

INDIAN INSTITUTE OF TECHNOLOGY DELHI
INSTRUMENT DESIGN DEVELOPMENT CENTRE

Notice Inviting Quotation

Feb 05, 2014

Due date: Feb 19,2014

Quotations are invited from vendors for the supply of:

1. Two nos Four channel digital oscilloscopes
2. Two nos Four channel mixed signal oscilloscopes
3. One no 20MHz two channel waveform generator

<u>Item</u>	<u>Specifications</u>
Four Channel digital scope	<ol style="list-style-type: none"> 1. Four analog input channels with standard 1Mohm input impedance 2. Bandwidth 70MHz 3. Sampling rate: 2Gsamples/sec on all channels 4. Vertical resolution 8bits, 12bits available on slower time base settings 5. Vertical sensitivity 1mV/div to 5V/div 6. Sampling memory 100K points on each channel 7. Display: 8.5 inch WVGA colour 8. Horizontal time base: 5nS/div to 50sec/div 9. Trigger modes: Edge, Pulse width, Pattern, Video 10. Vertical modes: Normal, Peak detect, averaging selectable up to 65K 11. Internal non volatile storage of waveforms in addition to USB device. 12. Voltage & time Cursors & Waveform measurement capability 13. Waveform MATH: add, subtract, multiply, FFT 14. Waveform display update rate > 50,000/sec 15. Interfaces: At least two USB 2.0 to support printers, memory devices 16. Supply Voltage: 100-240V 50Hz AC 17. Warranty: 3 years
Four Channel mixed signal Scope	<p>Four analog channels with specifications as stated in points 1 to 17 above. In addition 8 digital input channels with the following specs:</p> <ol style="list-style-type: none"> 1. Sampling rate: 1Gsamples/sec 2. Maximum record length: 50Kpt/channel for digital channel 3. Logic thresholds: TTL, CMOS, ECL, User definable up to $\pm 8V$ 4. Input dynamic range: $\pm 10V$ on threshold 5. Input impedance: 100Kohms 6. Minimum detectable pulse width: 5nS 7. All 8 digital channels viewable along with analog channels

<u>Item</u>	<u>Specifications</u>
20MHz two channel waveform generator	<ol style="list-style-type: none"> 1. Following specs apply independently to both channels 2. Frequency: 1μHz to 20MHz with 1μHz resolution 3. Waveforms: Sine, square, ramp, pulse, triangle, Gaussian noise, PRBS (pseudo random binary sequence) 4. Output voltage: 1mV p-p to 10V p-p into 50Ω; settable as Vpp, Vrms, dBm 5. DC offset: up to ±5Vdc settable in resolution of 4 digits 6. Total Harmonic Distortion (THD) < 0.1% 7. Output modes: On, Off, inverted 8. Modulation types: AM, FM, PM, FSK, BPSK, PWM, Sum, burst, sweep 9. Modulation source: Internal, External or second channel 10. Built in color screen for display of all waveform parameters for both channels 11. Interfaces: LAN, USB 2.0, GPIB 12. Auxiliary: Ref frequency out, RTC with 5 year lithium battery 13. Supply Voltage: 100-240V 50Hz AC 14. Warranty: 3 years

Notes

1. The quotes must be sealed in different envelopes titled “Technical Bid” and “Commercial Bid” and sealed in another envelope titled “Quote for Digital Scopes and Waveform Generator”
2. Vendors must provide agency certification from the manufacturers of quoted items
3. The technical Bid must include complete datasheets of the quoted item from the manufacturer.
4. The commercial offer must specify:
 - (a) The quoted price of each item in INR showing breakdown of all taxes and including delivery to IIT Delhi.
 - (b) The delivery time after receipt of order
 - (c) Validity period of the quote (at least 60 days)
 - (d) Educational discount offered
 - (e) Warranty offered

The quotes must reach:

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 IIT Delhi
 New Delhi 110016
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by 5PM on 19th February 2014