



श्रीमता वैष्णो देवी विश्वविद्यालय  
Shri Mata Vaishno Devi University  
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NIQ. No: SMVDU SoECE 2024-25 26

Date: 15-02-2025

**Notice Inviting Quotation**

**Sub: - Supply for Microwave trainer bench klystron based**

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.	Microwave trainer bench klystron based Detailed description in attached Annexure B	02

The sealed rate quotations should reach the Central Dispatch Section SMVDU within 10 days from the date of uploading of the NIQ or 25<sup>th</sup> Feb.2025 before 5 PM whichever is earlier. 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 25<sup>th</sup> Feb.2025 before 5 PM.
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).

- 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 03 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 .....  
Date: ..... 15/01/25 .....



Annexure "A"

[To be provided on Firm/Company Letter Head]

**Schedule of Quantities**

**Name of the Job:** Supply for Microwave trainer bench klystron based and Gunn based

**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]:**

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.....

**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**



### Microwave Test Bench (Klystron Based) X-Band frequency

This bench should be for X-Band frequency and have following components and specifications

- A. **Solid State Klystron Power Supply- 02 no.** **Beam Voltage:** 240 - 420 VDC, Variable. **Current :** 50 mA  
**Repeller Supply :** -18 V to -270 V DC Variable (ON Load) **Filament Supply :** 6.3 VDC (adjustable on rear panel) **Over-Load Trip Current :** 65 mA **Modulation :** AM Square, FM Saw - tooth with **Frequency Range :** 500 - 2000 Hz 50 - 150 Hz **Amplitude :** 0 - 110 Vpp 0 - 60 Vpp **External :** Through External Modulating Signal & Audio Input : Provided for audio comm. **Digital display** Beam voltage, Beam Current, Repeller voltage with 3½ Digital Panel meter **Modulation Selector :** CW/AM/FM/EXT Meter Selector : Beam Voltage (V)/ Current (I)/ (Repeller) Rep. **Connectors :** 5-Pin lunar Connector. BNC for External Modulation
- B. **VSWR Meter- 02 no.** **Display:** Analog **Sensitivity:** 0.1µV for 200Ω input impedance **Noise Level:** Less than 0.02µV **Range:** 0-70 dB in 10 dB steps **Input:** Unbiased low and high impedance (200Ω and 200kΩ) **Display Select** Analog SWR: 1-9 dB: 0-10 **Modes:** Normal (Bar graph for signal strength), Audio, PC-Interface **Gain Control:** Adjustable, 0-10dB (approximate) **Input Connector:** BNC **Input Frequency:** 1000Hz ±10%
- C. **Klystron Mount with Klystron Tube - 02 no.**
- D. **Isolator- 02 no.**
- E. **Frequency Meter (Analog Direct Readout) - 02 no.** Calibration Accuracy ± 2% Calibration Increment 5 MHz
- F. **Variable Attenuator 20 db- 02 no.**
- G. **Slotted Section- 02 no.**
- H. **Tunable Probe- 02 no.**
- I. **Detector Mount- 02 no.**
- J. **Movable Short- 02 no.**
- K. **Matched Termination- 02 no.**
- L. **Wave Guide Stand- 08 no.**
- M. **Slide Screw Tuner (S.S. Tuner) - 02 no.**
- N. **Cooling Fan- 02 no.**
- O. **Fixed Short- 02 no.**
- P. **Appropriate no. Of BNC to BNC Cable, one no. of BNC to Crocodile cable Brass Fly Nut & Screws Set, Microphone, Ear Phone, CD for product tutorial, Video Demo, Smith chart, wall chart and Hard copy of Operational manual etc.**

### Simulation Software

This should cover basic Concepts of Electromagnetic Wave, Properties, Maxwell's Equations in Different Forms. Microwave Frequency Bands. Waveguides: Circular and Rectangular waveguides. Modes of Propagation (TE, TM). Microwave Components: Cavity, Directional Coupler, Circulator, Isolator, Tees, Microwave Tubes: Conventional Tube, Velocity Modulation, Two Cavity and Multi Cavity Klystron, Reflex Klystron, Travelling Wave Tube, Magnetron, Cross Field Amplifier Microwave Active Components: Gunn, Tunnel, PIN and Varacter Diodes.

*Shashi Suresh*