



# भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्व का एक संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

No. EE/PRJ/351/18-19

Date: 4 February 2019

## NOTICE INVITING TENDER

**Subject: Supply & Installation of Digital Storage Oscilloscope (200MHz, 4 Channel).**

Indian Institute of Technology (Indian School of Mines), Dhanbad invites quotations for the following to be supplied and delivered in Electrical Engineering Department.

| S No | Full Description of items/ store   | Qty    | Delivery                  |
|------|--|--------|---------------------------|
| 1    | <b>Supply &amp; Installation of Digital Storage Oscilloscope (200MHz, 4 Channel).</b><br><br>(Detailed Specification is given in Annexure – I) | 01 No. | At the Earliest /Ex-Stock |

### Tender Schedule

| Particulars                                  | Date & Time                              |
|--|--|
| Bid Security or Earnest Money Deposit        | <b>Rs. 10,000.00 (Ten Thousand Only)</b> |
| Last date and time for submission of tenders | <b>26.02.2019 at 1:00 P.M.</b>           |
| Date and time of opening of tenders          | <b>26.02.2019 at 4.00 P.M.</b>           |

1. You are requested to quote your lowest rates for the supply of above items in the attached format for Financial Bid (Annexure – II - A or B)
2. You may send your representative in the office of the undersigned at the scheduled date and time of opening of tender.
3. Tender should be submitted in sealed cover only superscribed with Enquiry No. and due date at the following address only:

***The Assistant/Deputy Registrar (P&S)***

***Indian Institute of Technology (Indian School of Mines),***

***Dhanbad – 826 004 Jharkhand***



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## Terms & Conditions

- 1) The rates should be quoted for each item separately.
- 2) Conditional offer will not be accepted.
- 3) IIT (ISM) does not issue any Form 'C' or 'D' towards sales tax concessional rate. Hence, full rate of sales tax/VAT, GST applicable should be quoted.
- 4) The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However, CIF/CIP prices quoted by any foreign bidder shall be loaded further as under :  
Towards customs duty, IGST and other statutory levies, custom clearance, inland transportation, currently fluctuation etc. - 15% of the CIF/CIP value.
- 5) Since IIT(ISM) Dhanbad is an Indian Institute of Technology and subject item will be used for research, hence benefit of reduced rate of GST should be considered if applicable.
- 6) **Educational discount**, if any, should be clearly mentioned.
- 7) Earnest Money Deposit (EMD): Should be submitted in form of A/C payee demand draft drawn in favor of Registrar, IIT(ISM) and payable at SBI, IIT (ISM) campus branch or any other Bank/ Branch located in Dhanbad.
- 8) You are requested to submit your quotation strictly as per the specifications mentioned in the NIT.
- 9) Your tender must be valid for **minimum 90 days** from the date of opening of tender.
- 10) Please mention warranty/ guarantee in your offer clearly. Material/ equipment to be supplied must have minimum warranty/guarantee of **12 months**.
- 11) Each page in the bid document must be numbered properly and duly signed & sealed by the bidder on every page of the bid.
- 12) **The items/ materials shall be required to be delivered at Electrical Department/ Section through Purchase & Store Section, IIT (ISM) Dhanbad at the risk and cost of the tenderer.**
- 13) Unloading and installation shall be the complete responsibility of the supplier.
- 14) The stores are required to be delivered within 30 days. Late delivery may not be accepted.
- 15) The items offered should be of good quality confirming to BIS standards, wherever applicable.
- 16) **Advance payment is not admissible.** Payment shall normally be made within 30-45 days subject to receipt and acceptance & installation of the ordered materials/items PBG and other documents.
- 17) Successful bidders will have to submit Performance Security (PBG) in the form of Bank Guarantee as per the Purchase Order before releasing payment.
- 18) In the event date on which the tender is opened for acceptance is declared to be a holiday, the tenders shall be deemed to remain open for acceptance till the next working day.
- 19) Please send your sealed offer by Regd. Post/ Speed Post/ Courier only along with Courier receipt. By hand delivery of the tender will not be accepted. Tender/ quotation will be received during IIT (ISM) working hours only (i.e. Monday to Friday). *Late or delayed tenders shall be summarily rejected.*
- 20) Any other information that you may like to obtain, you are free to contact IIT (ISM) before submission of tender.
- 21) IIT (ISM) reserves the right to accept and/or to reject any/ all tenders without assigning any reason.

Assistant Registrar



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## Annexure – I

### TECHNICAL SPECIFICATIONS FOR SUPPLY & INSTALLATION OF DIGITAL STORAGE

#### OSCILLOSCOPE (200MHZ, 4 CHANNEL)

| Sl No. | Description             | Specification   |
|--------|-------------------------|---|
| 1.     | Features                | <ul style="list-style-type: none"> <li>Upgradable in nature(in future) in terms of bandwidth , addition of Digital Logic channels to work on Mixed Signal mode Any kind of Upgradability will be an added feature</li> <li>Deep Memory to capture long events at high sampling speeds and Deep Memory transfer over interface bus.</li> <li>Standard USB Interface. Optional LAN &amp; VGA Interface Module should be available.</li> <li>Built in Hardware counter and Trigger Output</li> <li>Built in help System.</li> <li>Optional Application related packages like Digital Volt Meter, Power Measurement Application, Mask Test should be quote separately.</li> <li>Instrument should capable for touch, and the exclusive Zone touch trigger,</li> <li>Standard Segmented Memory will be an added feature.</li> <li>Can be display in Time/frequency domain correlation</li> </ul>     |
| 2.     | No of channel           | 04 or higher  |
| 3.     | Bandwidth               | 200MHZ( can be upgrade upto 1GHz in future) or better   |
| 4.     | Vertical resolution     | 8 bits or better  |
| 5.     | Maximum Input           | 300 Vrms, 400 Vpk or better   |
| 6.     | Input Sensitivity       | 1 mV/div – 5 V/div or better  |
| 7.     | Input Impedance         | 1 MΩ / 50 Ω Selectable or better  |
| 8.     | Time Base Range         | 2ns/div to 50 s/div or better   |
| 9.     | Trigger System          | Edge, Pulse Width,Pattern,Duration,TV,Sequence or better  |
| 10.    | Sample rate             | 5 GSa/s half channels, 2.5 GSa/s all channels or better   |
| 11.    | Max. Memory Depth       | 4Mpts. Standard Segmented Memory or better  |
| 12.    | Peak detect             | 250ps or better   |
| 13.    | Waveform update rate    | >1,000,000 waveforms / sec or better  |
| 14.    | Built in interface      | USB 2.0 high speed device. Optional LAN & Video Output for external monitors  |
| 15.    | Power Analysis Option   | <p><b><u>Input Measurements</u></b></p> <ul style="list-style-type: none"> <li>Power quality: Real power, apparent power, reactive power, power factor, crest factor (V &amp; I), phase angle</li> <li>Current harmonics (based on IEC 61000-3-2 up to the 40th harmonic)</li> <li>Inrush current</li> </ul> <p><b><u>Switching Measurements</u></b></p> <ul style="list-style-type: none"> <li>Rds-on &amp; Vce-sat</li> <li>Switching loss (power &amp; energy)</li> <li>Slew rate (dv/dt &amp; di/dt)</li> <li>Modulation (duty cycle, pulse-width, period, frequency, etc., versus time plot)</li> </ul> <p><b><u>Output Measurements</u></b></p> <ul style="list-style-type: none"> <li>Output ripple</li> <li>Turn-on/turn-off time</li> <li>Transient response time</li> <li>Efficiency</li> <li>Frequency Response Measurements</li> <li>Power supply rejection ratio (PSRR)</li> </ul> |
| 16.    | Warranty                | 12months or higher from date of installation  |
| 17.    | Service and calibration | <p>i) The OEM(Original End Manufacturer) should have their own NABL accredited calibration lab in India(letter from OEM with lab details is required)</p> <p>ii) The OEM should have their own service center in India (letter from OEM is required)</p>  |





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## Format for Technical Compliance

| Sl No. | Description             | Specification   | Complied(Yes/No) |
|--------|-------------------------|---|------------------|
| 1.     | Features                | <ul style="list-style-type: none"> <li>Upgradable in nature(in future) in terms of bandwidth, addition of Digital Logic channels to work on Mixed Signal mode. Any kind of Upgradability will be an added feature</li> <li>Deep Memory to capture long events at high sampling speeds and Deep Memory transfer over interface bus.</li> <li>Standard USB Interface. Optional LAN &amp; VGA Interface Module should be available.</li> <li>Built in Hardware counter and Trigger Output</li> <li>Built in help System.</li> <li>Optional Application related packages like Digital Volt Meter, Power Measurement Application, Mask Test should be quote separately.</li> <li>Instrument Should capable for touch, and the exclusive Zone touch trigger,</li> <li>Standard Segmented Memory will be an added feature.</li> <li>Can be display in Time/frequency domain correlation</li> </ul>     |                  |
| 2.     | No of channel           | 04 or higher  |                  |
| 3.     | Bandwidth               | 200MHz( can be upgrade upto 1GHz in future) or better   |                  |
| 4.     | Vertical resolution     | 8 bits or better  |                  |
| 5.     | Maximum Input           | 300 Vrms, 400 Vpk or better   |                  |
| 6.     | Input Sensitivity       | 1 mV/div – 5 V/div or better  |                  |
| 7.     | Input Impedance         | 1 MΩ / 50 Ω Selectable or better  |                  |
| 8.     | Time Base Range         | 2ns/div to 50 s/div or better   |                  |
| 9.     | Trigger System          | Edge, Pulse Width,Pattern,Duration,TV,Sequence or better  |                  |
| 10.    | Sample rate             | 5 GSa/s half channels, 2.5 GSa/s all channels or better   |                  |
| 11.    | Max. Memory Depth       | 4Mpts. Standard Segmented Memory or better  |                  |
| 12.    | Peak detect             | 250ps or better   |                  |
| 13.    | Waveform update rate    | >1,000,000 waveforms / sec or better  |                  |
| 14.    | Built in interface      | USB 2.0 high speed device. Optional LAN & Video Output for external monitors  |                  |
| 15.    | Power Analysis Option   | <p><b><u>Input Measurements</u></b></p> <ul style="list-style-type: none"> <li>Power quality: Real power, apparent power, reactive power, power factor, crest factor (V &amp; I), phase angle</li> <li>Current harmonics (based on IEC 61000-3-2 up to the 40th harmonic)</li> <li>Inrush current</li> </ul> <p><b><u>Switching Measurements</u></b></p> <ul style="list-style-type: none"> <li>Rds-on &amp; Vce-sat</li> <li>Switching loss (power &amp; energy)</li> <li>Slew rate (dv/dt &amp; di/dt)</li> <li>Modulation (duty cycle, pulse-width, period, frequency, etc., versus time plot)</li> </ul> <p><b><u>Output Measurements</u></b></p> <ul style="list-style-type: none"> <li>Output ripple</li> <li>Turn-on/turn-off time</li> <li>Transient response time</li> <li>Efficiency</li> <li>Frequency Response Measurements</li> <li>Power supply rejection ratio (PSRR)</li> </ul> |                  |
| 16.    | Warranty                | 12 months or higher from date of installation   |                  |
| 17.    | Service and calibration | <p>i) The OEM(Original End Manufacturer) should have their own NABL accredited calibration lab in India(letter from OEM with lab details is required)</p> <p>ii) The OEM should have their own service center in India (letter from OEM is required)</p>  |                  |



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Annexure – II (A)

## 1. PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder \_\_\_\_\_ (On bidders letter head)

NIT Reference No. **EE/PRJ/351/18-19**

Date: 4 February 2019

Bidder's Reference No. \_\_\_\_\_

Date:

| Sl. No.   | Description/Part No./Make Model | Quantity | Unit Price (in foreign currency) | Total Amount (in foreign currency) |
|---|---------------------------------|----------|----------------------------------|------------------------------------|
| 1.  |                                 |          |                                  |                                    |
| 2.  |                                 |          |                                  |                                    |
| 3.  |                                 |          |                                  |                                    |
| Total Ex-Works Price-                               |                                 |          |                                  |                                    |
| Packing & Forwarding and inland freight             |                                 |          |                                  |                                    |
| *FCA (at port)                                      |                                 |          |                                  |                                    |
| Terminal charges, loading on vassal                 |                                 |          |                                  |                                    |
| **FOB (name of port)                                |                                 |          |                                  |                                    |
| Air freight & insurance up to destination port      |                                 |          |                                  |                                    |
| *CIF  |                                 |          |                                  |                                    |
| Carrier charges & insurance up to final destination |                                 |          |                                  |                                    |
| **CIP   |                                 |          |                                  |                                    |
| Concessional Custom Duty (Against DSIR Certificate) |                                 |          |                                  |                                    |
| IGST rate (Against IIT (ISM) Certificate)           |                                 |          |                                  |                                    |
| Other Duties/taxes/clearance charge, if any         |                                 |          |                                  |                                    |
| Transportation charges up to IIT ISM Dhanbad        |                                 |          |                                  |                                    |
| Chargeable weight/Gross weight of consignment       |                                 |          |                                  |                                    |
| Indian agency Commission (%)                        |                                 |          |                                  |                                    |
| Installation & Commissioning charge                 |                                 |          |                                  |                                    |
| Training charges, if any                            |                                 |          |                                  |                                    |
| Additional Warranty Charges, if any                 |                                 |          |                                  |                                    |
| Annual Maintenance Charge, if any                   |                                 |          |                                  |                                    |
| Educational discounts, if any                       |                                 |          |                                  |                                    |
| Total Ex-Works Price-                               |                                 |          |                                  |                                    |

\* & \*\* Mandatory requirement

##Total Bid Price \_\_\_\_\_ in words \_\_\_\_\_

### Note :

Total Bid price in foreign currency \_\_\_\_\_ in words

- Indian agent name & address \_\_\_\_\_
- Installation, commissioning & training charges, if any \_\_\_\_\_
- Please note that Indian agents' commission shall be paid in Indian Rupees only.
- Banker's details such as- Name of account holder, Account Number, Name of Bank, Branch code, RTGS code, NEFT code, SWIFT code etc.
- Price schedule of optional items shall be indicated in a separate sheet in the same performa.
- Quoting Price for FOB/FCA and for CIF/CIP basis, otherwise bid will be rejected.
- Wherever the price quoted on FOB/FCA and CIF/CIP basis are the same, the contract would be made on CIF/CIP basis only.
- Country of Origin, Dimension and Gross Weight must be provided

Signature of Bidder

Name \_\_\_\_\_

Business Address with contact details \_\_\_\_\_



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Annexure – II (B)

## 2.PRICE SCHEDULE FOR GOODS BEING OFFERED WITHIN INDIA

Name of the Bidder \_\_\_\_\_ (On bidders letter head)

NIT Reference No. **EE/PRJ/351/18-19**

Date: **4 February 2019**

Bidder's Reference No. \_\_\_\_\_

Date:

| Sl. No. | Description/Part No./Make Model   | Quantity | Unit Price (in foreign currency) | Total Amount (in foreign currency) |
|---------|---|----------|----------------------------------|------------------------------------|
| 1.      |   |          |                                  |                                    |
| 2.      |   |          |                                  |                                    |
| 3.      |   |          |                                  |                                    |
|         | Ex-Works Price-   |          |                                  |                                    |
|         | Packing & Forwarding  |          |                                  |                                    |
|         | Transportation  |          |                                  |                                    |
|         | FOR (IIT ISM) Dhanbad   |          |                                  |                                    |
|         | GST/IGST (their rate(s) as the case may be, clearly specified)  |          |                                  |                                    |
|         | Please note that IIT ISM is eligible for Concessional GST as per Notification No. 45/2017 – Central Tax (Rate) for CGST, 45/2017 – State Tax (Rate) for SGST and 47/2017 – Central Tax (Rate) for IGST, |          |                                  |                                    |
|         | Insurance up to Destination/handover (in case of fabrication)   |          |                                  |                                    |
|         | Installation & Commissioning charge   |          |                                  |                                    |
|         | Training charges, if any  |          |                                  |                                    |
|         | Additional Warranty Charges, if any   |          |                                  |                                    |
|         | Annual Maintenance Charge, if any   |          |                                  |                                    |

\*(On the basis of the technical specifications submitted)

Total Bid Price \_\_\_\_\_

in words \_\_\_\_\_

Note :

(a) The Price schedule of optional items shall be indicated in a separate sheet in the same Performa.

(b) Cost spare parts may be indicated separately

Signature of Bidder

Name \_\_\_\_\_

Business Address with contact details \_\_\_\_\_