## DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA



## UVA WELLASSA UNIVERSITY AHEAD PROJECT

# SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF LABORATORY EQUIPMENT FOR DEPARTMENT OF ENGINEERING TECHNOLOGY, FACULTY OF TECHNOLOGICAL STUDIES

#### UWU/AHEAD/18/TS/ET/02

#### **BIDDING DOCUMENT**

Bid Opening On	21 <sup>st</sup> August 2018 – 3.00 p.m.
Bid Validity up to	19 <sup>th</sup> December 2018

Uva Wellassa University Passara Road, Badulla, Sri Lanka.

Deputy Director Procurement Uva Wellassa University



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## INVITATION FOR BIDS UVA WELLASSA UNIVERSITY AHEAD PROJECT



## SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF LABORATORY EQUIPMENT FOR DEPARTMENT OF ENGINEERING TECHNOLOGY, FACULTY OF TECHNOLOGICAL STUDIES UWU/AHEAD/18/TS/ET/02

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

- 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 Director Procurement, Uva Wellassa University, Passara Road, Badulla, (Tel. No: 055-2226622 Ext- 1124, Fax No: 055-2226633), and inspect the bidding documents at the project office of the University between 9.00 am to 3.00 pm from 30/07/2018 to 20/08/2018.
- 4. A complete set of bidding documents in English may be purchased by interested bidders on submission of a written application to the Deputy Director Procurement, Uva Wellassa University, Passara Road, Badulla and upon payment of a non-refundable fee of Rupees 5,000.00 in cash at the Shroff Counter of the University. The bidder can also download the biding documents from the University website <a href="https://www.uwu.ac.lk">www.uwu.ac.lk</a>. 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. 5,000.00 as non-refundable fee or the payments could be made to any branch of Bank of Ceylon, to the Uva Wellassa University, Account No: 82592579, and the original of the cash receipt/deposit slip to be attached with the bidding documents. The documents may be purchased until 3.00 p.m. on 20/08/2018 The pre bidding meeting has been scheduled to be held on 08/08/2018 at 2.00 p.m. at Board room at the University.
- 5. Bids must be delivered to be addressing Chairman, Department Procurement Committee, Uva Wellassa University, Passara Road, Badulla, on or before 3.00 p.m. on 21/08/2018. Please indicate the "SUPPLY, DELIVERY, INSTALLATION & COMMISSIONING OF LABORATORY EQUIPMENT FOR DEPARTMENT OF ENGINEERING TECHNOLOGY, FACULTY OF TECHNOLOGICAL STUDIES UWU/AHEAD/18/TS/ET/02" on the top left hand corner of the envelope.
- 6. All bids must be accompanied by a Bid Security addressed to the Vice Chancellor, Uva Wellassa University, valid for 120 days from the date of the bid opening. The Value of the Bid Security shall be Rs. 251.600.00
- 7. 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 in Clause No.5.
- 8. 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

#### 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, AHEAD Project
ITB 1.1	The name and identification number of the Contract are: Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies Contract No: UWU/AHEAD/18/TS/ET/02
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: <b>GOSL</b>
ITB 4.4	Foreign bidders are allowed to participate in bidding: <b>Not allowed</b>
	B. Contents of Bidding Documents
ITB 7.1	For Clarification of bid purposes only, the Purchaser's address is:
	Attention: Deputy Director Procurement
	Address: Uva Wellassa University, Passara Road, Badulla.
	Telephone: 055-2226622 Ext-1124
	Electronic mail: ahead@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:  Business Registration Certificate  VAT Positivation Contificate
	<ul> <li>VAT Registration Certificate</li> <li>List of client who use the Products</li> </ul>
	• 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 <b>Sri Lankan Rupees</b> .
ITB 18.1 (b)	After sales service is: Required
ITB 19.1	The bid shall be valid for: 120 days from 21/08/2018
ITB 20.1	Bid shall include a Bid Security in any of following ways  (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: 82592579, and the cash receipt/deposit slip to be attached with the bidding documents.



ITB 20.2	The amount of the Bid Security shall be: Rs.251,600.00
	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 ENGINEERING TECHNOLOGY, FACULTY OF TECHNOLOGICAL STUDIES Contract No: UWU/AHEAD/18/TS/ET/02
ITB 23.1	For bid submission purposes, the Purchaser's address is:
	Attention: Deputy Director Procurement
	Address: Uva Wellassa University, Passara Road, Badulla.
	The deadline for the submission of bids is
	Date: 21/08/2018
	Time: <b>3.00 p.m</b>
ITB 26.1	The bid opening shall take place at:
	Address: Board Room, Uva Wellassa University, Passara Road, Badulla.
	Date: 21/08/2018
	Time: <b>3.00 p.m</b>
	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.



#### **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** 

### **Section IV. Bidding Forms**

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#### FORM OF BID UVA WELLASSA UNIVERSITY UWU/AHEAD/18/TS/ET/02

To:

Chairman

Date.....

**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 Engineering Technology, Faculty of Technological Studies Contract No: UWU/AHEAD/18/TS/ET/02 said Price Schedule amounting and cents....(Rs only I / We undertake to Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies 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 of ......20.... in the capacity of..... duly authorized sign Bids for to and the Freehold Owner whether or Power of Attorney (indicate Holder) ......(Blanks to be filled in BLOCK CAPITALS) Signature..... Duly authorized for signed on behalf of (Name of the Bidder) Address .....



#### **Price Schedule**

## Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies Contract No: UWU/AHEAD/18/TS/ET/02

No	Items	QTY	Unit Price (excluding VAT)	Total Price (excluding VAT)	VAT 15%	Total Price including VAT
1	Handheld Analog multi meter	5				
2	Handheld Digital multi meter	15				
3	Heavy Duty Ammeter	3				
4	Heavy Duty Voltmeter	3				
5	Single phase and three phase AC/DC Watt meter	3				
6	Analog Oscilloscope	6				
7	7 Digital Storage Oscilloscope					
8	B DC power supply					
9	Function Generator					
10	0 Power analyzer					
11	Single phase and three phase transformer trainer					
12	AC and DC Electrical machine trainer					
13	Refrigeration cycle trainer kit					
14	Air conditioning trainer kit	1				
15	15 Laboratory scale steam power plant					



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
Address
Date



#### FORM OF BID SECURITY

 [insert	issuing agency's name, and address of issuing branch or office]
Benefi	ciary: Vice Chancellor, Uva Wellassa University, Passara road, Badulla
Date:	[insert (by issuing agency) date]
BID G	**UARANTEE No.: [insert (by issuing agency) number]
[name [date]	ve been informed that  of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated  (hereinafter called "the Bid") for the execution of
- Further Guarar	rmore, we understand that, according to your conditions, Bids must be supported by a Bid ntee.
agency	request of the Bidder, we [insert name of issuing of least place of the pay you any sum or sums not exceeding in total an amount [insert amount in figures]
your fi	rst demand in writing accompanied by a written statement stating that the bidder is in breach of gation(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.
the Co if the l	duarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of intract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) Bidder is not the successful bidder, upon the earlier of (i) the successful bidder furnishing the mance security, otherwise it will remain in force up to (insert date)
	quently, any demand for payment under this Guarantee must be received by us at the office on one 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 \_\_\_\_\_\_, \_\_\_\_\_ [insert date of signing]

#### **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]

				Delivery Date 1		
No	Description of Goods	Qty	Final Destination as specified in BDS	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 10 Weeks of the Order	

\* Destination of delivery: - Department of Engineering Technology

Faculty of Technological Studies

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.

### **Technical Specifications**

## Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies - UWU/AHEAD/18/TS/ET/02

No	No Item Feature		Specifications	Bidders' Response
Handheld Analog		Measuring Range	100mV-600V DC, 7 steps	
			10V-600V, 5 steps	
			50μA – 1A DC, 5 steps	
	multi meter		3mA-3A AC, 4 steps	
			$\Omega \times 1/10/100$ resistance	
		Internal		
		Resistance	20kΩ/V (DC) /6.67kΩ/V (AC)	
		Scale Zero Point	left	
		Other	Electrical supply voltage 1x 1.5V battery	
			Relevant test leads and other applicable	
			accessories should be provided	
		Operating	1	
		Environment	Laboratory	
		Operating		
1		Temperature		
		Range	+150C to 400C	
			Manual in printed or electronic form should	
		User Guide	be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
		1/14/14/14/14/14/14	Above specification should have marked in	
		Other Comments	the manufacturer's original catalogue	
			The bidder shall have supplied similar	
			laboratory equipment's during last five	
			years	
		-	The bidder should have submitted past	
			experience in supplying similar laboratory	
			equipment's	
			This instrument should be hand held and	
			portable	
	Handheld Digital		This instrument should be industrial type	
	multi meter		This instrument should show true RMS value	
			Should have Low impedance to detect stray	
			voltage	
			Should have low pass filter for variable	
		General	frequency drive measurements	
		General	Audible continuity	
2			Diode test should available	
			Should give warning against improper test	
			leads connection	
			Auto and manual ranging should available  Auto power off	
			Data hold and relative reading should be	
			available	
			AC and DC voltage (0-1000V)	
		Measurements	AC and DC current (0-10A)	
			Resistance (up to $60M\Omega$ )	



			Diode test	
			continuity	
			Battery test	
			capacitance	
			Frequency	
			Duty cycle	
			One or more Temperature inputs	
		Safety Rated	CATIV for 600V, CATIII for 1000V	
		Operating Environment	Laboratory	
		Operating Temperature Range	+15°C to 40°C	
		Required Net Dimension of the Apparatus	100mmx50mmx25mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
		Other Comments	Above specification should have marked in the manufacturer's original catalogue  The bidder shall have supplied similar laboratory equipment's during last five years  The bidder should have submitted past	
			experience in supplying similar laboratory equipment's	
			Specially designed for student experiments	
	Heavy Duty Ammeter	General	Instrument should have three or more current ranges	
			There should be a switch selectable by input jack to measure AC or DC values	
		Ranges (AC and DC)	O to 50mA/500mA/5A	
		Accuracy	+or- 2%	
		Voltage Drop	Max. voltage drop 0.25V or less	
		Frequency	50Hz to 20kHz	
3		Response Overload Protection	15A	
		Other	This instruments should be designed for student experiments in the laboratory	
		Other	Relevant test leads and other applicable accessories should be provided	
		Operating Environment	Laboratory	
		Operating Temperature Range	+15°C to 40°C	
		Required Net Dimension of the Apparatus	150mmx120mmx50mm or closest	



		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
		_	The bidder should have submitted past experience in supplying similar laboratory equipment's	
			Specially designed for student experiments	
	Heavy Duty Voltmeter	General	Instrument should have three or more voltage ranges	
			There should be a switch selectable by input jack to measure AC or DC values	
		Ranges (AC and DC)	0 - 3 V,15V,30 V	
		Accuracy	+or- 2% of full scale	
		Sensitivity	10kΩ per V	
		Frequency Response	20Hz -50kHz	
			This instruments should be designed for student experiments in the laboratory	
		Other	Relevant test leads and other applicable accessories should be provided	
4		Operating Environment	Laboratory	
		Operating Temperature Range	+15°C to 40°C	
		Required Net Dimension of the Apparatus	150mmx120mmx100mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
			The bidder should have submitted past experience in supplying similar laboratory equipment's	

_	Single phase and three	Measuring Range	50Hz frequency	
5	phase AC/DC Watt meter		60V to 480V AC/DC	
	meter		5A current range	
		Input Resistance	30kΩ -480kΩ	
		Zero Point	left	
		Frequency Response	0Hz to 500Hz	
		Accuracy	+or- 1% for single phase AC	
			+or- 2% for balanced three phase AC	
			+or- 2.5% for DC	
		Protection	6.3A HRC fuse	
		Other	This instruments should be designed for student experiments in the laboratory	
			Relevant test leads and other applicable accessories should be provided	
		Operating Environment	Laboratory	
		Electrical Supply Compatibility	230V/50Hz	
		Operating Temperature Range	+15°C to 40°C	
		Required Net Dimension of the Apparatus	150mmx120mmx100mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
			The bidder should have submitted past experience in supplying similar laboratory equipment's	
		Bandwidth	30MHz or more	
	Analog Oscilloscope	Number of Channels	Two channels should be available	
		Cursor Readout	Cursor read out should be available	
6		Vertical Sensitivity	1mV/div	
		Horizontal Axis	Sweep time should be 0.2µs -0.5s/div	
		X/X/ N # 1	Sweep magnification 10 times	
		XY Mode	XY mode should be available	



		Auto Time Base Settings	Auto time base settings should be available
		Buzzer Alarm	Buzzer alarm should be available
		Display	LCD readout display for vertical/horizontal/Frequency measurements
		External Triggering Signal Input	Input impedance should be approximately 1MΩ,25pFand maximum input voltage should be 300v DC and AC peak
		Frequency Counter	Frequency counter should be available within the oscilloscope
		Other	This should have high performance and should be reliable
		Operating Environment	Laboratory
		Electrical Supply Compatibility	230V/50Hz
		Operating Temperature Range	+15°C to 40°C
		Required net Dimension of the Fluid Friction Apparatus	360mmx180mmx120mm or closest
		User Guide	Manual in printed or electronic form should be provided
		Warranty Period	5 years or more
		Manufacturer	Should be ISO9001 certified
			Above specification should have marked in the manufacturer's original catalogue
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years
		_	The bidder should have submitted past experience in supplying similar laboratory equipment's
	Digital Storage Oscilloscope	Digital Storage Oscilloscope	Equipment should be dual channel (two input channels should be available)
			Equipment should have Frequency range of 30MHz or more
7			Equipment should have Input impedance of 1MΩ,15pF,maximum 400 VDC
	,		Vertical aris rooms should be 2 mV 10V/Slat
			Vertical axis range should be 2mV -10V/Skt and rise time should be less than 14ns



	Memory depth per channel 4k points or more
	Go/No Go function should be available
	Auto, norm and single trigger mode should be available
	Add,subtract,FFT math functions should be available
	USB,VGA and LAN ports should be available
	Equipment should have LCD display
	Equipment should designed to meet today's most demanding engineering requirements and budget
	Equipment should be user friendly, economic design and compact
Probe	Two probes should provide per each oscilloscope which are applicable with above digital oscilloscope
	Input resistance should be $1M\Omega$ and $10M\Omega$ (at $10M\Omega$ Oscilloscope input)
	Bandwidth should be 100Mz
	Input voltage should be 600VDC including AC peak
	Connection should be BNC plug
	This should include channel identifier clip sprung hook, ground lead, insulating tip, IC tip adjusting tool, measuring tip, and sprung earth tip
Operating Environment	Laboratory
Electrical Supply Compatibility	230V/50Hz
Operating Temperature Range	+15°C to 40°C



		Required net Dimension of the Fluid Friction Apparatus	360mmx180mmx120mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
		Other Comments	Above specification should have marked in the manufacturer's original catalogue	
			The bidder shall have supplied similar laboratory equipment's during last five years	
		_	The bidder should have submitted past experience in supplying similar laboratory equipment's	
	DC novion symply		Isolated two channels should be available	
	DC power supply	Output	Voltage range should be 0-30V	
			Current range should be 0-3A	
			Max output less than 200W	
			ON/OFF switch should be available	
		Regulation	Approximate 0.01% line regulation should be provide	
		Weight	Less than 5kg	
		Protection	Overload protection should be provide	
		Display	LED or LCD screen	
		Dispiny	Digital panel control	
8		Operation	Series or parallel operation available	
		Design	Design should be compact, user friendly, coarse and fine volume control	
		Other	Smart cooling fan should be available to achieve low noise	
			USB standard interface for data transfer should be available	
		Operating Environment	Laboratory	
		Electrical Supply Compatibility	230V/50Hz	
		Operating Temperature Range	+15°C to 40°C	



		Required Net Dimension	210mmx130mmx265mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
			The bidder should have submitted past experience in supplying similar laboratory equipment's	
	Function Generator	Waveforms	This instrument should be generate sine, square, ramp, noise and arbitrary waveform	
			20MSa/s sample rate	
		Arbitrary Eunation	10MHz repetition rate	
		Arbitrary Function	4k point waveform length	
			10 bit amplitude resolution	
			0.1Hz-25MHz range for sine /square	
		Frequency Characteristics	0.1Hz-1MHz range for ramp	
			0.1Hz resolution	
		Modulation	AM/FM/FSK modulation should available	
		Square Waveform	1% - 99% adjustable Duty cycle for Square waveform	
9		Display	LCD screen which displaying Amplitude ,DC offset and other key setting information simultaneously	
,		Other	Waveform parameter setting can be done through Numeric keypad entry and knob selection	
			USB device interface for remote control and waveform editing	
		Operating Environment	Laboratory	
		Electrical Supply Compatibility	230V/50Hz	
		Operating Temperature Range	+15°C to 40°C	
		Required net Dimension Apparatus	300mmx120mmx120mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	



		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years  The bidder should have submitted past	
		_	experience in supplying similar laboratory equipment's	
	Power analyzer	Measuring Parameters	Voltage ,current, active power, reactive power, apparent power, power factor, phase angle ,peak voltage, peak current, crest factor, harmonic measurements, THD calculation ,vector representation	
		Range	Voltage up to 1000V	
			Current up to 40A	
		Inputs	Model should be support for Three input element	
		Other	USB/RS232 communication interface should be available	
			Accessories such as voltage and current transformers, clamp on current probes and test leads should be provided	
		Operating Environment	Laboratory	
10		Electrical Supply Compatibility	230V/50Hz	
		Operating Temperature Range	+15°C to 40°C	
		Required net Dimension of the Apparatus	300mm x150mmx 150mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
		_	The bidder should have submitted past experience in supplying similar laboratory equipment's	



	Single phase and three	_		
11	phase transformer trainer	General	This apparatus should be able to deal with practical regarding isolation transformers and auto transformers, design and connection of transformers, equivalent circuit diagrams, transformer ratios, no load and short circuit experiments and vector groups used in three phase transformers.	
		Power	This training system should be based on a transformer with a approximate power level of 100VA	
		RLC Load	This apparatus should provide relevant ohmic, inductive and resistive loads for experiments	
		Measuring Units	Relevant measuring instruments such as multi meter, wattmeter, power factor meter should be comes with the training unit	
		Accessories	Set of safety measurement cables, safety connecting plugs should be provided	
		Operating Environment	Laboratory	
		Electrical Supply Compatibility	3x230V/400V/50Hz	
		Operating Temperature Range	+15°C to 40°C	
		Required net Dimension of the Apparatus	1800mmx120mmx40mm or closest	
		User Guide	Manual in printed or electronic form should be provided	
		Warranty Period	5 years or more	
		Manufacturer	Should be ISO9001 certified	
			Above specification should have marked in the manufacturer's original catalogue	
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years	
			The bidder should have submitted past experience in supplying similar laboratory equipment's	
	AC and DC Electrical		The apparatus should allow students to learn both industrial AC and DC electrical machines.	
	machine trainer	General	The apparatus should be versatile but should be cost effective.	
12			The apparatus should be include conventional parts than virtual instruments	
		_	The apparatus should have fully delivered torque/speed measurement system	



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			The apparatus should allow fast and easy machine coupling
			Nominal power should be less than 1kW for supplied each motor
			The apparatus should maintain high electrical and mechanical safety
			The apparatus should have DC motors and Generators including DC shunt motor, DC series motor, DC compound motor, DC separately excited motor, DC shunt Generator, , DC compound Generator, DC separately excited Generator
		Major Parts	The apparatus should have a Single phase induction motor
			The apparatus should have a Three phase induction motor
			The apparatus should have a control panel with measuring instruments
			The apparatus should provide relevant size of load resistors, load reactors and load capacitors for experiments.
		Operating Environment	Laboratory
		Electrical Supply Compatibility	230V/50Hz
		Operating Temperature Range	+15°C to 40°C
		Required Net Dimension for the Electrical Machine Trainer Panel	1600mm L x600 mm D X 1600mm H or closest
		User Guide	Manual in printed or electronic form should be provided and also laboratory experiment guidance for each practical session should be provided.
		Warranty Period	5 years or more
		Manufacturer	Should be ISO9001 certified
			Above specification should have marked in the manufacturer's original catalogue
		Other Comments	The bidder shall have supplied similar laboratory equipment's during last five years
			The bidder should have submitted past experience in supplying similar laboratory equipment's
3	Refrigeration cycle trainer kit		Should be able to take Pressure and temperature measurements taken around the



	refrigeration circuit
	Software allows students to visualize experimental parameters using Pressure – Enthaply charts
	Temperature sensors in heat source and heat sink water tanks allows clear demonstration of a refrigeration or heat pump cycle
	Water pump allows circulation of water for steady-state experiment
	Refrigerant circuit colour-coded to international standard
	Should be able to demonstrate and determine and investigate Basic refrigeration cycle energy balance
	Should be able to determine and investigate the COP of refrigeration cycle
	Should be able to determine and investigate non-isentropic, isentropic and volumetric efficiencies of the compression stage
	Should be able to compare performance between actual and reversed Carnot cycles.
Operating Environment	Laboratory
Dimensions of the refrigeration cycle trainer kit	700 mm wide x 400 mm front to back x 700 mm high or closest
Operating temperature range	0°C to +30°C or similar
LCD display	Yes. For all measured parameters
Electrical Supply compatibility	230 V / 50 Hz (Phase voltage)
Data acquision	Yes. For all measured and important parameters
Connectivity	Connectivity included featuring data acquisition via USB
Software	Yes. For data acquision and processing. Should be compatible with windows 7 or newer versions
Warranty	5 years or more
Manufacturer	Should be ISO9001 certified
Other comments	Above related specification should have marked in the manufacturer's original catalogue The bidder shall have supplied similar laboratory equipment's during last five years The bidder should have submitted past experience in supplying similar laboratory equipment Delivery, supply and Installation must be done by the supplier
	Training session related to the instrument should provided by the supplier



	Air conditioning		Should be able to take Pressure and
	trainer kit		temperature measurements taken around the refrigeration circuit
			Should be able to measure Relative humidity and temperature upstream and downstream of the evaporator
			Should be able to use to Learn to use Psychrometric charts
			Should be able to Determine enthalpy change in the air flow
			Should be able to Learn to use a Pressure- Enthalpy chart
			Should be able to Determine Coefficient of Performance (COP)
		LCD display	Yes. For all measured parameters
		Dimensions of the air conditioning trainer kit	900 mm wide x 500 mm front to back x 800 mm high or closest
		Operating Environment	Operating Environment
14		Operating temperature range	0°C to +30°C or closest
		Electrical Supply compatibility	230 V / 50 Hz (Phase voltage)
		Data acquision	Yes. For all measured and important parameters
		Connectivity	Connectivity included featuring data acquisition via USB
		Software	Yes. For data acquision and processing. Should be compatible with windows 7 or newer versions
		Manufacturer	Should be ISO9001 certified
		Warranty	5 Years or more
		Other comments	Above related specification should have marked in the manufacturer's original catalogue The bidder shall have supplied similar laboratory equipment's during last five years The bidder should have submitted past experience in supplying similar laboratory equipment
			Delivery, supply and Installation must be done by the supplier Training session related to the instrument should provided by the supplier



15	Laboratory scale steam power plant		Should be able to gain insight into the first and second laws of thermodynamics
			Should be able to measure Relative humidity and temperature upstream and downstream of the evaporator
			Should be able to use to Learn to use Psychrometric charts
			Should be able to Determine enthalpy change in the air flow
			Should be able to Learn to use a Pressure- Enthalpy chart
			Should be able to Determine Coefficient of Performance (COP)
		LCD display	Yes. For all measured parameters
		Dimensions of the air conditioning trainer kit	900 mm wide x 500 mm front to back x 800 mm high or closest
		Operating Environment	Operating Environment
		Operating temperature range	0°C to +30°C or closest
		Electrical Supply compatibility	230 V / 50 Hz (Phase voltage)
		Data acquision	Yes. For all measured and important parameters
		Connectivity	Connectivity included featuring data acquisition via USB
		Software	Yes. For data acquision and processing. Should be compatible with windows 7 or newer versions
		Manufacturer	Should be ISO9001 certified
		Warranty	5 Years or more
		Other comments	Above related specification should have marked in the manufacturer's original catalogue The bidder shall have supplied similar laboratory equipment's during last five years The bidder should have submitted past experience in supplying similar laboratory equipment Delivery, supply and Installation must be done by the supplier Training session related to the instrument



### **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: AHEAD Project, 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 Director Procurement Uva Wellassa University, Passara Road, Badulla.				
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.				
	<ul> <li>a) No Advance payment applicable for this contract</li> <li>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.</li> <li>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 equipment.</li> <li>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.</li> </ul>				
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.				



#### "Check List"

	Required Specification	Bidder's Offer				
No		Conformity		Dage No	Remark	
		Yes	No	Page No	Kemark	
1	Company Profile					
2	<b>Business Registration</b>					
3	VAT Registration					
4	List of Clients					
5	Past three year experience in the industry					
6	Manufacturer Authorization					
7	Public Contract Act					
8	Bid Security					
9	Forms of Bids					
10	Price Schedule					
11	Tender Fee					
12	Financial Statement					
	Status					

<sup>&</sup>quot;Bidders must be filled above check List"

