



Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow,  
Uttar Pradesh - 226021

### INVITATION LETTER

Package Code: TEQIP-III/2019/UP/ietl/280

Package Name: IET-TEQIP-ECD-LAB-8

IET/TEQIP-III/2019-280-11

Current Date: 05-Jul-2019

Method: Shopping Goods

To,

APOLLO INFOWAYS PVT.LTD

Ghaziabad, Uttar Pradesh-201014,

LH-1402 AMRAPALI VILLAGE NYAY KHAND-1INDRA PURAM GAZIYABAAD

Sub: INVITATION LETTER FOR IET-TEQIP-ECD-LAB-8

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	FREQUENCY DIVISION MULTIPLEXER/DEMULTIPLEXER	2	Institute of Engineering and Technology, Lucknow	
2	ASK, FSK, BPSK, DBPSK MODULATOR & DEMODULATOR	2	Institute of Engineering and Technology, Lucknow	
3	QPSK, OQPSK, DQPSK Modulator & Demodulator	2	Institute of Engineering and Technology, Lucknow	
4	PAM, PPM, PWM TECHNIQUES AND LINE CODING TECHNIQUES	2	Institute of Engineering and Technology, Lucknow	
5	PCM, DPCM, CVSD MODULATOR AND DEMODULATOR	2	Institute of Engineering and	

DELTA, ADAPTIVE DELTA, SIGMA DELTA MODULATOR AND DEMULATOR	2	Technology, Lucknow  Institute of Engineering and Technology, Lucknow	
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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 60days 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:

**Satisfactory Delivery & Installation and Acceptance - 100% of total cost**

10. Liquidated Damages will be applied as per the below:  
Liquidated Damages Per Day Min % :0.50  
Liquidated Damages Max % : 10
11. All supplied items are under warranty of 36 months from the date of successful acceptance of items and AMC/Others is .
12. You are requested to provide your offer latest by 14:00 hours on 22-Jul-2019.
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any) YES
15. Testing/Installation Clause (if any) YES
16. Performance Security shall be applicable: 5%
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below, **TEQIP-III  
Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow, Uttar  
Pradesh - 226021**
19. We look forward to receiving your quotation and thank you for your interest in this project.

  
(Authorized Signatory)

Name & Designation

**COORDINATOR**  
**TEQIP PHASE-III**  
**Institute of Engineering &**  
**Technology, Lucknow-21**

**Annexure I**

Sr. No	Item Name	Specifications
1	FREQUENCY DIVISION MULTIPLEXER/DEMULTIPLEXER	Crystal Frequency : 4.096 MHz, Carrier Generator : Sine wave 100 KHz & 200 KHz, Modulating Input Frequency : Sine wave 200 Hz-10 KHz (variable), Audio Input Amplifier : Gain of 100 (approx.), Modulator / Demodulator : DSBSC Modulator/Demodulator, Low Pass Filters : Second Order Butterworth filters with a cut off frequency of 10 KHz, Audio Output Amplifier : Output Amplifier with a gain of 20, Test points : 30 nos, Interconnection : 2mm banana socket, Power Supply : 220V/110V, 50 Hz / 60 Hz, Power Consumption : 3 VA (approx.), Operating Conditions : 0-40 C, 85% RH, Included Accessories : Patch cord 16" : 15 nos. Headphone : 2 nos. Microphone : 2 nos. Mains cord : 1 no.
2	ASK, FSK, BPSK, DBPSK MODULATOR & DEMODULATOR	Modulation & Demodulation Techniques: ASK, FSK, BPSK, DBPSK. Internal Data Generator: Digital data. Data Pattern: 8-Bit, 16-Bit, 32-Bit, 64-Bit. Frequency: 2KHz, 4KHz, 8KHz, 16KHz. Internal Carrier Generator: Direct Digital Synthesized. Carrier Signal: Sine. SMD LED Indicators: 24 nos. for Digital data selection, data frequency selection and technique selection. Number of Test Points: 39 nos. (Gold plated). Crystal Frequency: 8MHz. Selection Mode: Push switches. Power Supply: 110V-260V AC, 50/60Hz. Operating Condition: 0-40 C, 85% RH Included accessories: 2mm Patch cord - 1no. Power Supply module - 1no
3	QPSK, OQPSK, DQPSK Modulator & Demodulator	Modulation & Demodulation Techniques: QPSK, OQPSK, DQPSK. Internal Data Generator: Digital data. Data Pattern: 8-Bit, 16-Bit, 32-Bit, 64-Bit. Frequency: 2KHz, 4KHz, 8KHz, 16KHz. Internal Carrier Generator: Direct Digital Synthesized. Carrier Signal: Sine, Cosine. SMD LED Indicators: 25 nos. for Digital data selection, data frequency selection and technique selection. Number of Test Points: 57 nos. Crystal Frequency: 8MHz. Selection Mode: Push switches. Power Supply: 110V-260V AC, 50/60Hz. Operating Condition: 0-40 C, 85% RH. Included accessories: 2mm Patch cord- 1no. Power Supply module- 1no.
4	PAM, PPM, PWM TECHNIQUES AND LINE CODING TECHNIQUES	Modulation & Demodulation Techniques: PAM, PWM, PPM. Line Coding Techniques Internal Signal Generator: Direct Digital Synthesizer. Types of Signal Sine, Square, Triangle, Arbitrary Signals. Frequency: 500Hz, 1KHz, 2KHz, 3KHz. External Signal: Types of Signal: Sine, Square, Triangle, Arbitrary Signals. Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset. Frequency: 500Hz to 3.5KHz Sampling/Ramp Frequencies: 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz. SMD LED Indicators: 46 nos. for DDS signal selection DDS signal frequency selection Sampling selection Technique Selection Interconnect

		<p>path Crystal Frequency: 20MHz, Selection Mode: Push switches, Random Data: 8 Bit/ 16 Bit/ 32 Bit (For line Coding). Data Frequency: 500Hz, 1KHz, 2KHz, 3KHz. Test Points: 29 nos. Low Pass Filter: Cut-off frequency- 5KHz Power Supply: 110V - 260V AC, 50/60Hz. Operating Condition: 0-40 C, 85%RH. Included Contents: 2mm Patch cord - 2nos.</p>
5	PCM, DPCM, CVSD MODULATOR AND DEMODULATOR	<p>Modulation &amp; Demodulation Techniques: PCM, DPCM, CVSD. Internal Signal Generator: Direct Digital Synthesizer. Types of Signal: Sine, Square, Triangle, Arbitrary signals. Frequency: 500Hz, 1KHz, 2KHz, 3KHz. External Signal: Types of Signal: Sine, Square, Triangle, Arbitrary Signals. Maximum Input Voltage: 3Vpp (Max.). +1.5V DC. Offset Frequency: 500Hz to 3.5KHz. SMD LED Indicators: 44 nos. for DDS signal selection, DDS signal frequency selection, Sampling selection Technique selection Interconnect path. Transmission Effect: Attenuation (7dB &amp; 10dB) Noise Filter. Crystal Frequency: 8MHz. Sampling Frequencies: 4KHz, 8KHz, 16KHz, 32KHz. Line Speed: 32KHz, 64KHz, 128KHz, 256KHz. Selection Mode: Push switches. Number of Test Points: 38 nos. Low Pass Filter Cut-off frequency- 5KHz. Power Supply: 110V-260VAC, 50/60Hz. Operating Condition: 0-40 C, 85% RH Included Contents : 2mm Patch cord - 2nos</p>
6	DELTA, ADAPTIVE DELTA, SIGMA DELTA MODULATOR AND DEMODULATOR	<p>Modulation &amp; Demodulation Techniques: Delta, Adaptive Delta, Sigma Delta First order, Sigma Delta Second order. Internal Signal Generator: Direct Digital Synthesizer. Types of Signal: Sine, Square, Triangle, Arbitrary signals. Frequency: 500Hz, 1KHz, 2KHz, 3KHz. External Signal: Types of Signal: Sine, Square, Triangle, Arbitrary signals. Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset. Frequency: 500Hz to 3.5KHz. SMD LED Indicators: 48 nos. for DDS signal selection, DDS signal frequency selection Sampling selection Technique selection Interconnect path. Transmission Effect: Attenuation (7dB &amp; 10dB) Noise Filter. Crystal Frequency: 8MHz. Sampling Frequencies: 16KHz, 32KHz, 64KHz, 128KHz, 256KHz. Integrator step: Normal &amp; 3 times. Selection Mode: Push switches. Number of Test Points: 46 nos. (Gold plated). Low Pass Filter: Cut-off frequency-5KHz. Digital Filter: Decimation filters (16:1). Power Supply: 110V - 260V AC, 50/60Hz. Operating Conditions: 0-40 C, 85% RH. Included accessories: 2mm Patch cord 2nos</p>

**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. \_\_\_\_\_ (Amount in figures)  
Total contract price of Rs. \_\_\_\_\_

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. \_\_\_\_\_ (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. \_\_\_\_\_

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