Government College of Engineering

Station Road, Osmanpura, Aurangabad – 431 005

"In Pursuit of Global Competitiveness"

Phone : (0240) 2366101 Fax : (0240) 2332835

E-Mail – principalgeca@yahoo.com, Web – http://www.geca.ac.in

INVITATION FOR QUOTATION

GECA/E&TC/Purchase/2016-17/ 788 **Date :** 03.03.17

To,

GECA Website & notice Board

Sub: Invitation for Quotations for supply of following Goods

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	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
01	MSK Modulator/ Demodulator	1	07 Days	E&TC Department Govt. College of Engineering, Aurangabad	YES
02	Error Detection and Correction Cyclic Codes	1			
03	Block Codes	1			
04	PCM Generation & Demodulation using CODEC Chip	1			
05	PAM, PPM, PWM and Line Coding Techniques	1			
06	Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator	1			
07	ASK, FSK, BPSK, DBPSK Modulator & Demodulator	2			

2. Quotation,
   a. The contract shall be for the full quantity as described above.
   b. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
   c. All duties and other levies payable by the supplier under the contract shall be included in the unit price.
   d. Applicable taxes shall be quoted separately for all items.
   e. 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.
   f. The Prices should be quoted in Indian Rupees only.
   g. Rates Quoted should be FOR Aurangabad or free delivery at the institution
3. Each bidder shall submit only one quotation.

4. Quotation shall remain valid for a period not less than **06 months** after the last date of quotation submission.
5. Evaluation of Quotations,
   The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
   a. are properly signed ; and
   b. confirm to the terms and conditions, and specifications.
6. 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.
   a. 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.
   b. 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.
7. Payment shall be made in Indian Rupees as follows:
   Delivery and Installation And Training - 100%
8. All supplied items are under warranty of **12** months from the date of successful acceptance of items.
9. You are requested to provide your offer latest by **16:00** hours on 10/03/17
10. Detailed specifications of the items are at Annexure I.
11. Training Clause (if any) 1 **Days Training for Faculty members and related student**
12. Testing/Installation Clause (if any) **Asper Satisfaction of Expert Faculty member**
13. **Information brochures/ Product catalogue should be enclosed with the quotations clearly indicating the model quoted for.**
14. Sealed quotation to be submitted/ delivered at the address mentioned below,
    The Principal Government College Of Engineering, Railway Station Road, Osmanpura Aurangabad. Aurangabad Maharashtra, India 431005 .Subscribed as Quotation for E&TC. Dept.
    GECA/E&TC/Purchase/2016-17/ 788 **Date :** 03/03/17 Due Date 10.03.17
15. We look forward to receiving your quotation and thank you for your interest in this project.

Principal
Govt. College of Engineering,
Aurangabad

Annexure I

Sr. No	Item Name	Specifications
01	MSK Modulator/ Demodulator	• Data rate: 16 Kbps • World Length: 15 bits • Data Format: NRZ (Non Return to Zero) • Clock Source: 16 KHz, 8 KHz • Carrier Generators: 32 KHz (Sinusoidal) • Pulse Shaping Waveform: 4 KHz • Interconnections: 2 mm socket (Gold plated)
02	Error Detection and Correction Cyclic Codes	• Crystal Frequency: 4.096 MHz • Data Rates: 16 KHz,8 KHz,4 KHz,2 KHzand 1 KHz • Code Rates: 32 KHz,16 KHz,8 KHz,4 KHzand 2 KHz • Word Length: 4 bits • Code Length: 7 bits code and 1 stuffed bit • Data Format: NRZ (Not Return to Zero)
03	Block Codes	• Crystal Frequency: 11.059 MHz • Word Length: 4 bits • Codeword Length: 7 bits code • Data Format: NRZ (Not Return to Zero) • Interconnections: 2 mm sockets (Gold plated) • Test points: 5 nos (Gold plated)
04	PCM Generation & Demodulation using CODEC Chip	• Audio codec: Stereo • Inputs: Single ended • Number of bits per channel: 16 bits (Left and Right) • Sampling Rate: 48, 24, 12 and 6 KHz • System clock: 256 x (Sampling clock) • Clock Source: On-board • Analog Signal Source: Sinusoidal • Frequency: Up to 3.3 KHz • Amplitude: 0 - 5 Vpp
05	PAM, PPM, PWM and Line Coding Techniques	• **Modulation & Demodulation Techniques:** 1. PAM 2. PWM 3. PPM 4. Line Coding Techniques • **Internal Signal Generator:** Direct Digital Synthesizer • Types of Signal: Sine, Square, Triangle, Arbitrarysignals. • Frequency: 500Hz, 1KHz, 2KHz, 3KHz • **External Signal:** • Types of Signal: Sine, Square, Triangle, Arbitrarysignals • 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 • Crystal Frequency: 20MHz

06	Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator	• **Modulation & Demodulation Techniques:** 1. Delta 2. Adaptive Delta 3. Sigma Delta First order 4. Sigma Delta Second order • **Internal Signal Generator:** Direct Digital Synthesizer • Types of Signal: Sine, Square, Triangle, Arbitrarysignals • Frequency: 500Hz, 1KHz, 2KHz, 3KHz • **External Signal :** • Types of Signal: Sine, Square, Triangle, Arbitrarysignals • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency: 500Hz to 3.5KHz • Transmission Effect: Attenuation (7dB & 10dB) • Crystal Frequency: 8MHz • Sampling Frequencies: 16KHz, 32KHz, 64KHz, 128KHz,256KHz • Integrator step: Normal & 3 times
07	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 DigitalSynthesized • Carrier Signal: Sine • Crystal Frequency: 8MHz.