

## INVITATION FOR QUOTATION

TEQIP-II/2015/GJ1G07/Shopping/62

18-Mar-2015

### Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	ADVANCE ELECTRONICS WORKBENCH	2	90	GOVERNMENT ENGINEERING COLLEGE, SECTOR-28, GANDHINAGAR. GUJARAT PIN-382028	YES

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase II** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,
  - 3.1 The contract shall be for the full quantity as described above.
  - 3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
  - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
  - 3.4 Applicable taxes shall be quoted separately for all items.
  - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
  - 3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **55** days after the last date of quotation submission.
6. Evaluation of Quotations,  
The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
  - 6.1 are properly signed ; and
  - 6.2 confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract:  
The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
  - 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
  - 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:  
**Delivery and Installation - 0% of total cost**  
**Satisfactory Acceptance - 100% of total cost**
10. All supplied items are under warranty of **36** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **15:00** hours on **07-Apr-2015** .
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Training and demonstration should be provided as per the requirements after successful installation at the institute.**
14. Testing/Installation Clause (if any) **SUCCESSFUL INSTALLATION & SATISFACTORY PERFORMANCE.**

15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,  
Government Engineering College Nr. Animal Vaccine Institute Sector-28 Gandhinagar
17. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

**Annexure I**

<b>Sr. No</b>	<b>Item Name</b>	<b>Specifications</b>
1	ADVANCE ELECTRONICS WORKBENCH	As per Annexure

## Annexure

### Specifications for Advance Electronics Workbench

The workbench with following instruments with 5 amp plugs (total- 07), 16 amp plugs (total-02), 230 V AC supply, 04 drawers to put components/probe, materials etc. ELCB must be provided for whole workbench. It also consisting of instrument Panel and working area made up of antistatic material. It must have ergonomically designed instrument panel in vertical position and with sufficient work area for working. Wheel (with locking mechanism) must be provided at all the four leg of work station so that it can be easily moved. At a time at least 1 and maximum 2 students should work on this.

#### 1. Mixed Signal Oscilloscope

Sr.No.	Parameters	Specifications
1.	No. of Channels	Minimum 4 Analog channels and minimum 16 Digital Channels
2.	Analog Bandwidth	Not less than 200 MHz
3.	Sampling Rate(Analog)	1 GS/s on each analog channel or better
4.	Sampling Rate(Digital)	1GS/s for 0-7 channels and 500MS/s for 8 to 15 channels
5.	Other signals measurement capability	Probe interface for connecting differential, active, high voltage and current probes without external power unit/amplifier for differential, high voltage, current and power measurements.
6.	Setup and Hold	Trigger on violations of both setup time and hold time between clock and data present on any of the input channels
7.	Threshold setting	Threshold for set of eight digital channels can be set independently
8.	Horizontal Expansion	A powerful, intuitive, easy to use zoom provided to easily navigation through your signal of Interest Automatic & Manually.
9.	Noise Removal	Powerful feature to remove unwanted noise above frequency of interest.
10.	Input Impedance	Minimum 1 MΩ or higher
11.	Input Coupling	AC,DC,GND
12.	Vertical Resolution	8 bit or better
13.	Time base range	5 ns/div to 50 sec/div
14.	Vertical Sensitivity	2 mV/div to 5 V/div at 1 MΩ input impedance or higher i/p impedance
15.	Record Length	Minimum 1Mpts. Per channel
16.	Acquisition Modes	Peak Detect and Sample, Average, Single sequence, Roll Mode etc.
17.	Waveform Capture rate	4500 waveforms/sec or higher
18.	Trigger Types	Edge, Pulse width, Video, Runt, Logic, Setup/Hold, Rise time/Fall time, Serial Bus Triggering
19.	Automatic Measurements	Voltage & Time Measurements include: Period, Frequency, Delay, Rise Time, Fall Time, Positive Duty Cycle, Negative Duty Cycle, Positive Pulse Width, Negative Pulse Width, Burst Width, Phase, Positive Overshoot, Negative Overshoot, Peak to Peak, Amplitude, High, Low, Max, Min, Mean, Cycle Mean, RMS, Cycle RMS, Positive Pulse Count/ Rising Edge Count, Negative Pulse Count/ Falling Edge Count, Area and Cycle Area etc.
20.	Display	Minimum 07 inch liquid crystal TFT color display with 04 analog channels, 16 digital channels and 02 Buses of 08 bits can be displayed simultaneously
21.	Data Storage	Removable Data Storage USB port Front/Back side
22.	Accessories	Serial buses decoding modules like I <sup>2</sup> C, SPI, RS-232, UART, RS485/ RS422 etc.

## 2. Arbitrary Function Generator

Sr.No.	Parameters	Specifications
1.	No. of output channels	Minimum 02
2.	Standard Waveform	Sine, Square, Pulse, Ramp, Noise etc.
3.	Frequency Sine - Square, pulse – Pulse Width –  Other waveform – DC (into 50Ω/60 Ω) – Noise Bandwidth –	Minimum 1μHz to Minimum 25 MHz Minimum 1μHz to Minimum 12 MHz or more Minimum 30 ns or better  -5V to +5V 25 MHz or better
4.	Ramp/ Triangle	1 MHz or better
5.	Aging	± 1 ppm or better
6.	Arbitrary Waveform	Each minimum 7000 point Length or better, 120 MS/s DAC or higher, 14 bit/16 bit ADC
7.	Amplitude into 50Ω/60 Ω	Minimum 1 mVp-p to minimum 10 Vp-p @ 50Ω/60 Ω load Minimum 2 mVpp to minimum 20 Vpp @ Open Circuit
8.	Units of setting	V <sub>p-p</sub> , V <sub>RMS</sub> etc.
9.	O/P impedance	50Ω/60 Ω or higher
10.	<b>Modulation</b> -Source -AM modulation Depth -PM phase deviation	AM, FM, PM, FSK, PWM. Internal/external 0% to +100% 0° to +180° or better
11.	<b>Sweep</b> -Max start/stop Freq. -Sweep time	Linear, Logarithmic Minimum 25 MHz(Sine) 1 ms to 500 sec or better
12.	<b>Burst</b> -Gate and trigger source	Triggered, Gated or better, continuous Internal, External
13.	Harmonic Distortion	≤ -50 dB at above specified frequency
14.	<b>Auxiliary I/P :-</b> -Modulation i/p channel 1 & 2 -External trigger	DC to Minimum 20 kHz TTL
15.	Power Source	230 V, 1-φ, plug with minimum 2.5m cable length compatible at GECC-Sec-28.
16.	Display	Minimum 3.5 inch TFT/LED/LCD
17.	Waveform generation	Arbitrary waveforms shall be generated from Oscilloscope
18.	Frequency Counter	Single channel. 1 to 100 MHz  Frequency Resolution: 5 digits/ second or higher  Voltage Range : 250 mVpp to 5 Vpp max or higher  Trigger Level: -2.5V to +2.5 V
19.	Software	Can generate Arbitrary waveforms from Laptop/ PC shall be provided along with instrument. Compatible with window 2007/Linux or latest version.
20.	Accessories	BNC to BNC cable per channel, User manual, Calibration certificate shall be provided
21.	Remote Programming	USB

### 3. Multi output Programmable DC Power Supply

<b>DC Output Rating</b>			
	Channel 1	Channel 2	Channel 3
Voltage	Minimum 0 V- Minimum 30 V	Minimum 0 V- Minimum 30 V	Minimum 0 V- Minimum 5 V
Current	Minimum 0 amp- Minimum 3 amp.	Minimum 0 amp- Minimum 3 amp.	Minimum 0 amp- Minimum 3 amp.
<b>Load Regulation</b>			
Voltage	Less than or equal to 0.03%+ 5mV or better		
Current	Less than or equal to 0.3%+ 4mA or better		
<b>Line Regulation</b>			
Voltage	Less than or equal to 0.03%+ 5mV or better		
Current	Less than or equal to 0.3%+ 4mA or better		
<b>Ripple and Noise (20Hz ~20MHz)</b>			
Voltage	≤1.5 mVrms /≤5mVp-p		
Current	≤6mVrms		
<b>Setting Resolution</b>			
Voltage	10 mV		
Current	10 mA		
<b>Setting Accuracy</b>			
Voltage	≤0.30%+20mV		
Current	≤0.3%+10mA		
<b>Readback Resolution</b>			
Voltage	10 mV		
Current	1 mA		
<b>Readback Accuracy</b>			
Voltage	≤0.07%+20mV		
Current	≤0.3%+10mA		
Warranty	03 years minimum		
Power Supply	230V, 50 Hz, 1-φ		
<b>Display</b>	LED/LCD/TFT type Voltage & Current 2 <sup>1</sup> / <sub>4</sub> digit display for voltage 2 <sup>1</sup> / <sub>2</sub> digit display for current		

#### 4. 5.5 Digit Digital Multimeter

Sr. No.	Parameter	Required Specifications
1.	Display	Dual-line display
2.	Resolution	$5\frac{1}{2}$ Digit or better
3.	V <sub>DC</sub>	100 mV to 1000 V with minimum 1 $\mu$ V resolution (Higher range & higher resolution preferable)
4.	V <sub>AC</sub>	100 mV to 750 V <sub>peak</sub> with 1 $\mu$ V resolution (Higher range & higher resolution preferable)
5.	Resistance	100 $\Omega$ to 100M $\Omega$ with 1 m $\Omega$ resolution (Higher range & higher resolution preferable)
6.	A DC	10 mA to 10A with 100 nA resolution (Higher range & higher resolution preferable)
7.	A AC	1A to 10 A with minimum 10 $\mu$ A resolution (Higher range & higher resolution preferable)
8.	Frequency/Period	Minimum 30 Hz to minimum 300 kHz or higher
9.	Capacitance Measurement	Minimum 1 nF to minimum 100 pF
10.	Thermocouple Measurements	B,C,E,J,K,R,S,T and N type thermocouples
11.	2X4 wire measurement	Should be available
12.	Diode & Continuity Test	Should be available
13.	Math Functions	percentage, average, min/max, NULL, limits, dB and dBm testing etc.
14.	Interface	RS 232 or USB
15.	Power Line frequency	50Hz/60Hz Auto Detected
16.	Safety	Comply with EN61010-1. Measurement Cat I 1000V and CAT II 600V.
17.	Accessories	Test leads, Power cord, USB cable, Software,etc.

#### Soldering & Desoldering Station

- Power supply consumption : Minimum 50 W
- Supply : 230 V, 50 Hz
- Cord : 3 wire silicon cord
- Ground : Hard Grounded
- Soldering and de-soldering station both should be there
- Temperature range should be up to 450 °C minimum
- Password lock for convenient control should be there
- The station should enter in sleep mode if it stays idle for 20 minutes
- The station should enter in cut off mode if it stays idle for 40 minutes to save the energy and improve the life of instrument

**FORMAT FOR QUOTATION SUBMISSION**

(In letterhead of the supplier with seal)

Date: \_\_\_\_\_

To:

\_\_\_\_\_

\_\_\_\_\_

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
<b>Total Cost</b>							

Gross Total Cost (A+B): Rs. \_\_\_\_\_

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

We confirm that the normal commercial warranty/ guarantee of \_\_\_\_\_ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact No: \_\_\_\_\_