



J.C. BOSE University of Science & Technology , YMCA(Formerly YMCA University of Science & Technology') NH'2' Sector-6'  
Delhi- Mathura Road, Faridabad' 121006, Haryana,

## INVITATION LETTER

Package Code: TEQIP-III/2019/HR/ycma/75

Current Date: 31-Jul-2019

Package Name: ECE-13/WIRELESS COMMUNICATION

Method: Shopping Goods

TEST BED PLATFORM FOR 2X2 MIMO SYSTEM

To,

Sub: INVITATION LETTER FOR ECE-13/WIRELESS COMMUNICATION TEST BED PLATFORM FOR 2X2 MIMO SYSTEM

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Wired/ wireless communication devices	1	TEQIP Coordinator C/O Chairperson electronics engineering , J.C. Bose University of Science and Technology, YMCA, Faridabad, Sector -6 , Faridabad, Haryana, PIN - 121006'	As per The Equipment

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. **Quotation**

- 3.1 The contract shall be for the full quantity as described above.
- 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
- 3.3 All duties and other levies payable by the supplier under the contract shall be

included in the unit Price.

- 3.4 Applicable taxes shall be quoted separately for all items.
- 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than 55days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which
  - 6.1 are properly signed; and
  - 6.2 Confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
  - 8.1 Notwithstanding the above, the Purchaser 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 Contract.
  - 8.2 *The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be Incorporated in the purchase order.*
9. Payment shall be made in Indian Rupees as follows:

Payment Description	Delivery Period (in Days)	Payment Percentage
Satisfactory Acceptance	15	100

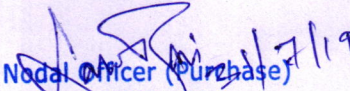
10. All supplied items are under warranty of 24 months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by 13:00 hours on 14/08/2019 through speed /Regd.post of courier only or if submitting personally then it should accompany the authorization letter.

Tentative Quotation opening schedule: 14:30 hrs 14/08/2019

12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) yes
14. Testing/Installation Clause (if any) yes
15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,  
TEQIP Coordinator  
J.C. BOSE University of Science & Technology , YMCA  
(Formerly YMCA University of Science & Technology')  
NH'2' Sector-6'Delhi- Mathura Road, Faridabad' 121006, Haryana,

17. We look forward to receiving your quotation and thank you for your interest in this project.

  
Nodal Officer (Purchase)  
(Authorized Signatory)  
TEQIP-III  
YMCA University of Science & Technology  
Name & Designation  
Faridabad - 121006

## Annexure I

### **Specifications:**

- Frequency Range: 400MHz to 6 GHz
- Frequency Accuracy:  $1 \times 10^{-7}$
- Frequency Resolution: 100KHz(1Hz with VSM or VSD modules)
- System should be modular and scalable from 1 to 1000 channels
- IQ resolution: 16bits
- Real Time Bandwidth: 40MHz/Channel
- Bus Speed up to 700Mbps
- Number of Slot/Chassis
- RF Modules: Vector Signal Generator/ Transmitter, and Vector Signal Demodulator/Receiver
- Reference Signals: 10MHz in, 10MHz out for synchronization
- System should be phase coherent with shared local oscillator.

### **Generator/ Transmitter Modules:**

- Frequency Range: 400MHz to 6GHz
- Phase Noise: -107 dBc(1Hz) @ 10KHz from Carrier, 1GHz
- Amplitude Accuracy : <0.5 dB(Typ. 0.2dB)
- Frequency Switching Speed
  - PLL1: <0.25ms (full band)
  - VSM : <10 us(within 320MHz band)
- RF Output Power: -37 dBm to -7dBm, Overrange-87dBm to -7dBm

### **Demodulator/Receiver Modules:**

- Frequency Range: 400MHz to 6GHz
- Max. RF input level: >12dBm
- SFDR (Spurious Free Dynamic Range): >70dB
- Sensitivity: <-90 dBm
- Accuracy: <0.5 dB (Typ. 0.2dB)
- Image Rejection: >40dB

### **System should be compatible with following Software:**

- Common technical computing / interpreted language such as Matlab
- LabView.
- HDL Programming compatibility
- Common technical computing / interpreted language such as Matlab
- Open source project such as GNURadio

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**FORMAT FOR QUOTATION SUBMISSION**  
(In letterhead of the supplier with seal)

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

To: \_\_\_\_\_  
\_\_\_\_\_

Sl. No.	Description of goods \ (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
<b>Total Cost</b>							

Gross Total Cost (A+B): Rs. \_\_\_\_\_

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. \_\_\_\_\_ (Amount in figures) (Rupees \_\_\_\_\_ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of \_\_\_\_\_ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact No. \_\_\_\_\_