



श्री माता वैष्णो देवी विश्वविद्यालय

**Shri Mata Vaishno Devi University**

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NIQ. No: SMVDU/SoECE/ 2024-25/ **S28**

Date: 09<sup>th</sup> September 2024

**Notice Inviting Quotation**

**Sub: - Supply for Digital Communication Training System**

Quotations in sealed cover are invited for the Supply on behalf of Registrar SMVDU for the Head of the School of Electronics and Communication Engineering from reputed registered firms / Co-operative stores / Suppliers or Manufacturers having a valid GST Number and PAN Number, and for supplying rates for the bellow mentioned items/jobs.

Sr. No.	Details of the Item / job	Qty
1.	<b><u>Supply for Digital Communication Training System</u></b> <b>Detailed description in attached Annexure G</b>	05

The sealed rate quotations should reach the Central Dispatch Section SMVDU latest by 20<sup>th</sup> September 2024 Friday, by 5:00 P.M...Any quotation received after the due date and time shall be summarily rejected. The sealed bids shall be opened on the next working day at 2:30 P.M. in the presence of authorized representatives, should they wish to attend the same.

**Terms & Conditions**

1. Rates should be written in figures as well as words. Delivery duration, GST rates, Delivery charges, or any other rates/charges, as applicable, and discount if any, should be clearly mentioned in the **Schedule of Quantities [Format enclosed at Annexure 'A']**.
2. The last date for receipt of sealed quotations in the Central Dispatch Section SMVDU latest by 20<sup>th</sup> September 2024 Friday, by 5:00 P.M.
3. The quotation / **Schedule of Quantities** should be on the letter head of the Company with reference no. and date on it, duly signed and stamped. The quotations should be submitted in sealed cover, addressed to the Head of School/Section, super-scribing the NIQ issue number & date and due date & time failing which the quotation is liable to be rejected.
4. Price quoted for the material / equipment shall be final and valid for 3 months.
5. Quotation without the authorization from the Company will not be accepted.
6. Delivery of material /equipment / stores mentioned in this quotation will be supplied by the supplier at SMVDU Stores at Kakryal, Katra-182320 (J&K).

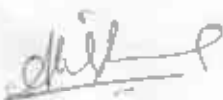
7. Rate offered must be for metric system of unit lengths or volume or weight.
8. Documents in support of valid GST and PAN Number also need to be enclosed with the quotation.
9. SMVDU reserves the right to increase the quantity mentioned in this NIQ or to split this quotation and place order on one or more suppliers/ bidders; as well as, the right to reject partly or completely, the quotations without assigning any reasons thereof.
10. The quotation should be complete in all respects and the firms shall give the Make/ Brand name offered for the items in the quotations. Wherever applicable, technical literature may please be enclosed along with quotation.
11. The payment will be released after the receipt of all and complete material/equipment with complete accessories in good working condition and its inspection by a duly constituted Inspection Committee.
12. Material/ equipment shall be guaranteed for the minimum period of 02 / 03 [strike off whichever is not applicable] years on site for satisfactory performance, workmanship and for the quality of material/ equipment supplied by the firm from the date of delivery/ installation.
13. Quotation received after DUE DATE & TIME will not be considered. SMVDU shall not be responsible for delays in postal transit.
14. All taxes / duties should be clearly mentioned in the Quotation.
15. PACKING: The equipments shall be packed suitably for dispatch directly to SMVDU at Suppliers expenses and supplier shall be responsible for any damage during transit.
16. AFTER SALES SERVICE: The offer shall clearly state full details of the after sales service facility available for the equipment.
17. JURISDICTIONS FOR DISPUTES: In all disputes, the decision of the Registrar, SMVDU, shall be final, conclusive and binding on the supplier. All disputes shall be subject to the jurisdiction of the courts in the District, Jammu.
18. DEVIATIONS: Deviations, if any from the specifications given which provide for improvement in the functioning of the equipments will be accepted. Such deviations and their advantages shall be clearly brought out in the tender / quotation.

The NIQ shall be available on the University Website: [www.smvdu.ac.in](http://www.smvdu.ac.in) For any query contact School/Section/Centre/Wing at the following email id: [atulneel.sharma@smvdu.ac.in](mailto:atulneel.sharma@smvdu.ac.in)

Signatures: 

Head of ~~SCC~~ .....

Date: 09 Sept. 24 .....



[To be provided on Firm/Company Letter Head]

**Schedule of Quantities**

**Name of the Job:** Supply for Digital Communication Training System

**Ref: NIQ Number:**..... **Date:** .....

Sr. No.	Details of the Item	Qty	Rate per item	Amount in Rs.	GST rate	GST Amount in Rs.	Total Amount inclusive of GST in Rs.
1							
2							
3							
4							
Less: Discount if any							
Add: Delivery Charges if any							
Net Amount to be paid in Rs. ₹							
Deliver Period							

**Additional Terms and Conditions [if any]:**  
.....  
.....

**Bank details for RTGS Transfer**

Name of the Account:  
Account No.:  
Account Type:  
Bank Name:  
Branch name and Address:  
IFSC Code:

**Signature & Stamp of the Supplier**



### Digital Communication Training System

Digital Communication Training System is based on VLSI and DSP platform with In-build internal data generator: 256 Bit

Type of Encoding & Decoding: 1bit, 2bit, 3bit, 4bit. Type of Modulations & Demodulations: ASK, FSK, BPSK, DBPSK, QPSK, DQPSK, p/4 QPSK, OQPSK, M-ary ASK, M-ary FSK, MSK, 8-PSK, 8-QAM, 16-PSK, 16-QAM, PC to PC interface with interactive messaging software

Digital Synthesized Sine & Cosine wave generation with variable step

Frequencies: 1.6 KHz and 3.2 KHz for internal test data. 10 KHz and 20 KHz for PC to PC communication. Test Data Pattern : 256 bit random serial data Encoding Techniques : 1bit, 2bit, 3bit, 4bit Modulation Techniques : ASK, FSK, BPSK, DBPSK, QPSK, DQPSK, p/4 QPSK, OQPSK, M-ary ASK, M-ary FSK, MSK, 8-PSK, 8-QAM, 16-PSK, 16-QAM, Decoding Techniques : 1bit, 2bit, 3bit, 4bit De-Modulation Techniques : ASK, FSK, BPSK, DBPSK, QPSK, DQPSK, p/4 QPSK, OQPSK, M-ary ASK, M-ary FSK, MSK, 8-PSK, 8-QAM, 16-PSK, 16-QAM

Real-time Sampling: 25MSPS Memory Depth: 1K Per Channel Trigger Sources: CH1, CH2

Vertical Resolution: 8bit Math: Addition, Subtraction, Multiplication Waveform Interpolation: Linear

### Scope of Learning

- ASK modulation & demodulation • FSK modulation & demodulation • BPSK modulation & demodulation • BPSK constellation • Differential encoding of serial data for modulation
- Differential decoding of serial data after demodulation • DBPSK modulation & demodulation • 2-bit encoding and two channel (Inphase and Quadrature) modulation techniques • QPSK modulation & demodulation • QPSK constellation • 2-bit differential encoding of serial data for modulation • 2-bit differential decoding of serial data after demodulation • DQPSK modulation & demodulation • OFFSET QPSK modulation & demodulation • OFFSET QPSK constellation • p/4 QPSK modulation & demodulation • p/4 QPSK constellation • M-ary ASK modulation & demodulation • M-ary FSK modulation & demodulation • Half sinusoid wave shaping for MSK modulation • MSK modulation & demodulation • 3-bit encoding of serial data for modulation • 3-bit decoding of serial data after demodulation
- 8-QAM modulation & demodulation • 8-QAM constellation • 8-PSK modulation & demodulation • 8-PSK constellation • 4-bit encoding of serial data for modulation • 4-bit decoding of serial data after demodulation • 16-QAM modulation & demodulation • 16-QAM constellation • 16-PSK modulation & demodulation • 16-PSK constellation

Teaching & Simulation software should also be provided with kit which should cover above said topics, alongwith all the supportive accessories.

