide-necked filter bottles • Chemical resistivity for condenser • Consumption - 1000 W • Power supply - 230V, 50 Hz/60Hz • Standard accessory - main body, vacuum pump, manifold drying cabinet, drying bottles (8-12) • At least 2 year warranty period is required • After sales services: should have a good after sales service. Please attach details of after sales service personal, their qualifications and address of the after sales division etc. • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided by making on manufacturer's literature • Should be a world reputed brand and should contain at least 10 years acceptable working records including in Sri Lanka • The proposed model should be recently introduced to the market 	1	
9	Diaphragm Vacuum Pump for rotary evaporator	<ul style="list-style-type: none"> • For air, gases and vapors • Delivery (l/min): 20 • Ultimate vacuum (mbar abs) 7 • operating pressure (bar g) 1 • Connectors for tube (mm): OD 10 • Permissible gas and ambient temperature - +5oC-+40oC • Voltage/frequencies 230V, 50 Hz/860Hz • Power p, 180 W • Weight: 9.3 Kg • Dimensions (approx) 300x200x250 • 100 % oil-free transfer • Pure transfer, evacuation and compression • highly compatible with vapors and condensation Chemical resistant • suitable for highly aggressive and corrosive gases and vapors • Maintenance free • Environmental friendly • At least 2 year warranty period is required • After sales services: should have a good after sales service. Please attach details of after sales service personal, their qualifications and address of the after sales division etc. • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided by making on manufacturer's literature • Should be a world reputed brand and should contain at least 10 years acceptable working records including in Sri Lanka • The proposed model should be recently introduced to the market 	1	


10	Rotary evaporator	<ul style="list-style-type: none"> • Rotation Speed- should within the range- 20-260rpm • Rotation Speed Display- LCD • Titled Ange- 10-60° • Motor Power- at least 40W • Stroke Displacement- at least 160mm • Lifting- Motor • Temp. Range- Ambient – should be 180° • Bath Material- SSL with PTFE Coating • Temp. Controller Display- LCD • Temp. Controller Mode- P.I.D. • Temp. Control Accuracy- $\pm 1^{\circ}\text{C}$(Water) and $\pm 2^{\circ}\text{C}$ (Oil) • Heating Power- 1300W • Bath Capacity- 5L or higher • Bath Diameter- 250mm or higher • Evaporation Volume- 50-3000mL (should be within the range) • Condenser Type- Vertical • Cooling Surface cm²- 1200 or higher Protection class- IP20 • Ambient Temperature- 0°C to 4°C • Dimensions- (L×W×H) Inch (at least) - 15×14×28 • Voltage- 230V, 50/60Hz • High-temperature-tolerant and high-quality glass. • After sales services: should have a good after sales service. Please attach details of after sales service personal, their qualifications and address of the after sales division etc. • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided by making on manufacturer’s literature • Should be a world reputed brand and should contain at least 10 years acceptable working records including in Sri Lanka • The proposed model should be recently introduced to the market 	1	
11	Fraction collector (for chromatographic separations)	<ul style="list-style-type: none"> • An easy to use type • Time or drop collection mode • Collection of 1 drop (50 microliter) to 9 mL fractions in 80 test tubes or microtubes (with optional adaptor) • Small chromatography columns can be mounted to drop-forming arm to minimize dead volume • Manual-advance tube changes • Cold room compatibility • Small footprint of 24x33 cm • Eighty 13x100 mm glass, polypropylene or polystyrene test tubes • 1-999 drops in 1 drop increments, 0.05-9.99 min in 0.01 min increments, 10.0-99.9 min in 0.1 mm increments • Case and carousel, polypropylene, front panel, hard coated polycarbonate • Drop former-silicone rubber • waste outlet tube - polyurethane • Operating temperature -4-40 oC • Safety certifications • Dimensions (WxDxH)- 24x33x25 cm • 230V, 60 Hz • At least 2 year warranty period is required • After sales services: should have a good after sales service. Please attach details of after sales service personal, their qualifications and address of the after sales division etc. • Letter of authority required from the manufacturer • Documentary evidence of requested specifications should be provided by making on manufacturer’s literature • Should be a world reputed brand and should contain at least 10 years acceptable working records including in Sri Lanka • The proposed model should be recently introduced to the market (Standard Accessories are required) 	2	

Laboratory: Mineral Processing Laboratory				
1	Hydrocyclone	Laboratory Scale Hydrocyclone Test Rig: Stand Alone unit with its own sump, pump, piping, valves, motor, starter etc. Suitable for fitting and operating hydrocyclone for different sizes. The hydrocyclone is to be provided with a range of vortex finders, spigots and also body extension to permit variation of performance.	1	
2	Humphrey Spiral	Gravity Separator, Max Dimension(L*W*H) = 600*600*2500 mm, Stand Alone unit with its own piping, valves	1	
3	Shaking Table	Gravity Separator, Max Dimension(L*W) = 900*1500 mm, Stand Alone unit with its own sump, pump, piping, valves, motor, starter etc.	1	
4	Laboratory-scale Froth Flotation Unit	lab froth flotation, Volume: max 1L, Max Dimension(L*W*H): 600X300X650mm	1	
Laboratory: Petrology Laboratory				
1	Polarizing petrographic microscope	<ul style="list-style-type: none"> • Stand - Upright microscope stand with integrated transmitted light illumination (5-position nosepiece, stage drive right; POL version has 4-position centerable nosepiece) • Axis Type - 10X/20mm • Eye pieces - E-PL 10x/20 Br. Foc, PL 10x/22 Br. Foc, PL 10x/22 Br.I foc, Pol PL 16x/16 Br. foc • Objective Types - 5x, 10x, 20x, 40x, 100x oil A-Plan • Nosepiece - 4 pos. centerable, for brightfield and polarization • Design Type - Right-handed mechanical, Eyepiece - 10X, 20mm E-PL • Contrasting techniques—Bright field, dark field, phase contrast, simple polarization contrast, fluorescence contrast • Illumination - Halogen reflector lamp HAL 35 / 12V 35W optional LED (daylight, warmlight) • Focus drive Manual, coaxial coarse/fine drive, 30 mm travel range • Bertrand system – Included with stand, focusable • Depolarizer - Included with stand • Specimen stage - 360° Pol rotary stage, with clips and vernier Hard-anodized surface, with 2 spring clips • Power supply unit - Built-in power supply 12V DC 50W stabilized, 100...240V AC/50...60Hz/110VA • Camera - AxioCam ERc 5s, Sensor: 5 MP CMOS sensor, Resolution: 2560 (H) x 1920 (V) = 5.0 megapixels, Pixel size: 2.2 μm x 2.2 μm, Interfaces: 1x SD card slot, 1x mini USB 2.0, 1x AV, (S-Video), 1x DVI (HDMI), Optical connection: C-mount 	4	
2	Geologic Compass	Hinge clinometer - 1° increments for 1/2° readable dip measurements, Azimuth accuracy +/- 1/2° with 1° graduations, Vertical angle accuracy +/- 1/2° with 1° graduations and 10 minute vernier, Vertical angle measurements to +/- 90° or 100% grade, Adjustable needle locking mechanism, Sapphire jewel bearing for needle movement, Magnetic declination settings to +/- 180°, Single NdFeB magnet, Covered hinge assembly, Percent grade scale with increments of 5%, Induction dampened needle for quick, accurate readings, Precision aligned mirror, Aluminum billet body assembly makes the GEO nearly indestructible, Ball & socket tripod mount for increased accuracy of rotation, Waterproof, Leather case	2	
3	Geologic Hammer	Big face Rock Pick, Square Head, Light weight, Solid Steel, Larger striking face, reduces shock type.	2	

Laboratory: Water Laboratory

1	Bench top pH, Oxidation Reduction Potential (ORP), Dissolved Oxygen (DO) Meter with probes	<p>Separate Electrodes with compatible sockets pH Temperature Compensation - automatic or manual Probe cable – 0.5 m long with proper covering Water proof connectors/connections for all</p> <p>pH Range - 2.000 to 20.000 pH pH Resolution - 0.1, 0.01, 0.001 pH pH Accuracy (@25°C) - ±0.1 pH, ±0.01 pH, ±0.002 pH ±1 LSD pH Calibration - automatic recognition of standards up to five point calibration, eight standard buffers (1.68, 3.00, 4.01, 6.86, 7.01, 9.18, 10.01,12.45) or five custom buffers pH Temperature Compensation automatic or manual from -20.0 to 120.0 °C</p> <p>mV Range - ±2000 mV mV Resolution - 0.1 mV mV Accuracy - ±0.2 mV ±1 LSD Relative mV Offset Range - ±2000 mV or better mV Range - ±600.0 mV or better mV Resolution - 0.1 mV or better mV Accuracy - ±0.5 mV or better ORP Range - ±2000.0 mV or better ORP Resolution - 0.1 mV or better ORP Accuracy - ±1.0 mV or better ORP Calibration automatic at one custom point (relative mV) or please specify</p> <p>DO Range - 0.0 to 500.0%; 0.00 to 50.00 ppm (mg/L) DO Resolution - 0.1%; 0.01 ppm (mg/L) DO Accuracy - 0.0 to 300.0% saturation: (please specify) DO Calibration - automatic one or two points at 0 and 100% or one custom point Atmospheric Pressure Range - 600.0 to 1133.2 mbar or 8.702 to 16.436 psi</p> <p>Temperature Range - 5.00 to 55.00 °C Temperature Resolution - 0.01 °C Power supply: Both battery and electric power through power supply unit/adapter. Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Operating Temperature - 0 to 50°C Buffer solutions and electrode cleaning/filling solutions should be included Warranty – Please specify</p>	5	
2	Bench top Electric Conductivity (EC) meter	<p>EC Range - 0.000 to 1000.0 mS/cm EC Resolution - 0.001 μS/cm, 0.01 μS/cm, 0.1 μS/cm, 1 μS/cm, 0.001 mS/cm, 0.01 mS/cm, 0.1 mS/cm EC Accuracy (@25°C) - ±1% of reading (±0.01 μS/cm) EC Calibration - automatic standard recognition (0.000 μS/cm, 4.00 μS/cm, 1.413 mS/cm, 5.000 mS/cm, 12.88 mS/cm, 80.00 mS/cm, 111.8 mS/cm) or user standard; single point or multi-point calibration Temperature Range - 5.00 to 55.00 °C Temperature Resolution - 0.01 °C Power supply: Both battery and electric power through power supply unit/adapter. Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Operating Temperature - 0 to 50°C Buffer solutions should be included Probe cable – 0.5 m long with proper covering Water proof connectors/connections</p> <p>Warranty – Please specify</p>	5	

3	Benchtop Turbidity meter	<p>Measurement Method: Nephelometric (NTU) NTU Range: 0 – 4000 (Ratio on), 0 - 40: (Ratio off): Accuracy - Ratio on: $\pm 2\%$ of reading plus 0.01 NTU from 0 - 1000 NTU, $\pm 5\%$ of reading from 1000 – 4000 NTU Resolution - 0.01 NTU, 0.1 NTU, 1 NTU Range Selection – Automatic Repeatability - $\pm 1\%$ of reading or 0.01 NTU, whichever is greater (under reference conditions) Calibration – 5 point calibration or better (please specify) Light source – Tungsten filament or IR LED or Laser (please specify) Light Detector – Silicon photocell or better (please specify) Reading Modes: Single, average and continuous Quick response time (please specify) Sample Cell - borosilicate glass with rubber-lined screw caps Sample cell size – please specify Sample cell volume – minimum 25 mL If cell is smaller, please provide a cell adapter</p> <p>Operating Temperature Range: 0 - 50 °C Power supply: Electric power through power supply unit/adapter. Battery power also preferred. Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Standard solutions should be included with additional sample cuvettes</p> <p>Warranty – Please specify</p>	4	
4	Portable pH, ORP, DO meter with probes	<p>Separate Electrodes or All in One Electrode pH Range - 0.00 to 14.00 or better pH Resolution - 0.01 pH or better pH Accuracy - ± 0.02 pH or better pH Temperature Compensation - automatic pH Calibration automatic - one, two, or three points with automatic recognition of five standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or one custom buffer Probe cable – 1 m long with proper covering Water proof connectors/connections</p> <p>mV Range - ± 600.0 mV or better mV Resolution - 0.1 mV or better mV Accuracy - ± 0.5 mV or better ORP Range - ± 2000.0 mV or better ORP Resolution - 0.1 mV or better ORP Accuracy - ± 1.0 mV or better ORP Calibration automatic at one custom point (relative mV) or please specify</p> <p>DO Range - 0.0 to 500.0%; 0.00 to 50.00 ppm (mg/L) DO Resolution - 0.1%; 0.01 ppm (mg/L) DO Accuracy - 0.0 to 300.0% saturation: (please specify) DO Calibration - automatic one or two points at 0 and 100% or one custom point Atmospheric Pressure Range - 600.0 to 1133.2 mbar or 8.702 to 16.436 psi</p> <p>Temperature Range - 5.00 to 55.00 °C Temperature Resolution - 0.01 °C Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Operating Temperature - 0 to 50°C Buffer solutions and electrode cleaning/filling solutions should be included Warranty – Please specify</p>	2	

5	Portable Electrical Conductivity (EC) Meter with probe	<p>EC Range - 0 to 400 mS/cm EC Resolution - auto ranging: 1 µS/cm from 0 to 9999 µS/cm; 0.01 mS/cm from 10.00 to 99.99 mS/cm; 0.1 mS/cm from 100.0 to 400.0 mS/cm; (please specify) EC Accuracy ±1% of reading or ±1 µS/cm whichever is greater (Or better) EC Calibration -automatic single point, with six standard solutions (84 µS/cm, 1413 µS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm) or custom point Probe cable – 1 m long with proper covering Water proof connectors/connections</p> <p>Temperature Range - 5.00 to 55.00 °C Temperature Resolution - 0.01 °C Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Operating Temperature - 0 to 50°C Buffer solutions should be included Warranty – Please specify</p>	2	
6	Portable Salinity Meter with probe	<p>Salinity Range - 0.00 to 90.00 PSU Salinity Resolution - 0.01 PSU or better Salinity Accuracy ±2% of reading or ±0.01 PSU whichever is greater Salinity Calibration - based on conductivity calibration Seawater σ Range - 0.0 to 50.0 σ_t, σ₀, σ₁₅ Seawater σ Resolution - 0.1 σ_t, σ₀, σ₁₅ Seawater σ Accuracy ±1 σ_t, σ₀, σ₁₅ Seawater σ Calibration - based on conductivity or salinity calibration Probe cable – 1 m long with proper covering Water proof connectors/connections Temperature Range - 5.00 to 55.00 °C Temperature Resolution - 0.01 °C Battery Type: 1.5V AA batteries preferred Display – LCD or Digital with energy saving Operating Temperature - 0 to 50°C Buffer solutions should be included Warranty – Please specify</p>	2	
7	Laboratory Incubator	<p>System - Forced convection for Biological Oxygen Demand (BOD) testing Operating temperature range - 0 – 60 °C Setting temperature range - 5 – 60 °C Temperature adjustment range - ±0.2, 0.3, 0.5 °C Temperature distribution accuracy - ±0.5, 2.0 °C Time to attain max. temperature – 15 -30 mins. Or better Time to attain min. temperature - 30 -45 mins. or better Cooling Mechanism - Continuous Operation, Cycle Operation, Cooling-Stop Operation Interior/ Exterior - Stainless steel plate / Chromate-free electrogalvanized steel plate or better, please specify Heat insulator - Styrene foam (non-freon) Defrosting mechanism – Automatic, Hot Gas Bypass Method, please specify Blower fan - please specify Heater / temperature detector - please specify Temperature control system - please specify Temperature control display - LCD/LED panel Operation functions - program operation, auto start, auto stop, quick auto stop Calibration: please specify Safety Functions - Self diagnostic function (temp. sensor error, heater disconnection, SSR short-circuit, main relay error, automatic overheat prevention function), key lock, Over current ELB, overheat preventative device, Fan malfunction detector, Cooling high-pressure detector, Inverter malfunction detector, or better, please specify Standard Internal Volume 250 L Shelf load capacity 15 kg No. of internal shelf stages – Minimum 5, stainless steel Power supply - (50/60) Hz rated current AC 240V Warranty - please specify</p>	1	

8	Analytical balance (Laboratory)	<p>Maximum Capacity -120 g Readability - 0.01 mg; 0.1 mg Pan Size - 8 cm diameter or please specify Internal Calibration – Automatic, please specify Draftshield – Included Access – 2 sides and top Display – LCD or better Functions – standard function buttons or better In-use cover Included Linearity - ± 0.1 mg or better Pan Construction Stainless Steel Repeatability (typical) 0.015 mg Stabilization Time 8 s or better Tare Range - please specify Units of Measurement , Gram, Carat Working Environment 20 – 50 °C Compatible humidity – please specify Power supply: Electric power through power supply unit/adapter. Warranty – please specify</p>	1	
9	Top loading balance (Laboratory)	<p>Maximum Capacity - 600 g, please specify Readability - 0.01 g or better Repeatability - 0.007 g or better Minimum Weight - 14 g or better Linearity - ± 0.03 g or better Settling Time 2 s Temperature accuracy - (\pm) 10 ppm/°C Resolution 0.01 g Weighing Pan Diameter – Please specify Adjustment External Display - LCD Functions – standard function buttons or better Housing Plastic ABS/PC Power - AC Power supply and battery operation. Electric power through power supply unit/adapter.</p>	4	

Section VII

Contract Data

The following Contract Data shall supplement and / or amend the Conditions of Contract (CC). Whenever there is a conflict, the provisions herein shall prevail over those in the CC.

CC 1.1(i)	The Purchaser is: Uva Wellassa University
CC 1.1 (m)	The Project Site(s)/Final Destination(s) is/are: Uva Wellassa University, Passara Road, Badulla.
CC 8.1	For notices, the Purchaser's address shall be: Deputy Bursar Uva Wellassa University, Passara Road, Badulla. 055-2226475/ 055-2226633
CC 11	Goods shall be supplies in compliance with the quality and the specification given.
CC 15.1	CC 15.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows: For Goods offered within Sri Lanka Payment shall be made in Sri Lankan Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed. a) No Advance payment applicable for this contract b) Up to a maximum of ninety (90) percentage of the Contract Price, shall be paid on receipt of the Goods and confirm by the evaluation committee. c) Ten (10) percentage of the Contract price will be hold as Retention for a period of 12 months from the date of commissioning of equipments. d) The Retention shall be paid on completion of Twelve (12) months. During that period supplier shall correct all defects and confirmed by the purchase or his agent.
CC 17.1	A Performance Security – 10% Performance security may be in any of the following way (a) A Bank guarantee issued by a reputed bank operated in Sri Lanka. (b) Cash deposit at the Shroff Counter of the University
CC 26.1	The liquidated damage (Late Delivery) shall be: 1% from the contract sum, per week.
CC 26.1	The maximum amount of liquidated damages shall be:10 % from the contract sum.
CC 27.3	The warranty shall remain valid for a period of time specified with the specifications.
CC 27.6	The supplier shall remedy the defects within 3 Months from the date of information by the purchaser.