

Tender No:

KDU/PRO/CAP/154/2022



General Sir John Kotelawala Defence University,
Kandawala Estate, Ratmalana,
Sri Lanka.
T: Phone: 2632028, 2622995
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Web: www.kdu.lk

10/05/2022

INVITATION TO BID AND GENERAL CONDITIONS OF TENDER

1. The Vice Chancellor of the General Sir John Kotelawala Defence University, as the Chairman, Department Procurement Committee Invites Bid/s from prospective Bidders for supply of **item/s listed in the schedule in Annex “A”. The relevant specifications of the item/s are indicated in Annex “B”.**

2. **CLOSING DATE & TIME.** The tender will close at 1000 hrs. on 31 /05 /2022. Any Bid submitted after the closing time of the tender will be rejected & unopened such bids will be returned to the bidder.

3. **VALIDITY OF BID.** The bid submitted under this tender **must be valid for a minimum period of 77 days from the date of closing of tender.**

4. **BID BOND / GUARANTEE.**
(a) If the quoted bid value exceeds Rs: 2,000,000.00, such Bids should be accompanied with 1% of Bid Value an “on demand” and “unconditional” Bid Bond/Guarantee for a sum of **Rs:** in the format given in Annex “C” through a recognized local Bank or Insurance Company registered in Sri Lanka which is authorized by the Insurance Board of Sri Lanka to issue such Bid Guarantees. All Bid Bond/Guarantees should be valid for at least 30 days more than the validity period of bids, ie, for 150 days from the date of Bid opening. **Cheques will not be accepted as Bid Guarantee.**

(b) Submission of insufficient Bid Bond/Guarantee value or period will be considered as a “**major deviation**” and such offer will not be considered for further procurement action and will be rejected.

5. **VALUE ADDED TAX.** The Bidders who bid for locally delivered items must have the VAT registration. The VAT portion must be shown separately in the price schedule in Annex “A” and VAT registration number must be indicated. If the quoted item is exempted from VAT or Bidding Company is not liable for VAT, reference number and date of relevant Act number/Gazette notification/a certificate (as applicable) **issued for the current financial year** from the Commissioner General of Inland Revenue to that effect should be submitted along with the Bid.

6. **BID SUBMISSION.** The **bidder must duly sign at the last page (before Annexes) of this document** indicating the name of the signatory and the name of the company & place the company common seal to confirm the acceptance of tender conditions. **The Bid/s that do not include authorized signature will be rejected.** The Bid/s duly signed by the bidder enclosed and sealed in an appropriate cover addressed to the following address should be sent by registered post or could be deposited in the **appropriate tender box placed at General Sir John Kotelawala Defence University, Kandawala Estate, Ratmalana** (at the Main Entrance of General Sir John Kotelawala Defence University) on or before the time & date specified for the closing of tender. **The tender reference number, date & time of closing tender should be indicated & underlined at the top left corner of the envelop.**

Tender Ref No
Closing Date & Time

The Chairman,
Department Procurement Committee,
General Sir John Kotelawala Defence University,
Kandawala Estate, Ratmalana,
Sri Lanka.

7. The Bid/s must be submitted in the attached schedule of prices in Annex “A” as applicable. However, bidders could use similar formats prepared with their own letter heads with all the details mentioned therein and submit in **three copies along with duly signed copy of a General Conditions of tender.** The Bid/s must contain **Technical Literature, Pamphlets, Drawings and Quality Standard Certificate etc** necessary to determine characteristics of items offered and in case of Machinery/Vehicles & Equipment, servicing and workshop data/after sales service, back up facilities or any other facilities provided by the supplier.

8. **SUBMISSION OF SAMPLES/PAYMENT OF TESTING CHARGES.**
When it is required to submit samples, **every offer** must be accompanied with pre - marked samples. The marking of samples **indicating the Bidder & Offer number** must be done and the samples must be handed over to the officer at same place where tender box is placed **on or before the closing date & time of the Bid.** Samples submitted after closing time of the Bid will be rejected. The documents such as Air Way Bills etc, will not be accepted in place of samples. When the testing charges are required to be paid, bidders shall pay testing charges separately **for all offers** indicated in their bid/s.

- (1) **Samples.** Please submit..... samples.
- (2) **Testing Charges.** A sum of Rs **per offer** must be paid to the Bursar of KDU, prior to the submission of bid and a copy of the receipt must be annexed to the bid. It is the responsibility of bidder to inform the Cashier of the Account Office to note the tender number on the receipt issued for such payments.

8. **BID OPENING.** All duly received bids **will be opened immediately after the scheduled closing time of Bids at the same venue.** Bidders or their accredited agents could be present at the time of opening of bids.

9. PRICES.

For locally delivered items (including locally manufactured items & foreign items imported by the bidders) price must be quoted in Sri Lankan Rupees, inclusive of all charges for delivery of items to General Sir John Kotelawala Defence University Ratmalana, Faculty of Allied Health Science (FAHS) Werahera and University Hospital Werahera or Southern Campus Sooriyawewa. **Unit price, VAT and Total price should be clearly indicated in schedule in Annex "A".** Other than VAT, all other type of taxes (eg : NBT, BTT, etc.) should not be indicated separately and should be included in unit price.

10. RESTRICTED TENDERS.

Invitation to Bids are circulated among the registered suppliers with Ministry of Defence (MOD), only bids submitted by registered suppliers will be allowed for consideration. However, Chairman, Department Procurement Committee reserves the right to invite the bids from multiple combinations of Procurement Methods as stipulated in Chapter III of the Government Procurement Guideline, 2006 to ensure highest competitiveness.

11. PERFORMANCE BOND/GUARANTEE.

A successful bidder shall furnish a Performance Bond/Guarantee in the form of "On Demand" & "Unconditional" Bank/Insurance Guarantee for a sum equivalent to 10% of the contract value for every contract that exceeds Rs. 2,000,000.00 or equivalent amount in foreign currency through a recognized Commercial Bank registered in Sri Lanka or through an Insurance Company authorized by the Insurance Board of Sri Lanka to issue such Performance Guarantee for this purpose, **within two weeks from the date of notification of award.** The proceeds of the Performance Bond/Guarantee shall be payable to the Vice Chancellor of the General Sir John Kotelawala Defence University as compensation for any loss resulting from the supplier's failure to complete his performance obligations under the contract. If the contracted supplier fails to deliver the items on time or fails to complete the works as per the agreed contract, **THE TOTAL VALUE OF THE PERFORMANCE BOND/GUARANTEE** will be forfeited. If only partial delivery is made during the agreed contract period, the corresponding value percentage of undelivered quantity from the Performance Bond/Guarantee will be forfeited.

12. SIGNING OF CONTRACT.

The notification of award will be transmitted to the successful bidder by post, by fax or e-mail. This notification constitutes the formation of the contract. The successful bidder should submit his written acceptance for the award and performance bond / guarantee (For awards over Rs. 500,000.00 without VAT) within 14 days of receipt of such notification. Upon acceptance of the award and furnishing of the Performance Bond/Guarantee, the successful bidder will have to enter into a formal contract with the Vice Chancellor of the General Sir John Kotelawala Defence University by signing the Contract.

13. DELIVERY.

Preference will be given for early delivery. In case of bulk supplies for locally manufactured items, the delivery of **total quantity must be completed within 120 days of signing of contract,** unless mutually agreed for extended delivery period with General Sir John Kotelawala Defence University. **The bidder/s must indicate the proposed delivery schedule in Annex "D".** In the event of placing a purchase order with the successful bidder, the total quantity so ordered must be supplied as one consignment unless part deliveries are agreed upon in the contract. The deliveries not made as per agreed delivery schedule will be considered as bad performances by the suppliers and **no extended delivery period will be authorized.** Under extreme unavoidable conditions too, the Chairman, Department Procurement Committee (Vice Chancellor of the General Sir John Kotelawala Defence University) reserves the right to grant or refuse delivery period extensions only within the current financial year with or without liquidated claim for delayed deliveries and that decision will be final.

14. LIQUIDATED DAMAGES.

In case of delivery period extensions requested by the successful bidder, a sum equivalent to 1% of the total value of the delayed supply per delay of one week or part thereof may be deducted from the payment due to the supplier from the General Sir John Kotelawala Defence University as liquidated damages up to the maximum limit of 12% of the total value of delayed supplies.


15. PAYMENT TERMS FOR LOCALLY DELIVERED ITEMS.

Payment will be made after acceptance of items which should be subjected to a pre-acceptance inspection/testing by General Sir John Kotelawala Defence University authorities. The delivery made to the General Sir John Kotelawala Defence University should not be considered as quantities taken over by General Sir John Kotelawala Defence University until items are properly accepted after pre-acceptance inspection. Any item that does not conform to the specifications or already approved sample will be rejected & it is the responsibility of the supplier to remove them from General Sir John Kotelawala Defence University stores/premises within 07 working days of such intimation (either verbal or written) at his own cost and replace them with items conforming to specification within one month of such rejection. The bidder shall allow approximately 60-90 days' period of credit from the date of acceptance of items for Account Office, General Sir John Kotelawala Defence University to obtain liquid cash from General Treasury & release the payment.

16. RIGHTS OF THE PROCUREMENT COMMITTEE.

The Department Procurement Committee reserve the right to accept or reject whole or part of this tender and their decision will be final. The successful bidders will be notified. Information with regard to rejected or unsuccessful bids will not be communicated.

Thanking You,
Yours faithfully,


SA Kumaranayaka
For Vice Chancellor
General Sir John Kotelawala Defence University

I/We agree to abide by the conditions of tender and undertake to supply the items as per delivery schedule mentioned in the contract, in the event of an order been placed with me/my firm/company as a result of this tender.

..... Signature

..... Name of Signatory

.....Name of the Company/Bidder

Date :-

Company seal

SCHEDULE OF PRICES FOR LOCALLY DELIVERED ITEMS

| S/N | ITEMS | DENO | QTY | PRICE EACH SLRS | TOTAL PRICE SLRS |
|-----|---|------|-----|-----------------|------------------|
| | <u>PURCHASE OF LAB EQUIPMENTS FOR FOT</u> | | | | |
| 01 | Bernoulli's Theorem Demonstration Apparatus | No's | 1 | | |
| 02 | EEG Simulator | No's | 1 | | |
| 03 | Bio potential Amplifier | No's | 1 | | |
| 04 | Basic Electronic Component kit for NIELVIS III | No's | 2 | | |
| 05 | Power Electronic Board | No's | 1 | | |
| 06 | Digital System Development Board | No's | 1 | | |
| 07 | Quanser Mechatronics Systems Board for NI ELVIS III | No's | 2 | | |
| 08 | Logic Analyzer | No's | 10 | | |
| 09 | Electrical Machines DC Machines | No's | 1 | | |
| 10 | Single and Three Phase transformers | No's | 1 | | |
| 11 | Asynchronous Machines | No's | 1 | | |
| 12 | Maxwell's Bridge Kit | No's | 2 | | |
| 13 | Anderson's Bridge Kit | No's | 2 | | |
| 14 | Schering's Bridge Kit | No's | 2 | | |
| 15 | Wheatstone Bridge Kit | No's | 2 | | |
| 16 | Retort stand, boss , clamp | No's | 10 | | |
| 17 | Hooke's Law Set | No's | 5 | | |
| 18 | Longitudinal Expansion Apparatus | No's | 3 | | |
| 19 | Optical Bench Experiment Kit | No's | 3 | | |
| | <i>Specification Attached</i> | | | | |
| | TOTAL | | | | |
| | DISCOUNT | | | | |
| | TOTAL(AFTER DISCOUNT) | | | | |
| | VAT % | | | | |
| | GRAND TOTAL | | | | |

(A) OTHER DETAILS

- (i) DELIVERY PERIOD -
- (ii) MAKE & MODEL -
- (iii) VALIDITY PERIOD -
- (iv) WARRANTY PERIOD -
- (v) PAYMENT TERMS - **CREDIT**
- (vi) COUNTRY OF ORIGIN -
- (vii) DISCOUNT IF ANY -
- (viii) ANY OTHER TAXES -

(B) VAT DETAILS

- VALUE ADDED TAX PERMANENT REGISTRATION CERTIFICATE / VAT EXEMPTION LETTER ISSUED BY DEPARTMENT OF INLAND REVENUE TO BE ATTACHED

(C) PLACE OF DELIVERY

- ITEMS TO BE DELIVERED TO THE "GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY, KANDAWALA STATE, RATMALANA ALONG WITH THE COPY OF ORDER AND RELEVANT INVOICE.

(D) Any queries / information with regard to this procurement / tender could be obtained from Officer Commanding Logistics Services office at General Sir John Kotelawala during working hours.

NOTE: UNIT PRICE AND TOTAL PRICE ARE TO BE INDICATED CLEARLY IN THE TENDER, IF NOT QUOTATION WILL BE REJECTED.

- SUPPLIER NAME -
- ADDRESS -
- CONTACT NUMBER -
- E MAIL ADDRESS -



(E) Bid Reference: KDU/PRO/CAP/ 154/2022

.....
DATE

Technical Specifications

Bernoulli's Theorem Demonstration Apparatus

Item Code: KDU – Bernoulli's Theorem Demonstration Apparatus

Description- Bernoulli's Theorem Demonstration

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|---------------------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Technical specification <ol style="list-style-type: none"> i. 0.5 KW, 220V AC ii. Mild Steel material, Single Phase iii. Manometer range: 0 to 300 mm of water. iv. Number of manometer tubes: 8. v. Upstream diameter of the throat: 25 mm. vi. Narrowing: Downstream: 21°, Upstream: 10°. vii. Electric shock protection – Class I | C C C C C C C | | | | |
| 2. | General specification <ul style="list-style-type: none"> • Venturi section machined from clear acrylic • Seven static pressure tappings plus a total head measurement • Flow control valve • Manometer board with eight tubes • Quick release fitting for easy connection to hydraulics bench | C C C C C | | | | |
| 3. | Warranty, Services Agreements and Documentation <ol style="list-style-type: none"> i. All sub items described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. iii. Spares / replaceable items required for the system must be guaranteed for supply over a period of 3 years from the date of commissioning. The price list for such items over a period of 3 years from the date of commissioning should be made available. iv. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU. v. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. | C C C C O | | | | |

Make & Model:

Country of Manufacture:

Relevant catalogues & technical information attached.

Technical Specifications

EEG simulator

Item Code: KDU – EEG simulator

Description- To test EEG instruments signals

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 |
|----|--|----------------------------------|------------------------|--------------------------|-----------------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ |
| | | Priori ty² | Conformi ty | Proof⁴ | Remarks³ |
| 1. | General Specifications <ul style="list-style-type: none"> i. ABR waveform: 1 KHz, 0.64 μV ii. Spike waveform, Sine, Square, and Triangle iii. Amplitudes 10, 30, 50, 100, 500 μV and 1, 2, 2.5 mV iv. Frequencies 0.1, 0.5, 2, 50, and 60 Hz | } | C | | |
| 2. | Components The unit shall consist of: <ul style="list-style-type: none"> i. 330 EEG Simulator ii. 9V Battery iii. AC Adapter - 180-240V, 50Hz iv. Hard Carrying Case v. User Manual | } | C | | |
| 3. | Warranty, Services Agreements and Documentation <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment. ii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. iii. Spares / replaceable items required for the system must be guaranteed for supply over a period of 3 years from the date of installation. The price list for such items over a period of 3 years from the date of installation should be made available. iv. A sample unit must be available for demonstration and performance evaluation at the request of TEC. v. Prospective suppliers must provide documentary evidence of their previous experience with similar units installed in Sri Lanka as well as evidence of the reliability of after-sales services provided. vi. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU. vii. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. | C | C | C | O |

Make & Model:

Country of Manufacture:

Technical Specifications

Biopotential Amplifier unit

Item Code: KDU – Biopotential Amplifier unit

Description- To be used to gather and increase the signal integrity of electrical activity for output to various sources. It may be an independent unit, or integrated into the electrodes.

Quantity - 1

| 1 | 2 | 3 | 4 | | 5 | 6 |
|----|--|------------------------------|-------------------|-----------|--------------------------|-----------------------------------|
| | KDU Requirements | | | | | Bidder's Offer¹ |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | General Specifications <ul style="list-style-type: none"> i. Two channel; gain ×1-×5000; Low and High pass filters ii. Operational Modes: Bridge, Biopotential (ECG, EMG, EEG) iii. Gain: x1, x5, x10, x100, x500, x1k, x5k iv. Transducer Excitation Voltage: +5V and -5V v. Power: 12 VAC wall adapter | } c | | | | |
| 2. | Warranty, Services Agreements and Documentation <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A sample unit must be available for demonstration and performance evaluation at the request of TEC. iii. The successful bidder shall also commission the equipment at Faculty of Technology KDU. iv. Training should be provided to end users in respect of | C C C O | | | | |

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|--|--|--|--|--|--|--|
| | operation, handling and maintenance of equipment supplied. | | | | | |
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Make & Model:
Country of Manufacture:

Technical Specifications

Electronics Basic Components Kit for NI ELVIS

Item Code: KDU – Electronics Basic Components Kit for NI ELVIS

Description- 786513-01 Electronics Basic Components Kit for NI ELVIS - Hands-on experience in an analog electronics course

Quantity - 2

| 1 | 2 | 3 | 4 | | 5 | 6 |
|----|---|-----------------------------|-------------------|-----------|--------------------------|----------------------------------|
| | KDU Requirements | | | | | Bidders Offer¹ |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Components The unit shall consist of: <ul style="list-style-type: none"> i. Diodes - Zener diode: 1N4735 Small signal, diode: 1N3064, Fast switching, diode: 1N914B, 1A Schottky, diode: 1N5819, 1A rectifier diode: 1N4001, Infrared receiver diode, Infrared emitter diode ii. Potentiometers - 3/4 W, 1 kΩ, ±10%: 3006P-102, 3/4 W, 10 kΩ, ±10%: 3006P-103, 3/4 W, 100 kΩ,, ±10%: 3006P-104 iii. Capacitors - 39 pF (x2), 100 pF (x2), 1 nF (x2), 2.2 | C | | | | |

| | | | | | | |
|----|--|---|---|---|---|---|
| | <p>nF (x2), 4.7 nF (x2), 10 nF (x4), 47 nF (x2), 100 nF (x2)</p> <p>iv. Resistors</p> <p>v. OpAmps.- Op-amp: TL072CP, Op-amp: TL074CN, Op-amp: LF356, Op-amp: LM741C, Instrumentation Amp:, INA217, Comparator: LM311P</p> | | | | | |
| 2. | <p>Warranty, Services Agreements and Documentation</p> <p>i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories.</p> <p>ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period.</p> <p style="padding-left: 20px;">a. 1st & 2nd year : Warranty period</p> <p style="padding-left: 20px;">b. 3rd to 5th year: Labour only contract</p> <p style="padding-left: 20px;">c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning.</p> <p>iv. Prospective suppliers must provide documentary evidence of their previous experience with similar units installed in Sri Lanka as well as evidence of the reliability of after-sales services provided.</p> <p>v. The successful bidder shall also commission the equipment at Faculty of Technology KDU.</p> <p>vi. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied.</p> | C | O | C | C | C |

Make & Model:

Country of Manufacture:

Technical Specifications

Power Electronics Board

Item Code: KDU – Power Electronics Board

Description- 786514-01 TI Power Electronics Board for NI ELVIS III

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|--|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | <p>Components</p> <p>The unit shall consist of:</p> <ul style="list-style-type: none"> i. MOSFET switching ii. Buck converters iii. Error amplification iv. Inverters v. AC-DC converters vi. Transformers | <p>} C</p> | | | | |
| 2. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period b. 3rd to 5th year: Labour only contract c. 6th to 10th Year: Comprehensive maintenance contract iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available | <p>C</p> <p>C</p> <p>O</p> | | | | |

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|--|--|---|--|--|--|--|
| | <p>in duplicate at the time of installation and commissioning.</p> <p>iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>v. If the equipment supplied needs any special type of power supply (eg: UPS) cost of such items to be indicated separately but include in the total cost.</p> <p>vi. A sample unit must be available for demonstration and performance evaluation at the request of TEC.</p> <p>vii. Prospective suppliers must provide documentary evidence of their previous experience with similar units installed in Sri Lanka as well as evidence of the reliability of after-sales services provided.</p> <p>viii. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU.</p> <p>ix. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied.</p> | C | | | | |
| | | C | | | | |
| | | C | | | | |
| | | C | | | | |
| | | C | | | | |
| | | C | | | | |

Digital System Development Board

Item Code: KDU – Digital System Development Board

Description- 784972-01 NI Digital System Development Board (DSDB)

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 | |
|------------------|--|-----------------------|------------|----|-----------------------------|----------------------|
| KDU Requirements | | | | | Bidder's Offer ¹ | |
| | | Priority ² | Conformity | | Proof ⁴ | Remarks ³ |
| | | | Yes | No | | |
| 1. | <p>Components</p> <p>The unit shall consist of:</p> <ul style="list-style-type: none"> i. Audio codec in and out jacks ii. Headphone and microphone jacks iii. VGA connector iv. HDMI v. Ethernet RJ-45 connector vi. MicroSD port vii. 3 PMOD connectors viii. 8 LEDs ix. 8 slide switches x. 4 push buttons xi. Capacitive touchscreen xii. OLED 12 × 32 monochrome display xiii. 4-digits 7-segments LEDs xiv. MXP expansion connector xv. USB HID xvi. Breadboard | C | | | | |
| 2. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period b. 3rd to 5th year: Labour only contract c. 6th to 10th Year: Comprehensive | C | | | | |
| | | O | | | | |
| | | C | | | | |

| | | | | | |
|--|--|---|--|--|--|
| | maintenance contract | | | | |
| | iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. | O | | | |
| | iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available. | C | | | |
| | v. If the equipment supplied needs any special type of power supply (eg: UPS) cost of such items to be indicated separately but include in the total cost. | C | | | |
| | vi. A sample unit must be available for demonstration and performance evaluation at the request of TEC. | C | | | |
| | vii. Prospective suppliers must provide documentary evidence of their previous experience with similar units installed in Sri Lanka as well as evidence of the reliability of after-sales services provided. | C | | | |
| | viii. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU. | | | | |
| | ix. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. | | | | |

Technical Specifications

Mechatronic sensor board

Item Code: KDU – Quanser Mechatronics Systems Board for NI ELVIS III

Description- Mechatronic Sensors Board to demonstrate various sensors that measure pressure, strain, temperature, contact, distance, angular displacement, and dynamics. The system board is compatible with NI ELVIS III.

Quantity - 2

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|--|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | <p>Components</p> <p>The unit shall consist of:</p> <ul style="list-style-type: none"> i. Pressure transducer ii. Thermistor iii. Ultrasonic distance iv. Potentiometer v. Time-of-Flight sensor vi. Infrared proximity sensor vii. Snap-action switch viii. Strain gage ix. IMU: 3-axis gyro, 3-axis accelerometer, 3-axis magnetometer, x. Capacitive touch sensors: 9 segment scroll pad, 2 single-touch buttons xi. Encoder: Quadrature (A and B signals) | C | | | | |
| 2. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period | C | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| | <p>b. 3rd to 5th year: Labour only contract</p> <p>c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning.</p> <p>iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>v. If the equipment supplied needs any special type of power supply (eg: UPS) cost of such items to be indicated separately but include in the total cost.</p> <p>vi. A sample unit must be available for demonstration and performance evaluation at the request of TEC.</p> <p>vii. Prospective suppliers must provide documentary evidence of their previous experience with similar units installed in Sri Lanka as well as evidence of the reliability of after-sales services provided.</p> <p>viii. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU.</p> <p>ix. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied.</p> | <p>C</p> <p>O</p> <p>C</p> <p>C</p> <p>C</p> <p>C</p> <p>C</p> | | | | |
|--|--|--|--|--|--|--|

Technical Specifications

Logic Analyzer

Item Code: KDU – Logic Analyzer

Description- 8 channel logic analyzer

Quantity - 10

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Characteristics <ul style="list-style-type: none"> i. Sampling rate up to 24MHz, configurable down to 20kHz ii. 5.25V maximum voltage input iii. 2.0V minimum logic-high iv. 0.8V maximum logic-low v. Input impedance > 100kΩ, 5pF vi. USB power supply | } C | | | | |
| 2. | Warranty, Services Agreements and Documentation <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. The technology manuals having full details of installation, operations and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. iii. A sample unit must be available for demonstration and performance evaluation at the request of TEC. iv. The successful bidder shall also commission the equipment at Faculty of Technology KDU. v. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. | } C C O C O | | | | |

Make & Model:

Country of Manufacture:

Relevant catalogues & technical information attached.

Information given under "Bidder's Offer" is true and correct.

Bidder's Name, signature & Date

Company seal

¹ Bidder shall fill in Col. 4, 5 & 6

² Purchaser will mark C for critical requirements and O for optional requirements.

³ If the bidder has marked No for Conformity, bidder shall provide information in this column of his offer against the clause concerned in col. 2 (Purchaser's requirements). If the bidder has marked Yes, Bidder has the option of providing additional information to establish that it conforms to the specification given

⁴ Bidder shall include proof to support the conformity of the specification e.g. document and the page number in the original user/service manual mentioning the specification.

Technical Specifications

Electrical machines DC Machines

Item Code: KDU – Electrical machines DC Machines

Description- Course Computer-based training and experimentation system

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|-------------------------|-----------------------------|-------------------|--------------------------|-----------------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ |
| | | Priority² | Conformity | Proof⁴ | Remarks³ |

| | | | Yes | No | | |
|----|--|-------------------------------------|-----|----|--|--|
| 1. | <p>Components</p> <ul style="list-style-type: none"> i. 1 Experiment card with open, 2-pole stator and 2 exciter windings, temperature sensor with voltage source, starting and load resistors ii. Rotor with adjustable brushes iii. Stroboscope with extra-bright LED iv. browser and course software | <p>C</p> <p>C</p> <p>C</p> <p>C</p> | | | | |
| 2. | <p>Course contents:</p> <ul style="list-style-type: none"> i. Identifying the most common applications for DC machines ii. Explanation of electromagnetic induction and the Lorentz force iii. Explanation of design and function of commutated machines (DC machines) iv. Introduction to the key components of commutated machines, stator, commutator and carbon brushes v. Measurement of current and voltage in armature and exciter and determining the armature and exciter impedances vi. Interpreting a rating plate vii. Introduction to circuit diagrams and characteristics for various types of connection: series, shunt and compound windings viii. Connection and operation of DC machines in various operating modes ix. Speed measurement using a stroboscope x. Introduction to various types of speed regulation and reversal: field weakening, modification by means of armature and field resistors xi. Experimental investigation of various methods for controlling speed and direction of rotation xii. Connection and operation of commutated machines with AC voltages: universal motors xiii. Introduction to methods of braking DC machines xiv. Measurement of current and voltage when braking DC machines xv. Explain the importance of temperature monitoring for electrical machines xvi. Temperature measurement in the exciter winding when a machine is running using a semiconductor sensor | <p>C</p> | | | | |
| 3. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing | <p>C</p> | | | | |

| | | | | | | |
|--|---|---|--|--|--|--|
| | <p>process, workmanship and all accessories.</p> <p>ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period.</p> <p>a. 1st & 2nd year : Warranty period</p> <p>b. 3rd to 5th year: Labour only contract</p> <p>c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The successful bidder shall also commission the equipment at Faculty of Technology KDU.</p> <p>iv. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. .</p> | O | | | | |
| | | C | | | | |
| | | O | | | | |

Technical Specifications

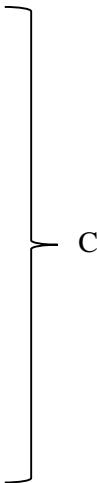
Single and three phase transformers

Item Code: KDU – Single and three phase transformers

Description- Course for Computer-based training and experimentation system

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 |
|----|---|-----------------------------|-------------------|-----------|-----------------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ |
| | | Priority² | Conformity | | Proof⁴ |
| | | | Yes | No | Remarks³ |
| 1. | <p>Components</p> <p>The unit shall consist of:</p> <p>1 Experiment card with three-phase transformer, with 12 windings and tapings for study of single phase and three phase transformers and transformer circuits, three-phase load, useable for star and delta connection</p> | } C | | | |

| | | | | | | |
|----|--|--|--|--|--|--|
| 2. | <p>Course contents</p> <ul style="list-style-type: none"> i. Principles of transformers ii. Study of load characteristics of single and three phase transformers iii. Measurement of current and voltage under load / no-load conditions iv. Study of the transformation ratio v. Equivalent circuit diagram vi. Study of three-phase transformers vii. Study of various three-phase transformer circuits and their effects on load / no-load operation viii. Study of various circuits with unbalanced load ix. Determination of short circuit voltage |  | | | | |
| 3. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period b. 3rd to 5th year: Labour only contract c. 6th to 10th Year: Comprehensive maintenance contract iii. The successful bidder shall also commission the equipment at Faculty of Technology KDU. iv. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. . | <p>C</p> <p>O</p> <p>C</p> <p>C</p> | | | | |

Make & Model:

Country of Manufacture:

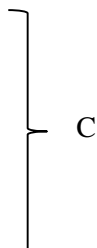
Technical Specifications

Asynchronous Machines

Item Code: KDU – Asynchronous Machines

Description- Course for Computer-based training and experimentation system

Quantity - 1

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|--|--|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | <p>Components</p> <ul style="list-style-type: none"> i. 1 Experiment card with stator and three-phase winding, run-up and operating capacitor and temperature sensor with constant current source ii. 3 Rotors: squirrel-cage, permanent-magnet, rotor with open winding iii. Stroboscope with extra-bright LED iv. browser and course software |  | | | | |
| 2. | <p>Course contents:</p> <ul style="list-style-type: none"> i. Identifying the most common applications of rotating field machines ii. Explanation of the principles of electromagnetic induction iii. Explanation of the design and function of rotating | | | | | |

| | | | | | |
|----|---|---|--|--|---|
| | <p>field machines</p> <ul style="list-style-type: none"> iv. Explanation of the differences between motor and generator operation v. Introduction to the key components of a rotating field machine, the rotor and stator vi. Experimental demonstration of how torque arises and of the generator principle vii. Creation of a rotating magnetic field by rotating field machines: experimental demonstration of a rotating magnetic field in the stator viii. Introduction to the principle of a 3-phase transformer ix. Investigation by measurement of three-phase machines in star and delta configurations. x. Measurement of phase-to-phase and line-to-line voltage and current xi. Measurement of rotor voltage and current xii. Interpreting a rating plate xiii. Nominal data and characteristic parameters, power factor, pole-pairs, torque, speed and slip xiv. Design and function of asynchronous machines xv. Investigation of a squirrel-cage rotor, frequency response characteristics, reversal of rotation xvi. Investigation by measurement of the operating response of a synchronous machine with a permanent magnet rotor xvii. Introduction to the principle of a capacitor motor (Steinmetz circuit) xviii. Investigation by measurement of the operating response of a capacitor motor xix. Explanation of the importance of temperature monitoring in electrical machines xx. Measurement of winding temperature in running machines xxi. Fault simulation (4 simulated faults activated by relay) | | | | |
| 3. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 3 years from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period b. 3rd to 5th year: Labour only contract c. 6th to 10th Year: Comprehensive maintenance contract | C | | | O |

| | | | | | | |
|--|--|---|--|--|--|--|
| | iii. The successful bidder shall also commission the equipment at Faculty of Technology KDU. | C | | | | |
| | iv. Training should be provided to end users in respect of operation, handling and maintenance of equipment supplied. . | O | | | | |

Make & Model:

Country of Manufacture:

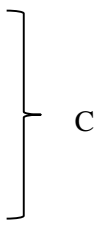
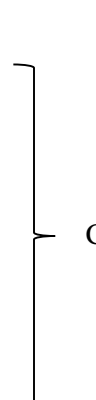
Technical Specifications

Maxwell’s Bridge Kit

Item Code: KDU – Maxwell’s Bridge Kit

Description- maxwell bridge for measurement of unknown inductance & capacitance

Quantity - 2

| 1 | 2 | 3 | 4 | | 5 | 6 |
|----|---|---|-------------------|-----------|--------------------------|-----------------------------------|
| | KDU Requirements | | | | | Bidder’s Offer¹ |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Electrical characteristics i. Mains: A 240V +/- 10%, 50Hz electrical source ii. Input Voltage 15V dC iii. Output Frequency 1kHz iv. Output Voltage 2V – 5V AC v. Output Current 0.5 Amps vi. Electrical shock protection – Class I vii. IEC 60320 connectors |  | | | | |
| 2. | Components i. Built in DC power supply ii. Inbuilt AC signal Source iii. Power ON indicator switch iv. Application Bridge on screen printed front panel display v. Set of resistors vi. Set of capacitors vii. Set of unknown inductors viii. Variable Resistors (POT) |  | | | | |

| | | | | | | |
|----|---|---|---|---|---|---|
| | | | | | | |
| 3. | <p>Warranty, Services Agreements and Documentation</p> <p>i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories.</p> <p>ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period.</p> <p style="padding-left: 20px;">a. 1st & 2nd year : Warranty period</p> <p style="padding-left: 20px;">b. 3rd to 5th year: Labour only contract</p> <p style="padding-left: 20px;">c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning.</p> <p>iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>v. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU.</p> | C | O | C | O | C |

Make & Model:

Country of Manufacture:

Technical Specifications

Anderson's Bridge Kit

Item Code: KDU – Anderson's Bridge Kit

Description- Anderson Bridge Trainer Kit

Quantity - 2

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|--|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Electrical characteristics <ul style="list-style-type: none"> i. Mains: A 240V +/- 10%, 50Hz electrical source ii. Input Voltage :15V dC iii. Output Current :0.5 Amps iv. Output Voltage :2V AC v. Output Frequency:1kHz vi. Electrical shock protection – Class I vii. IEC 60320 connectors | <ul style="list-style-type: none"> C C C C C C C | | | | |
| 2. | Components The unit shall consist of: <ul style="list-style-type: none"> i. Built - in DC regulated power supply ii. Power ON indicator switch iii. Built-in 1KHz oscillator iv. Built - in imbalance amplifier v. Head - phone set for sensitive detection vi. Built - in variable arms and multiplier vii. Test points at various stages in the circuit to observe waveforms and voltages. viii. One 1 KHz oscillator of fixed amplitude to feed the input to the bridge. | <ul style="list-style-type: none"> C C C C C C C C | | | | |

| | | | | | | |
|----|--|---|---|---|---|---|
| | | | | | | |
| 3. | <p>Warranty, Services Agreements and Documentation</p> <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period. <ul style="list-style-type: none"> a. 1st & 2nd year : Warranty period b. 3rd to 5th year: Labour only contract c. 6th to 10th Year: Comprehensive maintenance contract iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available. v. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU. | C | O | C | O | C |

Make & Model:

Country of Manufacture:

Technical Specifications

Schering's Bridge Kit

Item Code: KDU – Schering's Bridge Kit

Description- Schering's Bridge trainer kit

Quantity - 2

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Electrical characteristics <ul style="list-style-type: none"> i. Mains 230 V - 50 Hz ii. Accurate resistances, stabilized & adjusted at +/- 0.02% iii. Time constant: 10×10^{-9} second iv. Internal shunts (S) - Admissible current inside bridge v. Accurate resistances, same type than R4 vi. Admissible capacitive current inside whole bridge: 30 mA vii. Over, internal shunts for currents up to 6 A viii. Electrical shock protection – Class I ix. IEC 60320 connectors | } C | | | | |
| 2. | Measuring ranges: <ul style="list-style-type: none"> i. Voltage 0 to 999.99 kV → 5 digits ii. Frequency 45.00 à 65.00 Hz → 4 digits iii. Current 0 - 6 A (+ with ext. shunts) → 4 digits iv. Capacitance 0,016xCn up to 80000xCn & +→ 5 digits v. Tan δ 1×10^{-6} up to 1 (more on request) → 7 digits vi. Cos ϕ 0 - 1.000 → 4 digits vii. P active 0-999.99 kW → 5 digits | } C | | | | |
| 3. | Warranty, Services Agreements and Documentation <ul style="list-style-type: none"> i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment | } C | | | | |

| | | | | | | |
|--|---|-------------------------------------|--|--|--|--|
| | <p>including for any defect in manufacturing process, workmanship and all accessories.</p> <p>ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period.</p> <p>a. 1st & 2nd year : Warranty period</p> <p>b. 3rd to 5th year: Labour only contract</p> <p>c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning.</p> <p>iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>v. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU.</p> | <p>O</p> <p>C</p> <p>O</p> <p>C</p> | | | | |
|--|---|-------------------------------------|--|--|--|--|

Make & Model:

Country of Manufacture:

Technical Specifications

Wheatstone Bridge Kit

Item Code: KDU – Wheatstone Bridge Kit

Description- Wheatstone Bridge trainer Kit

Quantity - 2

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|--|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Electrical characteristics <ul style="list-style-type: none"> i. A 240V +/- 10%, 50Hz electrical source ii. Protection against over-voltage and over-current line conditions. iii. Electric shock protection – Class I iv. IEC 60320 connectors | } C | | | | |
| 2. | Components The unit shall consist of: <ul style="list-style-type: none"> i. Built in sensitive Galvanometer – sensitivity 0.9 μA/div, Internal resistance – Approx. 150Ω, External Critical Damping resistance – Approx. 800Ω, Period – within 1,5 seconds, Three 1.5V batteries (built-in) ii. A built-in battery iii. 7 range multipliers of X1000, X100, X10, X1, X0.1, X0.01 and X0.001 iv. 4 decades of 10\times1, 10\times10, 10\times100 and 10\times1000 Ω v. Range of measurement: 1 Ω & 10 MΩ vi. Measuring arm: 1 Ω \times10 + 10 Ω \times10+ 100 Ω \times10 + 1000 Ω \times10 (4 dials) | C | | | | |

| | | | | | | |
|----|--|---|--|--|--|--|
| 2. | <p>Warranty, Services Agreements and Documentation</p> <p>i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories.</p> <p>ii. A Labour-only service contract for a 03 year period and Comprehensive Maintenance Contract (CMC) amount for the whole equipment including installation material for another 5 years should be quoted as per schedule given below after 02 year warranty period.</p> <p style="padding-left: 20px;">a. 1st & 2nd year : Warranty period</p> <p style="padding-left: 20px;">b. 3rd to 5th year: Labour only contract</p> <p style="padding-left: 20px;">c. 6th to 10th Year: Comprehensive maintenance contract</p> <p>iii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning.</p> <p>iv. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>v. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU</p> | C | | | | |
| | | O | | | | |
| | | C | | | | |
| | | O | | | | |
| | | C | | | | |

Make & Model:

Country of Manufacture:

Retort stand, boss, and clamp

Item Code: KDU – Retort stand, boss, and clamp

Description- Stainless steel set

Quantity - 10

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|--|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Components The unit shall consists of: i. Stainless steel ii. Retort clamp iii. Boss head | C C C | | | | |

Make & Model:

Country of Manufacture:

Technical Specifications

Hooke's Law Set

Item Code: KDU – Hooke's Law Set

Description- Spring set with Different spring constants

Quantity - 5

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | <p>Components</p> <p>The unit shall consists of:</p> <p>Spring set with Different spring constants with hooked mass set (2 × 5 g, 1 × 10 g, 3 × 20 g)</p> | C | | | | |
| 2. | <p>Warranty, Services Agreements and Documentation</p> <p>i. All components and modules described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories.</p> <p>ii. The successful bidder shall also commission the equipment at Faculty of Technology KDU.</p> | C C | | | | |

Make & Model:

Country of Manufacture:

Technical Specifications

Longitudinal Expansion Apparatus

Item Code: KDU – Longitudinal Expansion Apparatus

Description- For measuring the coefficient of linear expansion of tubes as a function of material, length and temperature.

Quantity - 3

| 1 | 2 | 3 | 4 | 5 | 6 | |
|----|---|-----------------------------|-------------------|-----------|-----------------------------------|----------------------------|
| | KDU Requirements | | | | Bidder's Offer¹ | |
| | | Priority² | Conformity | | Proof⁴ | Remarks³ |
| | | | Yes | No | | |
| 1. | Specifications i. Tubes: Material: steel, brass, glass Length: 65 cm approx. Diameter: 7 mm ii. Effective length of samples: 20/40/60 cm iii. Measuring range: 1 mm iv. Precision: 0.05 mm | } } C } | | | | |
| 2. | Warranty, Services Agreements and Documentation i. All sub items described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories. ii. The technology manuals having full details of installation, operations, service and maintenance in the English language must be made available in duplicate at the time of installation and commissioning. iii. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available. | O C O | | | | |

Make & Model:

Country of Manufacture:

Technical Specifications

Optical bench

Item Code: KDU – Optical bench experiment kit

Description- To perform experiments in optics.

Quantity - 3

| 1 | 2 | 3 | 4 | 5 | 6 |
|----|---|---|--|--------------------------|--|
| | <p>KDU Requirements</p> | | | | <p>Bidder's Offer¹</p> |
| 1. | <p>Specifications</p> <p>Material – Stainless steel Accuracy 0.1mm Length - 1.5 m</p> | <p>Prio rity²</p> <p>C C C</p> | <p>Confor mity</p> <p>Yes N o</p> | <p>Proof⁴</p> | <p>Remarks³</p> |
| | <p>Components</p> <ol style="list-style-type: none"> 1. Optical bench <ol style="list-style-type: none"> a. 1.2m or more in length b. stainless steel or aluminium c. Accuracy 0.1 mm or more 2. 8 riders or more with tightening screw. Shall be able to mount with the optical bench 3. 1 lamp housed with halogen bulb. Shall be able to mount in optical bench <ol style="list-style-type: none"> a. 12 Volt, 24 Watt b. Power supply 220-240 VAC/50Hz 4. 6 Lens Holders for 50mm dia. Lenses. Shall be able to mount in the optical bench 5. +10cm,+20cm,+50cm Biconvex lenses. 6. -20cm Biconcave lens 7. Set of diaphragms including <ol style="list-style-type: none"> a. Single slit diaphragm b. Arrow head diaphragm 8. Plain mirror 100 x 100mm or better 9. Translucent screen 100 x 100mm 10. Transparent screen 100 x 100mm 11. white object screen 100 x 100mm 12. Object Needle Mounted | <p>C</p> | <p>C</p> | | |

| | | | | | | |
|----|---|---|--|--|--|--|
| 2. | <p>i. Warranty, Services Agreements and Documentation</p> <p>ii. All sub items described in this schedule should be covered by a warranty for a period of not less than 24 calendar months from the date of successful commissioning of the equipment including for any defect in manufacturing process, workmanship and all accessories.</p> <p>iii. Spares / replaceable items/ consumables required for the system must be guaranteed for supply over a period of 10 years from the date of installation. The price list for such items over a period of 10 years from the date of installation should be made available.</p> <p>iv. The successful bidder shall also install and commission the equipment at Faculty of Technology KDU.</p> | C | | | | |
| | | O | | | | |
| | | O | | | | |

Make & Model:

Country of Manufacture:

Relevant catalogues & technical information attached.

Information given under “Bidder’s Offer” is true and correct.

Bidder’s Name, signature & Date

Company seal

¹ Bidder shall fill in Col. 4, 5 & 6

² Purchaser will mark C for critical requirements and O for optional requirements.

³ If the bidder has marked No for Conformity, bidder shall provide information in this column of his offer against the clause concerned in col. 2 (Purchaser’s requirements). If the bidder has marked Yes, Bidder has the option of providing additional information to establish that it conforms to the specification given

⁴ Bidder shall include proof to support the conformity of the specification e.g. document and the page number in the original user/service manual mentioning the specification.

ANNEX “C”

SPECIMEN FORM OF BID SECURITY

By this Bond we(hereinafter called “the Bidder”) and We (name of bank or insurance company) whose registered office is at..... (hereinafter called “the Surety”) are held and firmly bound onto (hereinafter called the Authority”) in the sum of for the payment of which sum the Bidder and the Surety bind themselves their successors and assigns jointly and severally by those presents.

Whereas the authority has invited the Tender and other persons to compete tenders in similar terms for the supply of and to

submit the same for the consideration of the Authority, and the Bidder proposes to submit to the Authority a Bid (hereafter called "the Bid") in accordance with such invitation, the Bond shall provide security to the Authority that the Bidder will honour certain obligations to be undertaken by him in the Tender in accordance with the following conditions.

Now the Conditions of this Bond are:

- (a) That it shall remain in full force and effect until the earliest of
 - (i) (Date), being () days from (submission date), the date stipulated by the Authority for the submission of tenders, or any prolongation of such date above notified to the Authority by the Bidder and the Surety in writing.
 - (ii) In the event of acceptance of the Tender by the Authority, the date upon which the Bidder provides a performance security to the Authority in accordance with the terms of the contract thereby made between them, or
- (b) Subject to this Bond being in full force and effect, the Surety shall pay the full amount specified in this Bond upon receipt of first written demand form the Authority stating that.
 - (i) The Bidder has withdrawn his Tender during the validity of this Bond, or
 - (ii) The Bidder has failed to provide a performance security to the Authority in accordance with the terms of the tender within 14 days from receipt of intimation of award of the Tender.

No alteration in the terms of the Tender, nor any forbearance of forgiveness in or in respect of neither any matter or thing concerning the Tender on the part of the Authority, nor any objection from the bidder shall in any way release the Surety from any liability under this Bond.

The benefit of this Bond shall not be assignable by the Authority and upon its ceasing to be in full force and effect the Authority shall return the same to the Bidder.

This Bond shall be governed by the laws of Sri Lanka

I executed as a deed on this () day of () 20 ()

For and on behalf of the Bidder

For and on behalf of the Surety

Signed by.....

Signed by

In the capacity of -----

In the capacity of -----

and by.....

and by

In the capacity of -----

In the capacity of -----

Seal (where applicable)

Seal (where applicable)

DELIVERY SCHEDULE

(IT IS MANDATORY TO FILL THE FOLLOWING SCHEDULE BY THE BIDDER)

TENDER NO :

ITEM :

QTY :

| DURATION | QTY |
|-------------------------------|-----|
| EX STOCK QTY (WITHIN 01 WEEK) | |
| 01MONTH | |
| 02 MONTHS | |
| 03 MONTHS | |
| 04 MONTHS | |
| TOTAL | |

NAME OF THE BIDDER :

SIGNATURE OF BIDDER :

DATE :

COMPANY SEAL :