



**NATIONAL INSTITUTE OF TECHNOLOGY**

**TIRUCHIRAPPALLI - 620 015**

**DEPARTMENT OF ECE**

**NOTICE INVITING QUOTATION**

File No.	NITT/F.NO.029/CAPEX/2023-24/ECE	Date:	13.09.2023
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**To**

(Supplier Address)

Sealed quotations are invited from reputed Authorized Dealers / manufacturers for the supply of the Items.

<b>Name of the Item</b>	:	<b>Function Generator</b>
<b>Quantity Required</b>	:	02 Nos
<b>Specification</b>	:	(As per enclosed Schedule Annexure – I)
1. Quotation Reference No.	:	NITT/F.NO.029/CAPEX/2023-24/ECE
2. Last date and Time for receipt of quotation	:	04.10.2023 before 11 00 AM
3. Date & Time of opening of Quotation	:	05.10.2023 at 02.00 PM
4. EMD Amount	:	Rs, 1,000/- ( 2%)
5. Validity (Days)	:	90 Days
6. Address to which quotations are to be sent	:	The Director, National Institute of Technology, Tiruchirappalli – 620 015, Tamil Nadu, India
<b>Kind attention to</b>	:	<b>Dr. R. K. Jeyachitra</b>
Phone	:	94431 45540
E-mail	:	jeyachitra@nitt.edu

1. Quotations should be submitted in the format given in Annexure – I and Annexure-II
2. The envelope should contain the following details:

**“QUOTATION AGAINST ENQUIRY” (Function Generator)**

NITT/F.NO.029/CAPEX/2023-24/ECE

**Kind attention to: Dr. R. K. Jeyachitra**

**Last date and Time for receipt of quotation: 04.10.2023 before 11 00 AM**



## NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI - 620 015

### Terms and Conditions:

1.	The quotation must be in the format furnished by NIT Tiruchirappalli and should be free from corrections/erasures. In case there is any unavoidable correction it should be properly attested. If not, the quotation will not be considered. Quotation written in pencil and incomplete will be rejected.
2.	Earnest Money Deposit (EMD) is to be submitted by way of Demand Draft drawn on any Nationalized bank in India in favor of "The Director, NIT, Tiruchirappalli" payable at Trichy. The bids submitted without EMD will be treated as non-responsive and will be rejected. EMD shall bear no interest. Bidder must fill the EMD returning Form (Annexure-III) and submit along with the quotation. EMD amount of <b>Rs, 1,000/- ( 2%)</b> of estimate value is applicable, however <b>UDYAM &amp; NSIC</b> registered Micro & small enterprises are exempted as per Govt.norms proof to be attached.
3.	You are invited to submit your most competitive quotation for the supply of goods according to the specifications and delivery terms as given. Bank guarantee submitted for EMD shall be valid for 45 days beyond bid validity period.
4.	Bidders may send the quotations in sealed covers with the quotation reference number and last date for receipt of quotations duly superscribed on the cover. <b>Kind Attention to: as mentioned in the point No. 6</b> NB: Mention the company Contact Number / E-mail id on the cover.
5.	Quotation will be opened on due date at <b>05.10.2023 at 02.00 PM at the Store and Purchase Section, NIT, Tiruchirappalli</b> in presence of the tenderers or their representatives who may wish to be present. (Any change in the date, time and venue of the quotation opening will be informed to the bidders through telephone / E-mail)
6.	The National Institute of Technology, Tiruchirappalli 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 order without assigning any specific reason thereof.
7.	Manufacturer's name and country of origin of materials offered must be clearly specified. Printed brochures, Purchase preference is only for Micro & Small enterprises ( <b>MSE's</b> ) register in <b>UDYAM</b> Portal or <b>NSIC</b> as per Ministries policy for <b>MSE's</b> . Proof to be attached
8.	Samples must be submitted where specified along with the quotations. Samples must be carefully packed, sealed and labelled clearly with enquiry number, subject and sender's name for easy identification. Rejected samples will be returned at your cost if insisted
9.	All supplies are subject to inspection and approval before acceptance. Manufacturer / supplier warranty certificates and manufacturer / Government approved lab test certificate shall be furnished along with the supply, wherever applicable
10.	National Institute of Technology, Tiruchirappalli reserves the right to modify the quantity specified in this enquiry.
11.	Startup company exempted from prior turnover & prior experience (startup certificate registered with DIPP should be enclosed)
12.	The bidder has to submit the bids in sealed envelope, (separate for each tender). Further Bidder should not send clubbing many tenders in one envelope, in such case all the bids will be rejected.



NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI - 620 015

13.	<p><b>Bid Price</b></p> <p>a. The contract shall be for the full quantity Bidders must quote for entire quantity. Each bidder shall submit only one quotation in Indian Rupee only.</p> <p>b. Post work orders &amp; completion certificate should be submitted, wherever applicable.</p> <p>c. The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.</p> <p>d. GST, packing, forwarding and delivering other allied items at the destination shall be included in the price. All such price components may be shown in the quotation. If there is no indication regarding above charges. It will be considered as inclusive of all charges.</p> <p><b>e. If any arithmetic mistake in total / GST calculation is observed, the same shall be corrected by the purchaser with an intimation to bidder</b></p> <p>f. In case the items in the enquiry are covered by any rate contract or any other state or central Government, it should be specified in your quotation and accepted contract rates should also be mentioned. It should be confirmed whether you could supply at the RC rates outside rate contract</p> <p>g. Quotations containing conditions like “subject to prior sale” may not be considered.</p> <p>h. Delivery period required for supplying the material should be invariably specified in the quotation</p> <p><b>i. Bids without quoting GST (unless exempted) will be treated as invalid &amp; disqualified.</b></p> <p><b>j. If there is a discrepancy between unit price and total price, the unit price will be considered. If there is any mismatch between figure and word, the amount in word shall prevail.</b></p>
14.	<p><b>Evaluation of quotations:</b> Quotations will be evaluated item-wise or lump sum basis. The purchase committee will evaluate and compare the quotations determined to be substantially responsive i.e. (i) are properly signed; (ii) Conform to the terms &amp; conditions and specifications; and (iii) price offered are competitive.</p>
15.	<p><b>Award of contract</b></p> <p>a. The National Institute of Technology, Tiruchirappalli will award the Order for supply of Goods / Services to the bidder whose quotation has been determined to be substantially responsive, and who has offered the lowest evaluated quotation price.</p> <p>b. The Bidder should furnish the contract agreement and performance security within 15 days from the date of receipt of the order for supply of goods / services, failing which the order will be cancelled without further notice and awarded to next eligible bidder.</p> <p>c. Notwithstanding the above, National Institute of Technology, Tiruchirappalli 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 order without assigning any specific reason thereof.</p> <p>d. National Institute of Technology, Tiruchirappalli, prior to the expiration of the quotation validity period, will notify the bidder whose bid is accepted for the award of contract. The terms of accepted offer shall be incorporated in the purchase order.</p>
16.	<p><b>Warranty: 36 Months</b></p>
17.	<p><b>Performance Security:</b> Security deposit should be <b>3%</b> of purchase order value in case of Performance Bank Guarantee should be valid for 60 days beyond the guarantee &amp; warranty. The successful bidder need to submit performance security (As mentioned in Annexure –I) of purchase order value</p>



NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI - 620 015

	either in the form of bank guarantee or crossed demand draft drawn on any Nationalized bank in India in favor of "The Director, NIT, Tiruchirappalli" payable at Trichy. The bank guarantee / Demand Draft will be returned to the supplier after 60 days from date of successful completion of supply, installation, and the warranty period.
18.	<b>Payment:</b> 100% will be paid after Installation and satisfactory working/date of completion of service if the documents are in order. The bill should be raised in favor of "The Director, National Institute of Technology, Tiruchirappalli, Tamil Nadu, India." with institute GST No. 33AAATN5491Q1ZZ.No advance will be provided to the supplier and installer.
19.	<b>Liquidity damages</b> If the bidder / supplier, after accepting the Purchase Order or supply of Goods / Services, fails to deliver any or all of the Goods or to perform Services within the period(s) specified in the Order, The National Institute of Technology, Tiruchirappalli shall impose penalty without assigning any reasons to the bidder / supplier a sum equivalent to 0.50 % of the total cost as indicated in the Purchase Order (which will be deemed as agreed price) for each week or part thereof of delay until actual delivery or performance is completed and such penal charges shall be limited to a maximum of 5% of the agreed price. Once the maximum is reached The National Institute of Technology, Tiruchirappalli, may proceed on its own to consider the termination / cancellation of the Order and may inform the bidder about the cancellation of the said purchase order. unless extension is obtained in writing from the office / Department on valid ground before expiry of delivery period
20.	If the deliveries are not maintained and due to that account Procuring Entity is forced to buy the material at your risk and cost from elsewhere, the loss or damage that may be sustained there by will be recovered from the defaulting supplier
21.	Dispute clause: Any dispute relating to the Enquiring /Tender of the indented item shall be under the Hon'ble Court having its jurisdiction over Tiruchirappalli only
22.	Startup company exempted from Prior Turnover & Prior Experience (Startup certificate registered with DIPP should be enclosed)
23.	<b>GST as applicable</b>
24.	Performance Bank guarantee should be valid for 60 days beyond the guarantee & warranty and the BG submitted for EMD shall be valid for 45 days beyond bid validity period.
25.	Bids submitted without EMD ( <b>unless exempted</b> ) will be treated as disqualified.
26.	The successful bidder should submit <b>Security Deposit/PBG</b> within 15 days from the date of placement of order. The <b>EMD</b> shall be returned only after receipt of SD. If the bidder fails to deliver the material, then the <b>EMD/SD</b> shall be forfeited.



NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI - 620 015

**ACCEPTANCE BY THE BIDDER**

I/We hereby certify that I/We shall abide hereby the terms and conditions and the Annexures of this limited quotation.

**Signature & Seal of Vendor with Date**

For any details / clarifications regarding could be obtained from Stores and Purchase Section on all working days during 10 AM to 5 PM.

**For further detail related to Technical specifications kindly contact**

**Dr. R. K. Jeyachitra (Purchase initiator), DEPARTMENT OF ECE,**

**NITT/F.NO.029/CAPEX/2023-24/ECE, jeyachitra@nitt.edu, 94431 45540.**

(NB: Mention the Contact Number / E-mail on the cover. Any change in the date, time and venue of the tender opening will be informed to the bidders through telephone / E-mail)

<b>Enclosures:</b> 1) Specifications of the equipment	Annexure – I
2) Price Format	Annexure - II
3) EMD Return Format	Annexure – III
4) Bank Mandate Form	Annexure – IV



Specifications of the Equipment

Ref: NITT/F.NO.029/CAPEX/2023-24/ECE

Date: 13.09.2023

S. No	Specification of NIT-T	Specificati on of the Supplier
	<p>1) <b>Type:</b> Single Channel Arbitrary Function Generator (Bench Top)</p> <p>2) <b>Waveform Option:</b> Sine, Square, Ramp, Noise and arbitrary waveform</p> <p>3) 20MSa/s Sampling Rate, 10bit Vertical Resolution, 10MHz Repetition rate, 4K Points waveform length and 4k Point Non-volatile Memory for Arbitrary Waveform</p> <p>4) <b>Frequency Characteristics</b></p> <ul style="list-style-type: none"><li>i. Frequency Range: 0.1Hz to 12MHz (Sine, Square) 0.1Hz to 1MHz (Ramp)</li><li>ii. Resolution: 0.1Hz (Sine, Square and Ramp)</li><li>iii. Accuracy: Stability: <math>\pm 20</math> ppm; Aging: <math>\pm 1</math> ppm, per 1 year; Tolerance: <math>\leq 1</math> mHz</li></ul> <p>5) <b>Output Characteristics</b></p> <ul style="list-style-type: none"><li>a. <b>Amplitude:</b><ul style="list-style-type: none"><li>i. Range: 1 mVpp to 10 Vpp (into 50<math>\Omega</math>), 0.1Hz ~ 12MHz 2 mVpp to 20 Vpp (open-circuit), 0.1Hz ~ 12MHz</li><li>ii. Resolution: 1 mV or 3 digits</li><li>iii. Accuracy: <math>\pm 2\%</math> of setting <math>\pm 1</math> mVpp (at 1 kHz/into 50<math>\Omega</math> without DC offset)</li><li>iv. Flatness: <math>\pm 1\%</math> (0.1dB) <math>\leq 100</math>kHz <math>\pm 4\%</math> (0.4 dB) <math>\leq 12</math>MHz (sine wave relative to 1 kHz/into 50<math>\Omega</math>)</li><li>v. Units: Vpp, Vrms, dBm</li></ul></li><li>b. <b>Offset:</b><ul style="list-style-type: none"><li>i. Range: <math>\pm 5</math> Vpk AC+DC (into 50<math>\Omega</math>) for 0.1Hz to 12MHz <math>\pm 10</math>Vpk AC+DC (Open circuit) 0.1Hz to 12MHz</li><li>ii. Accuracy: 2% of setting + 5 mV + 0.5% of amplitude</li></ul></li><li>c. <b>Output:</b><ul style="list-style-type: none"><li>i. Impedance: 50<math>\Omega</math> typical (fixed) &gt; 300k<math>\Omega</math> (output disabled)</li><li>ii. Protection (main output): Short-circuit protected by overload relay automatically disables main output</li></ul></li><li>d. <b>SYNC Output:</b><ul style="list-style-type: none"><li>i. Level: TTL-compatible into &gt;1k<math>\Omega</math></li><li>ii. Impedance: 50<math>\Omega</math> nominal</li><li>iii. Rise or Fall Time: <math>\leq 25</math>ns</li></ul></li><li>e. <b>Sine wave Characteristics:</b><ul style="list-style-type: none"><li>i. Harmonic Distortion: -55 dBc DC ~ 200kHz, Ampl &gt; 0.1Vpp -50 dBc 200kHz ~ 1MHz, Ampl &gt; 0.1Vpp</li></ul></li></ul>	



-35 dBc 1MHz ~ 5MHz, Ampl > 0.1Vpp

**f. Square wave Characteristics**

- i.** Rise/Fall Time:  $\leq 25\text{ns}$  at maximum output (into  $50\Omega$  load)
- ii.** Overshoot:  $< 5\%$
- iii.** Asymmetry: 1% of period+1 ns
- iv.** Variable Duty Cycle: 1.0% to 99.0%  $\leq 100\text{kHz}$ ; 20.0% to 80.0%  $\leq 5\text{MHz}$ ; 40.0% to 60.0%  $\leq 10\text{MHz}$   
(1% Resolution for full Frequency Range)

**g. Ramp Characteristics**

- i.** Linearity:  $< 0.1\%$  of peak output
- ii.** Variable Symmetry: 0% to 100% (0.1% Resolution)

- 6)** Store/Recall 10 Groups of Setting Memories
- 7)** Additional Features of AM/ FM/ FSK modulation, Sweep and Frequency Counter (range 5Hz to 150 MHz)
- 8)** 1% ~ 99% adjustable duty cycle for Square Waveform and 0%~100% variable symmetry for the Ramp.
- 9)** Waveform Parameter Setting Through Numeric Keypad Entry & Knob Selection
- 10)** Amplitude, DC Offset and Other Key Setting Information Shown on the 3.5" LCD Screen Simultaneously
- 11)** USB Device Interface for Remote Control and Waveform Editing
- 12)** PC Arbitrary Waveform Editing Software function
- 13)** Power Source AC100~240V , 50~60Hz; Power Consumption 25 VA
- 14)** Operating Environment: Temperature to satisfy the specification: 18 ~ 28°C
- 15)** Operating temperature: 0 ~ 40°C
- 16)** Relative Humidity:  $\leq 80\%$ , 0 ~ 40°C  $\leq 70\%$ , 35 ~ 40°C; Installation category : CAT II
- 17)** Storage Temperature -10 ~ 70°C, Humidity:  $\leq 70\%$
- 18)** Accessories CD (user manual + software)  $\times 1$ , Quick Start Guide  $\times 1$ , Power cord $\times 1$ , Test Lead $\times 1$  with essential accessories
- 19)** With modulation techniques
- 20)** Warranty of 3 years on the instrument

**Reasons (if there is difference in specification)**

1.

2.



**NATIONAL INSTITUTE OF TECHNOLOGY  
TIRUCHIRAPPALLI - 620 015**

<b>S.No</b>	<b>Other requirements related to the equipment</b>	<b>NITT Requirement</b>	<b>Supplier commitment</b>
1.	Installation required	<b>Yes</b>	
2.	Warranty (in Month)	<b>36 Months</b>	
3.	Comprehensive AMC required	<b>No</b>	
4.	Delivery Period (Weeks)	<b>2 Weeks</b>	
5.	Shipment terms		<b>At NIT-T</b>
6.	Performance Security in %		<b>3 %</b>
7.	Payment Terms		<b>100% Payment after satisfactory delivery/Installation</b>
8.	EMD Amount (2 to 5)%		<b>Rs, 1,000/- ( 2%)</b>

**Signature & Seal of Vendor with Date**

**Note:**

Specification of the Supplier should be given in detail, single word confirmation like Complied / No / same will be treated as non - responsive Bid and summarily rejected.

Proof for the supplier's specification must be enclosed along with the quotations. (catalogue, brochure, and product website link if any)





NATIONAL INSTITUTE OF TECHNOLOGY  
TIRUCHIRAPPALLI - 620 015

DEPARTMENT OF ECE

Annexure- II

**PRICE BID FORMAT FOR BIDDERS**

Tender No. & Date :

Bidder's Offer No. & Date :

S. No.	Description of item	Unit (Set / No)	QTY	Rate / Qty in Rs. (excluding GST)	GST in Rs.			Total Value + GST in Rs.
					SGST	CGST	IGST	
1.	<b>Supply portion</b> (The price indicated shall be exclusive of all accessories, spares etc. as given in the scope of supply)	<u>nos</u>	02					
<u>2</u>	Other accessories / spares etc. as given in scope of supply (Individual item-wise break-up price shall be attached as an annexure to this price bid format.)							
<u>3</u>	Installation and Commissioning (extra, if any)	<u>Yes</u>						
<u>4</u>	Packing & Forwarding charges (extra, if any)							
<u>5</u>	Freight & Transit insurance charges, extra, if any							
6	Total price (delivery, installation and commissioning at NIT-T)							
7	Value of Annual Maintenance Contract							
<b>8</b>	<b>Net cost to be paid by NIT-T</b>							

Signature & Seal of Vendor

**Note: The price bid should be submitted only as per the above format. No row shall be left blank. Please indicate NA, in case the item is "Not Applicable". If this format is not used or any column is left blank, then the bid will be rejected.**



**(TO BE PRINTED IN LETTER PAD OF THE FIRM)**

**EMD Returning Form**

To  
The Director  
National Institute of Technology,  
Tiruchirappalli – 620 015

Sub: Returning EMD amount

Sir / Madam,

Our firm has participated in the tender / quotation enquiry No mentioned below and produced the EMD amount through DD, details of the DD are given below.

Tender / Quotation Reference No	
EMD amount	
DD Number	
DD issued Bank	
Date of DD	

It is requested to return the EMD amount to our firm after completion of the purchase to the below mentioned Bank account.

Account Name	
Bank Account Number	
IFSC code	
Bank	

**Signature with Seal and Date**



**NATIONAL INSTITUTE OF TECHNOLOGY  
TIRUCHIRAPPALLI - 620 015**

**(TO BE PRINTED IN LETTER PAD OF THE FIRM)**

**Annexure – IV**

**MANDATE FORM FOR ELECTRONIC FUND TRANSFER/RTGS TRANSFER**

Date: / /

To

The Director,  
National Institute of Technology,  
Tiruchirappalli – 620 015, Tamil Nadu

<b>Sub</b>	<b>:</b>	Authorization for release of payment / dues from National Institute of Technology, Tiruchirappalli through Electronic Fund Transfer/RTGS Transfer.
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1. Name of the Party / Firm / Company / Institute :
2. Address of the Party :
3. City \_\_\_\_\_ Pin Code \_\_\_\_\_
4. E-Mail \_\_\_\_\_ Mobile No: \_\_\_\_\_
5. Permanent Account Number \_\_\_\_\_
6. Particulars of Bank:

Bank Name:		Branch Name:	
PIN Code:		Branch Code:	
IFS Code:(11 digit alpha numeric code)			
Account Type	Savings	Current	Cash Credit
Account Number:			

**DECLARATION**

I hereby declare that the particulars given above are correct and complete. If any transaction delayed and not effected for reasons of incomplete or incorrect information I shall not hold Director, National Institute of Technology Tiruchirappalli responsible. I also undertake to advise any change in the particulars of my account to facilitate updating of records for purpose of credit of amount through NEFT/RTGS Transfer.

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

**Signature & Seal of the Authorized Signatory of the Party**

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