

	<p>INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036</p> <p>Telephone: (044) 2257 4428 E-mail: krishna.vasudevan@iitm.ac.in</p>	
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Dr. Krishna Vasudevan
Project Coordinator

Ref: ELE/KV/2020-21/OSC
Dated: 19.02.2020

Limited Tender No: ELE/KV/2020-21/OSC

Due Date: 10.03.2020, 5:00pm

Pre-Bid meeting: - Not required.

Bid opening meeting on Due Date: 11.03.2020, 4:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “OSCILLOSCOPE” conforming to the specifications given in (**Annexure-I**).

Terms and Conditions of Limited Tender

1. **Preparation of Bids:** - The Limited tenders should be submitted under **one bid system** (i.e.) Technical-cum-Financial bid.
2. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:

Dr. Krishna Vasudevan,
Department of Electrical Engineering
IIT Madras
Chennai - 600 036.
3. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Electrical Engineering**.
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
4. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
5. **Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical-cum-financial bid
6. **Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Vendor has to submit a Bank Guarantee from a Nationalized Bank of India equal to the amount of advance payment.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Bid Opening:** The bid will be opened on **11.03.2020, 4:00pm** at the **Department of Electrical Engineering, IIT Madras.**
13. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
14. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
15. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
16. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "workflow@rt.iitm.ac.in".

Yours sincerely,

Dr. Krishna Vasudevan,
Department of Electrical Engineering
IIT Madras
Chennai - 600 036.

Technical Specifications for Oscilloscope Purchase

The Oscilloscope should meet the following requirements

S No	Parameter	Specifications
1	Bandwidth	350 MHz
2	Number of Channels	6 Analog Channels
3	Sample Rate Real Time	Up to 6.25 GSa/s on all Channels
4	Record Length	≥ 30 MSa on each channel
5	ADC Resolution	12 Bits or Better
6	Waveform Capture Rate	≥ 500,000 Wfm/sec
7	Vertical Sensitivity	1MΩ: 500 μV/div to 10 V/div , 50Ω: 500 μV/div to 1 V/div
8	Time base range	200 ps/div to 1,000 s/div
9	Input Coupling & Impedance	DC (50 Ω), AC, 50 Ω, 1 MΩ: ±1.0%,
10	Acquisition Mode	Sample, Average, Peak Detect, Envelope, High Resolution, Fast Acquisition
11	Digital Channel Threshold	User Selectable for all individual channels
12	Maximum Input Voltage	±42 V peak(Digital),300 V rms(Analog)
13	Math Channel	Unlimited
14	Measurements	Amplitude, Maximum, Minimum, Peak-to-Peak, Positive Overshoot, Negative Overshoot, Mean, RMS, AC RMS, Top, Base, and Area, Period, Frequency, Unit Interval, Data Rate, Positive Pulse Width, Negative Pulse Width, Skew, Delay, Rise Time, Fall Time, Phase, Rising Slew Rate, Falling Slew Rate, Burst Width, Positive Duty Cycle, Negative Duty Cycle, Time Outside Level, Setup Time, Hold Time, Duration N Periods, High Time, and Low Time
15	Power Electronics Measurements (Please quote as optional)	Total Power, THD, Crest Factor, Input Capacitance, Inrush Current, Switching Loss, SOA, RDS(on), Line Ripple, Switching Ripple, Efficiency, Turn on time, Turn Off Time
16	Report	Report Generation for the tests
17	Min/Max of result	It should display min/max measurement result in acquisition.
18	Measurements plots	Time Trend, Histogram, and Spectrum plots are available for all standard measurements. Customize / resize all application views, plots, waveform areas and results tables

19	Trigger types	Auto, Normal, Single Edge, Glitch, Width, Runt, Window, Timeout, Transition, Setup/Hold, Pattern, State. An event and delayed B event trigger
20	Display type	HD 1920 x 1080, 13.3 inch with Multi-touch capacitive display
21	Input/output Ports	LAN Port, USB ports
22	Operating Temperature	+0 °C to +50 °C
23	Power Requirements	230 VAC ± 10%, 50 Hz
24	Warranty	3 Years
25	Standard Accessories	500 MHz Probe with 3.9 pF loading, per channel probes should be available. 8 Channels Digital Probes