DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA



UVA WELLASSA UNIVERSITY

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

UWU/G/NCB/18/05

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



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INVITATION FOR BIDS UVA WELLASSA UNIVERSITY



Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies UWU/G/NCB/18/05

The Chairman, Department Procurement Committee, on behalf of the Uva Wellassa University, invites sealed bids from eligible 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 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 3,900.00 in cash at the Shroff Counter of the University. The bidder can also download the biding 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. 3,900.00 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 ENGINEERING TECHNOLOGY, FACULTY OF TECHNOLOGICAL STUDIES UWU/G/NCB/18/05" 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. 178,980.00**
- 7. Pre Bid meeting will be held at **02.00 p.m. at on 30th May 2018**, 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, Badulila.

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)]
V.J

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 Engineering Technology, Faculty of Technological Studies Contract No: UWU/G/NCB/18/05
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: 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 11 th June 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: 3114820, and the cash receipt/deposit slip to be attached with the bidding documents.
	Ack

ITB 20.2	The amount of the Bid Security shall be: Rs. 178,980.00
	Beneficiary: Vice Chancellor, Uva Wellassa University. The validity period of the bid security shall be 120 days from the closing data of the Bid.
	The validity period of the bid security shall be 120 days from the closing date of the Bid D. Submission and Opening of Bids
	2. Submission and Spennig of Dias
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/G/NCB/18/05
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: 11 th 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: 11 th 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.



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/18/05

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

Date.....

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/G/NCB/18/05 said Price Schedule amounting to Rupees 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. day of duly This authorized sign Bids for and behalf to on Freehold Owner Power of (indicate whether the or Attorney Holder) Signature..... Duly authorized for signed on behalf of (Name of the Bidder) Address

> Deputy Bursar (Stores & Supplies Uva Wellassa University Passara Road, Baduija

Price Schedule

Supply, Delivery, Installation & Commissioning of Laboratory Equipment for Department of Engineering Technology, Faculty of Technological Studies

Contract No: UWU/G/NCB/18/05

(**Rs.**)

No	Items	QTY	Unit Price (excluding VAT)	Total Price (excluding VAT)	VAT 15%	Total Price including VAT
1	Composite Wall Apparatus	1				
2	Heat Transfer Form PIN FIN	1				
3	Emmissivity Measurement Apparatus	1				
4	Steper Motor Control Trainer	4				
5	Coupled Tanks Apparatus	1				
6	Inverted pendulum	1				
7	Digital Verniar caliper	10				
8	Electronic Micrometer Set Digital Micrometer Screw Gauge	10				
9	Two Stage Pump study Apparatus	1				
10	Fluid Friction Apparatus	1				
	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
efficiary: Vice Chancellor, Uva Wellassa University, Passara road, Badulla ::
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
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
validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to
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)]

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

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]

				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 Sched	ule	Uva Wellassa University	Within 4 Weeks of the Order	Within 4 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.

Deputy Bursar (Sabres & Supplies)
Usa Wellassa University

Technical Specifications

ĭN.T.	Technology, Faculty of Technological Studies - UWU/G/NCB/18/05 No Item Specifications Qty Bidders'					
No	Item	Item Specifications				
1	Composite Wall Apparatus	Temperature Transmitter - Input Thermocouple (type K), output 0-12 Volts, supply , 24VDC, Calibration: up to ambient to 1200 deg.C or above Thermocouples: Type: Cr.Al. Load Cell Range : 0 to around 12 Kg capacity , Load Cell For measuring the water flow Voltage transmitter - Input :230AC, Output: 2 to 24mA or above or around 0-10V DC Current Transmitter - Input :around 0 to 5A Direct, Output: around 4 to 20mA or 0-10V DC Data Acquisition System - 12 Bit or above and USB compatible Data Acquisition & Analysis Software - View based Powerful software Temperature Indicator Range: around 0 to 500 Deg or above Selector Switch: Ambient to 200 deg.c. or above Voltage Indicator Range :0 to 230 AC Current Indicator Range :around 0 to 10AMP Dimmerstat Range : 0 to 220 volts Ac	1			
		Warranty - Two year or above	-			
2	Heat Transfer	Microprocessor Control Mode Blower - Capacity: 350 watts or above				
	Form PIN FIN	Test section - Diameter :around 12 mm Length : around 150 mm Material : Brass or compatible material Duct - size 100x150x500mm or above Material MS with Powder Coating U' Tube manometer - Material : Glass Qty: 1No Temperature Transmitter - Input Thermocouple (type K), output 0-10 Volts, supply 24VDC, Calibration: upto ambient to around 1200 deg.C- Thermocouples - Type : Cr.Al Voltage transmitter - Input :230AC, Output: 4 to 20mA or 0-10V DC Current Transmitter - Input :0 to 5A Direct Output: 4 to 20mA or 0-10V DC Data Acquisition System - 12 Bit or above, USB compatible Data Acquisition & Analysis Software - Yes Air flow transmitter - Range:0-250 mm WC Temperature Indicator - Range : 0 to 500 Deg or above, Selector Switch : Ambient to 190deg.c or above. Voltage Indicator - Range :0 to 230 AC Current Indicator Range : 0 to 220 volts Ac Warranty - Two year or above	1			

3	Emmissivity	Plates Diameter: 150 mm or above Heater: 250 W or above		
	Measurement	Temperature Transmitter - Thermocouple (type K), output 0-10		
	Apparatus	Volts, supply 24VDC, Calibration: upto ambient to 1200 deg.C		
		or above		
		Thermocouples - Type : Cr.		
		Voltage transmitter -Input :230AC, Output: 0 to 25mA or or 0-		
		12V DC orf above		
		Current Transmitter Make - Input :0 to 5A Direct, Output: 2 to		
		24mA or 0-12V DC	1	
		Data Acquisition System - 12 Bit, or aboveUSB compatible	1	
		Data Acquisition & Analysis Software - Lab View based		
		Powerful software		
		Temperature Indicator Range: 0 to 500 Deg, Selector Switch:		
		Ambient to 199.9 deg.c.		
		Voltage Indicator Range :0 to 230 AC		
		Current Indicator Range :0 to 12AMP or above		
		Dimmerstat Range: 0 to 230 volts Ac		
		Warranty - Two year or above		
4	Steper Motor	CPU: 8 Bit Microprocessor, or above		
•	Control	RAM: 8K/32K bytes and space for further expansion or above		
	Trainer	ROM: 8K bytes or above of EPROM loaded with powerful		
		program		
		Timer: 16bit programmable timer or above		
		Keyboard: 10 keys for command 16 keys for exadecimaldata		
		entry 1key for vector interrupt & 1key for reset		
		LED Display		
		Bus : All data, address and control signals		
		Stepper Motor		
		Angle	4	
		Torque		
		Signal processing circuit		
		Weight shock proof plastic cabinet		
		Circuit diagram printed on Glass Epoxy PCB & all important		
		IC's & test points are brought out on front panel		
		10 3 & test points are brought out on front paner		
		Power requirement : 220 VAC +10%, 50Hz		
		Warranty - Two year or above		
		Display: LCD Type		
5	Coupled	Multivariable control		
5	Tanks			
	Apparatus	Warranty - Five-year or more		
		Inputs (0–10 VDC) -Pump 1 speed, Pump 2 speed		
		Outputs (0–10 VDC)- Flow 1,Flow 2 , Level 1, Level 2	1	
		Other - Connecting cables, Liquid colouring		
		Sound Levels - Less than 70 dB		
		Display: LCD Type		
		1 K		
		Deputy Bursàn (Stòres & Supplies) Uva Wellassa University Passara Road, Badulia.		

6	Inverted	Cart Position	n Rise Time: $tr \le 1.5 s$		
	pendulum	Maximum pendulum angle deflection: $ \alpha \le 1.0 \text{ deg}$			
			Control Effort (V): Vm < 10 V	1	
			years or above		
7	Digital		speed : ≤1.5 m / seconds or 60 inches / seconds or		
	Verniar caliper	above Measuring Range: 0 to 150 mm / 0 to 6 inches			
		Power : One	1.5 V button cell (Type Sr44)		
		Storage Tem	perature: 0°C to 50°C / 32°F to 122°F		
		Working En	vironment: 5°C to 40°C / 41°F to 104°F (less than		
		80% Relativ	e Humidity)		
		Resolution:	0.01 mm / 0.0005 inches	10	
		Accuracy: +0.02 mm / ±0.001 inches (<100 mm), ±0.03 mm /			
		±0.001 inches (100 to 150 mm)			
			ch / mm conversion switch, Power ON / OFF		
		switch, Zero	o switch		
		Warranty - 1	two years or above		
		Rotameter - yes			
8	Electronic	Fanction - Z	ero setting (INC length measurement system)		
	Micrometer	Hold, Function lock, Auto power ON/OFF, Data output *1			
	Set Digital	Error alarm			
	Micrometer	Measurements are made to an accuracy - 0.01 mm / 0.0005			
	Screw Gauge	inches		10	
			two year or above	10	
			h / mm conversion switch		
			1.5 V button cell (Type Sr44)		
		Storage Temperature : 0°C to 50°C / 32°F to 122°F			
	m a		Range: 0 to 50 mm or more		
9	Two Stage Pump study	General	Should be compact, self-contained and mobile		
	Apparatus		Pumps should be tested individually, in series and in parallel with independent speed control	1	
	Apparatus		Pumps should be occupied with electronic drive to		
			control its speed		
			Pumps should have a transparent 'window' to allow		
			students to see clearly their impellers, the water flow		
			and cavitation		
			Pumps should be drive independently by two bearing mounted motors.		
			Pump should draw water from an integral reservoir		
			and after the tests water should returns to the reservoir		
		Pumps	for re use.		
		po	Pump should be occupied with load cell to measure		
			Pump should be occupied with speed sensor to		
			measure the pump speed		
			Maximum flow rate per each pump should be in the		
			range of 2.0 – 2.5 liters per second		
			Maximum total head per each pump should be in the		
			range of 115 – 130 kPa Maximum nump speed shall be in the range of 2800		
			Maximum pump speed shall be in the range of 2800 to 3000 rev/min		
	l	l			

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	T		
	Motor	Motor drives should have digital displays of pump	
	Drives	speed, torque and calculated true 'shaft' power	
		Each pump should have its own intake valve	
	Valves	Valves in the system should allow the pumps to work alone, in parallel or in series	
	Instruments	Instruments and the control modules should be fitted	
	and the control	to the frame in a way that they are above and behind the pumps.	
	modules		
	Venturi Meter	The equipment must contain a venture meter and differential pressure measurement to find the flow rate	
	Analog Pressure Display	Should be occupied with analog pressure display to show the pressures of inlet, delivery and differential pressures across the venturi	
	Stroboscope	Stroboscope should be provided with the apparatus to allow the students to see clearly the effects of	
		 cavitation around a pump impeller Should have a variable flash frequency Flashes rate 40 - 300,000 or similar with 	
		better range - Should be portable and lightweight	
	Computer Data Acquisition	Should be work and occupied with a Computer Data Acquisition System - should be frame mounted	
	System	 should record data manually or automatically should display of real time data should log data for printing and later analysis should perform real time calculations to generate user defined data should create and print charts and data tables 	
	Electrical Supply compatibility	230 V / 50 Hz (Phase voltage)	
	Temperature	Operating temperature range : +15°C to 40°C	
	Operating	35% to 90% (non condensing)	
A ~ J ~	relative humidity		
Danita Burgo (State of State o	range Required	Length 1600 mm x Depth 600 mm X Height	
Deputy Bursàr (Stbres & Supplies) Uva Wellassa University Passara Road, Badulla.	Net	1600 mm or Similar	
	Dimension	1000 IIIII OI DIIIIIIII	
	of the		
	equipment		
	User Guide	Should be provided and user guide shall have a	
		guidance to conduct each practical session.	
	Warranty	5 years or more	
	Manufacturer	Should be ISO9001 certified Above specification should have marked in the	
	Other	manufacturer's original catalogueThe bidder shall have supplied similar laboratory	
	comments	equipment's during last five years	
		 The bidder should have submitted past experience in supplying similar laboratory equipment's 	

O Fluid Friction	n General	The apparatus should allow the students to learn flow	
Apparatus	ii Gelleral	measurement techniques and losses in a wide variety of	
Тършина		pipes and fittings	
		The apparatus should have at least three water circuits with	
		instruments, pipes and pipe fittings including a different	
		valve on each circuit.	
		The apparatus should have at least three 90 degrees' bends,	
		three downstream valves, three-way piezometer and	
		pressure gauge	
		A vertical panel should hold all the pipes and fittings.	
		Piezometer set, and differential pressure gauge should be	
		included to measure pressure losses	
	Water	Separate equipment should be there to supply water to the	
	Supply	circuits with a controlled and measured flow from an	
		integral reservoir and after the test water should returns to	
		the reservoir for re use.	
		- Water capacity should be in the range of 140 litres to 180 litres	
		- Should occupied with an electronic flow meter and digital flow display (1/s and 1/min)	
		- Should be made by fiberglass	
		Should be made by hoergrassShould have lockable wheels for mobility	
		- Resolution should be 0.001 l/s or better	
		- Maximum flow should be in the range of 50 - 60 l/min with	
		no fluid friction apparatus fitted.	
		- Maximum pressure should be in the range of 400–450 mbar	
	Valves	The valves should be fitted in the downstream of the circuit	
	, 41,00	to avoid upstream turbulence	
	Major Parts	The apparatus should have a pitot tube which can traverse	
	9	across the pipe diameter.	
		The apparatus should have occupied with smooth pipes of	
		various lengths and internal diameters	
		The apparatus should have occupied with Artificially	
		roughened pipe	
		The apparatus should have occupied with 90-degree mitre and elbow and smooth bends	
		The apparatus should have occupied with sudden	
		enlargement, sudden contraction, gate valve, globe valve,	
		ball valve, venturi meter, orifice meter, pitot static tube and	
		inline strainer	
	Electrical	Electrical Supply compatibility:230V/50Hz(Phase voltage)	
	Temperature	Operating temperature range : +15°C to 40°C	
	Required net	Length 500mmxDepth 600mmX Height 1600mm/ Similar	
	dimension	·	
	User Guide	Should be provided and user guide shall have a guidance to	
		conduct each practical session.	
	Warranty	5 years or more	
	Manufacturer	Should be ISO9001 certified	
	Other	Above specification should have marked in the	
	comments	manufacturer's original catalogue	
		The bidder shall have supplied similar laboratory	
		equipment's during last five years	
	17	• The bidder should have submitted past experience in	
A X ford		- The blader should have sublifitted past experience in	
Deputy Bursar (Stores & Supplie:	15)	supplying similar laboratory equipment's	

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.

00110	m p 1 ' II W 11 II '
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.
00.01	·
CC 8.1	For notices, the Purchaser's address shall be:
	Deputy Bursar
	Uva Wellassa University, Passara Road, Badulla.
	055-2226475/ 055-2226533
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.
CC 17.1	 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. 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.