DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

At. Po. Lonere, Tal. Mangaon, Dist. Raigad 402 103 MS (www.dbatu.ac.in)

INVITATION FOR QUOTATION 06 FEB 2025

Our Ref No. : DBATU/Store /EXTC(Diploma)/PEC Lab/2025/ 402 Date: 05 /02/2025

Quotation For : Trainer kits required in Principles of Electronics Communication laboratory

Due On: 12/02/25

Date of Opening: 13/02/2025 Time: 04:30 pm

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To,

Sub: QUOTATION FOR THE SUPPLY OF STORE

Dear Sir,

Your quotation for the items listed overleaf, may please be submitted to the under signed, so as to reach this Office not later than 12/02/2025 up to 5:30 PM

While submitting your quotation, the following procedure may please be observed and other points borne in mind.

1. The maker's name must be specified.
2. The "Terms and Conditions" for supply and delivery of stores, should be clearly indicated in the quotation, stating whether rates are, inclusive of all taxes, Packing and forwarding charge,s Freight charges, etc. or not, however rates offered as including all taxes will be more welcome.
3. If packing and forwarding charges are to be charged separately, it should be so clearly stated in your quotation.
4. Please mention clearly whether consignment would be Ex-Godown, Ex-Shop, of F.O.R. dispatching stations. Preferably terms offered as "Delivery of consignment of stores, on F.O.R.
5. Envelope should be super-scribed **"Quotation for reference No..... of dated....."** It should also be superscripted as per the format given above.
6. The quotation would be opened as per date and timing given above, if desired by you, you may depute an authorized representative with a letter of authority to be present at the time of opening of the quotation at this Office on the aforesaid day, date & time.
7. Your quotation must be valid for a minimum 30 (Thirty) working days from the date of it's opening.
8. Quotation received after the date of opening may not be taken into consideration.
9. Items tendered should confirm to the specification shown in the attached list when and where, full or no specifications are indicated against items in the list. Kindly furnish your full specification in accordance with accepted standards against each item tendered. Where reference to catalogue is made, the relevant catalogues/ Pamphlets/ Literature should accompany the quotation.
10. Your quotation should be for all new items and not for second1 hand.
11. Please state whether items will be available Ex-Stock. If not the minimum period for delivery, or for supplying the items or stores.

12. It should be clearly stated whether **GST,** Insurance, Freight or packing and forwarding charges, or any other taxes and duties, etc. leviable.
13. It would be appreciated if illustrated catalogues/Literature etc is furnished with the quotation.
14. Expression to as "Complete with standard Equipment" complete with standard accessories "Equipment to" As good as should be avoided. If at all their use is unavoidable then it should be very specifically indicated as to what exactly they mean and what exactly would be supplied under them. Any ambiguity or vagueness should be avoided.
15. For convenience, kindly adopt while quoting the same serial Nos. as given in the list detailed below.

Thanking You.

Yours faithfully,

Registrar

Dr. Babasaheb Ambedkar Technological University, Lonere

List of Items

Sr. No.	Description	Make	Approx. Qty Req.	Rate per / Each / Unit	Remarks
	• **Trainer kits required in Principles of Electronics Communication laboratory** As per details Annexure - I		-----		

➢ Quantity may vary

Annexure - I

Sr. no.	Description	Specifications	Qty (nos.)
1	**TDM Pulse code modulation and Transmitter**	Trainer should possesses the following features: 1. Crystal Controlled Clock 2. On-board Sine Wave Generator (Synchronized) 3. 2 TDM Analog Channels 4. PCM Transmitter 5. Fast & Slow modes for real time operation and data flow examination 6. Error check code options (odd-even parity, Hamming Code) 7. 4 Switched faults allow different Error Check Options **Technical Specifications:** • Crystal Frequency : 16 MHz • On Board Analog Signal : 2 KHz, 4 KHz (Sine wave synchronized to sampling pulse Adjustable amplitude and separate variable DC level) • Input Channels : 2 nos. • Multiplexing : Time Division Multiplexing • Modulation : Pulse Code Modulation • Sync Signal : Pseudo Random Sync Code Generator • Error Check Code : Off - Odd - Even - Hamming • Operating Mode : Fast : 320 KHz / channel approximately • Slow : 1.9 Hz / channel approximately • Test Points : 50 nos • Interconnections : 2 mm Sockets • Power Supply : 110-220 V, ±10%, 50 /60 Hz • Power Consumption : 4 VA approximately	01
2	**TDM Pulse code Demodulation/Receiver**	Trainer should possesses the following features: 1. Input accepts two channel multiplexed data 2. On board De-multiplexed PCM Receiver 3. On board Low pass filters 4. Fast & Slow modes for real time operation and data flow examination 5. On board PLL for clock regeneration 6. On board sync code detector 7. Error check code options 8. Odd or Even Parity-Single bit error detection 9. Hamming code single bit error detection and correction 10. Switched faults allow different error check code option **Technical Specifications:** • Input Channel : Time Division Multiplexed serial Input • Demodulation : Pulse Code Demodulation • Clock Regeneration : By Phase Locked loop • Operating Speeds : Fast - 320 KHz/Channel, Slow 1.9 Hz / Channel	01

		• Error Detection (Single bit) : Off-Odd- Even parity & Hamming code • Error Correction : Hamming code • Test Points : 50 nos. • Interconnections : 2 mm sockets • Power Supply : 110-220 V ±10%, 50/60 Hz • Power Consumption : 4 VA approximately Dimensions (mm) : W 326 × D 252 × H 52	
3	**Frequency Division Multiplexer/De multiplexer**	Trainer should possesses the following features: 1. Self contained and easy to operate 2. Two variable modulating (sinusoidal) input channels with provision of voice inputs 3. Two DSBSC modulators for frequency band translation of two test signals 4. Two Carrier Generators 5. Two sets of audio input amplifier 6. One adder/transmission amplifier 7. Two Demodulators 8. Two low pass filters for smooth output 9. 2 Sets of audio O/P amplifier **Technical Specifications:** • 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 • 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.	01
4	**PCM, DPCM, CVSD Modulator & Demodulator**	Trainer should possesses the following features: 1. Modulator and Demodulator on same board 2. On-board DDS Signal Generator for standard and Arbitrary signals 3. Selectable sampling frequencies with respective line speed 4. On board Transmission effect 5. On board 2nd order Butterworth Low Pass filter 6. SMD LED indicators 7. Can be issued just like a book for hands-on learnings **Technical Specifications:** • Modulation & Demodulation • **Techniques** : PCM, DPCM & CVSD • **Internal Signal Generator**: Direct Digital Synthesizer	01

		• 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 & 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 - 260V AC, 50/60Hz • **Operating Condition** : 0-40^{O}C, 85% RH • **Included Contents** : 2mm Patch cord - 2nos	