



RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES
Basar ,Nirmal District
Constituted under the Act 18 of 2008

Ref: RGUKT-B/Proc/ECE/Lab Equipment/Q36/2019, dated.31.08.2019

NOTICE INVITING QUOTATIONS

Description : Equipment for Labs in
ECE Department

NIQ No : RGUKT-B/Proc/ECE/Lab
Equipment/Q36/2019

Last date for submission : **05.09.2019 by
05:00PM**

Rajiv Gandhi University of Knowledge Technologies (RGUKT), Basar, invites sealed Quotations (single bid system) for supply of Lab equipment for ECE Department of RGUKT, Basar located in Nirmal District of Telangana State.

| Sl.No | Item Description | Required Quantity |
|-------|---|-------------------|
| 1 | 50 MHz Digital Storage Oscilloscope | 08 |
| 2 | 10 MHz Digital Function/Arbitrary Waveform Generators | 50 |
| 3 | 5 KV Servo stabilizer | 02 |
| 4 | Digital Multi meter | 30 |

The specifications of the equipment are as follows...

50 MHz Digital Storage Oscilloscope

- 50MHz 4 analog Channel Digital Storage Oscilloscope,
- The oscilloscope should support real time sampling Analog channel: 1 GSa/s (single-channel), 500 MSa/s (dual-channel), 250 MSa/s (three/four-channel),
- Memory Depth should be more than 20Mpts (more than 5 Mpts when using all channels simultaneously), vertical range 1mV/div -10V / div, horizontal range 5ns/div to 50 s/div,
- The instrument should have triggering facility edge, pulse, window, slope, RS232/UART, I2C, SPI,
- It should also have at least 26 nos automatic measurements and 6 bits hardware counter, more than 6.8" inch TFT Display,

- It should have Math functions like A+B, A-B, A×B, A/B, FFT, A&&B, A|B, A^B, !A, Intg, Diff, Sqrt, Lg, Ln, Exp, Abs., wide PC Interface USB Host & Device and LAN

Digital Function/Arbitrary Waveform Generators

It should have following features:

- 125MSa/s Sample Rate, 14bit vertical resolution.
- 5 types of Standard output waveforms, and built-in 48 Arbitrary waveforms
- Complete set of Modulation functions: AM, FM, PM, FSK, ASK, PWM, linear/logarithmic sweep, burst
- Synchronous signal output, External modulation source input, 10MHz clock input, external trigger input, internal trigger output, etc
- Channel coupling and duplication function
- Built-in accurate Frequency Counter 200MHz (single channel)
- Standard interfaces: USB Device, USB Host. Optional interface: GPIB
- High precision Clock (1ppm & 10ppm) is optional
- Supplied with powerful arbitrary editing Software EasyWave

It should have following Technical Specifications:

| | | |
|--------------------------|---|---|
| Maximum Output frequency | : | 10MHz |
| Output channels | : | 2 |
| Sampling rate | : | 125MSa/s |
| Wave length | : | 16Kpts |
| Frequency resolution | : | 1μHz |
| Vertical resolution | : | 14bit |
| Waveform | : | Sine, Square, Ramp, Pulse, Gaussian white noise, 48 types of built-in Arbitrary Waveforms |

| | | |
|---------------------|---|--|
| Modulation function | : | AM, DSB-AM, FM, PM, FSK, ASK, PWM, Sweep, Burst |
| Amplitude | : | CH1: 2mVpp~10Vpp (50W), 4mVpp~20Vpp (high impedance) CH2: 2mVpp~3Vpp (50W), 4mVpp~6Vpp (high impedance) |

| | | |
|--------------------|---|----------------------------------|
| Frequency Counter | : | Frequency range: 100mHz ~ 200MHz |
| Interface | : | USB Host, USB Device |
| Optional interface | : | GPIB(IEEE-488) |

Frequency Specifications

| | | |
|----------------------|---|---|
| Waveform | : | Sine, Square, Ramp, Pulse, Noise, Arbitrary |
| Sine | : | 1mHz ~10MHz |
| Square | : | 1mHz ~10MHz |
| Pulse | : | 500mHz ~5MHz |
| Ramp/Triangular | : | 1mHz ~300kHz |
| Gaussian White Noise | : | >10MHz (-3dB) |
| Arbitrary | : | 1mHz ~5MHz |
| Resolution | : | 1μHz |

Sine Spectrum Purity

| | | |
|-------------------------------------|---|--------------------|
| Harmonic Distortion | : | CH1/CH2 |
| DC~1MHz | : | -60dBc |
| 1MHz~5MHz | : | 53dBc |
| 5MHz~25MHz | : | -35dBc |
| 25MHz~50MHz | : | -32dBc |
| Total harmonic waveform distortion: | : | DC~20kHz,1Vpp<0.2% |

Square

| | | |
|----------------------------|---|--------------------------------------|
| Rise/fall time | : | <12ns(10% ~ 90%) |
| Overshoot | : | <5%(typical,1kHz,1Vpp) |
| Duty Cycle | : | 1mHz ~10MHz - 20%~80% |
| Asymmetric(50% Duty Cycle) | : | 1% of period+20ns(typical,1kHz,1Vpp) |

Ramp/Triangle

| | | |
|-----------|---|--|
| Linearity | : | <0.1% of Peak value output(typical,1kHz,1Vpp,100% symmetric) |
| Symmetry | : | 0%~100% |

Pulse

| | | |
|----------------|---|---|
| Pulse width | : | 1800s, Max. 16 ns, Min. 8 ns resolution |
| Rise/Fall time | : | (10% ~ 90%,typical,1 kHz,1Vpp) : 7ns |
| Duty Cycle | : | 0.1%Resolution |
| Overshoot | : | <5% |

Arbitrary

| | | |
|---------------------|---|---------------|
| Waveform Length | : | 16k points |
| Vertical resolution | : | 14bits |
| Sample rate | : | 125MSa/s |
| Min. Rise/Fall time | : | 7ns (typical) |

AM Modulation (CH1/CH2)

| | | |
|---------------------|---|---|
| Carrier | : | Sine, Square, Ramp, Arbitrary(except DC) |
| Modulation waveform | : | Sine, Square, Ramp, Noise, Arbitrary (2mHz ~ 20kHz) |
| Source | : | Internal/External |

FM Modulation(CH1/CH2)

| | | |
|---------------------|---|--|
| Carrier | : | Sine, Square, Ramp, Arbitrary(except DC) |
| Source | : | Internal/External |
| Modulation waveform | : | Sine, Square, Ramp, Noise, Arbitrary(2mHz~20kHz) |

PM Modulation(CH1/CH2)

| | | |
|---------------------|---|--|
| Carrier | : | Sine, Square, Ramp, Arbitrary(except DC) |
| Source | : | Internal/External |
| Modulation waveform | : | Sine, Square, Ramp, Noise, Arbitrary(2mHz~20kHz) |

FSK Modulation(CH1/CH2)

| | | |
|---------|---|--|
| Carrier | : | Sine, Square, Ramp, Arbitrary(except DC) |
|---------|---|--|

Source : Internal/External
Modulation waveform : 50% duty-cycle square waveform(2mHz~50kHz)

ASK Modulation(CH1/CH2)

Carrier : Sine, Square, Ramp, Arbitrary(except DC)
Source : Internal/External
Modulation waveform : 50% duty-cycle square waveform(2mHz~50kHz)

PWM Modulation(CH1/CH2)

Frequency : 500mHz~20kHz
Source : Internal / External
Modulation waveform : Sine, Square, Ramp, Arbitrary(except DC)
External Modulation range : -6V~+6V (maximum width deviation)

Sweep(CH1/CH2)

Carrier : Sine, Square, Ramp, Arbitrary(except DC)
Type : linear/logarithmic
Sweep time : 1ms~500s

Burst (CH1/CH2)

Waveform : Sine, Square, Ramp, Pulse, Arbitrary(except DC)
Type : Count(1~50,000 periods),infinite, Gated
Internal period : 1ms~500s
Gated source : External trigger
Trigger source : Manual, External or Internal

Rear Panel Connector

External modulation : $\pm 6V=100\%$ modulation>5kW input impedance
External trigger : TTL compatible

Trigger Input

Pulse width : >100ns
Input impedance : >5W ,DC coupling

Trigger Output

Voltage level : TTL compatible
Pulse width : >400ns
Output impedance : 50W (typical)
Max. frequency : 1MHz

SYNC Output

Voltage level : TTL compatible
Pulse width : >50ns
Output impedance : 50W(typical)
Max. frequency : 2MHz

Terms & Conditions

- A. Duly filled Technical Bid with proper seal and signature of authorized person on each page of the bid submitted. The person signing the bid should be the duly authorized representative of the firm/ company whose signature should be verified and certificate of authority should be submitted.
- B. The power or authorization or any other document consisting of adequate proof of the ability of the signatory to bind the firm/ company should be annexed to the bid.
- C. Self-Attested copy of Registration certificate, GST, PAN Card are to be submitted.
- D. A certificate by the auditor/ CA/ CS indicating the turnover of the firm should be enclosed. The bidder should have minimum average turnover of Rs 5 Cr in last three financial years.
- E. All documents related with Firm Registration/ Partnership Deed/ Articles of Memorandum of Association or Proprietorship Deed, Certificate of Incorporation should be attached.
- F. Relevant ISO certificate in Laboratory Infrastructure to be submitted.
- G. Only the authorized distributors/resellers are allowed to bid for the items mentioned in the tender document. The specific authorization letter from Principal/s clearly indicating that the bidder is competent to sell & provide services for the items mentioned in the Scope of Supply given in this tender document should be enclosed.
- H. The copy of Supply Orders/ Contracts/ Agreements issued by/ signed with Government of India (Ministry/ Department/ Undertaking/ PSU/ Educational Institutions such as IIT's, NIT's or other such Central Universities/Banking sector/IT-SEZs/Technology parks/ Stock/Commodity exchanges and reputed private organizations including educational institutions in India) executed by the bidders in last five years ending March 31st 2019 should be submitted.
- I. The bidder should also enclose the completion certificate duly issued by the end user. The bidder should have completed at least **ONE** similar work not less than **Rs. 50 Lac** OR **TWO** similar works not less than **Rs. 35 Lac** each OR **THREE** similar works not less than **25 Lac each**. The similar work means supply & installation of all/ most of the items mentioned in this tender document in a single project on turn-key basis in India/abroad.
- J. Service call over telephone must be attended by the bidder within 24 hours and has to make necessary arrangement so that the item gets operational within 7 days of the Phone-call; deviation from the above may lead to blacklisting.
- K. Interested bidders are requested to submit the competitive offer for the above items strictly as per the instructions and terms & conditions mentioned in this document.

- L. The covers should be super scribed as “**Lab Equipment for ECEDepartment**”
- M. The quotations must be accompanied with the following:
1. Bidder information sheet (Annexure-I)
 2. Non refundable Processing fee of **Rs.1000/- (Rupees One thousand only)** in the form of DD from any Scheduled Bank, drawn in favour of The Director, RGUKT, Basar, payable at Basar.
 3. Copy of GST Registration Certificate.
 4. Copy of PAN card.
 5. Copies of all the above documents
- N. The bidder is instructed to put Sl.No “A” to Sl. No. “M” in Cover – A and Price Bid(Annexure-II) in Cover – B separately and put Cover –A & Cover-B in Cover-C.
- O. Those who will be qualified technically, their price bids only will be opened.
- P. RGUKT reserves the right to reject any/all quotations (s) without assigning any reasons whatsoever. Canvassing in any form will be considered as disqualification from award of contract.
- Q. Conditions of the Contract:
- a. The rates mentioned shall be valid for a period of 90 days.
 - b. The items must be delivered within **30 days** from the date of award of the contract.
 - c. Equipment Warranty 3 years
 - a. **Payment terms:** 100% against satisfactory delivery and installation of the materials on getting report from the authorities concerned.
 - b. The prices should quote inclusive of all taxes, transportation, loading, unloading and installation charges.
 - c. The payment shall be made through RTGS transfer on receipt of triplicate invoice along with advance stamped receipt.
- R. Submission of the quotation will signify the acceptance of all the terms and conditions of the contract. It will not be obligatory for the University to accept the lowest quotation & no explanation shall be given for the cause of rejection of quotation to any bidder.
- S. Address for sending of sealed quotations:**
Procurement Section, AB-3,
RGUKT- Basar, Mudhole Road,
Nirmal District, Telangana -504107.
Call:9492301704

Vice-Chancellor

ANNEXURE-I

The bidder information sheet:

| | | | | | |
|----|--|--|----------------|-------------------|------------|
| 1 | Name of the organization | | | | |
| 2 | Year of establishment | | | | |
| 3 | Complete postal address | | | | |
| 4 | Name & Designation of Authorized person | | | | |
| 5 | Phone No. | | | | |
| 6 | Fax No. | | | | |
| 7 | Email | | | | |
| 8 | Nature of the firm (Proprietary/partnership/etc...) | | | | |
| 9 | Bank Details of the Agency: | | | | |
| | Bank Name | | | | |
| | Bank Address | | | | |
| | Bank Account Number | | | | |
| | IFSC Code | | | | |
| 10 | PAN No. | | | | |
| 11 | TIN No. | | | | |
| 12 | Total No. of branch offices in Telangana | | | | |
| 13 | Bid Document Fee (Non refundable) | Amount Rs. : DD No. : DD Date : Issuing Bank & Branch : | | | |
| 14 | Experience Details (if any): | | | | |
| | S.No. | Name of the Organization (along with contact details) | Year of supply | Items Supplied | Item value |
| | | | | | |
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ANNEXURE-II

PRICE OFFER

| S.No | Item Description | Qty | Unit Price | GST | Unit Price with GST |
|-------------|---|------------|-------------------|------------|----------------------------|
| 1 | 50 MHz Digital Storage Oscilloscope | 1 | | | |
| 2 | 10MHz Digital Function/Arbitrary Waveform Generators | 1 | | | |
| 3 | 5 KV Servo stabilizer | 1 | | | |
| 4 | Digital Multi meter | 1 | | | |

**Signature of the bidder
along with seal**