



GOVERNMENT POLYTECHNIC, KHAMGAON

WINNER OF ISTE-NARSEE-MONJEE AWARD-2000

☎ (07263) 56644 (O), 54609 (R), Fax - (07263) 52278

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Gram: - POLYTECH

No. : GPK/EQP/inst purchase/ETX_List-A/2018-19/3256

Date: 01/12/2018

By post / email

To,

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QUOTATION

Sub: Quotation for purchase of equipment / ~~furniture~~.

(Due Date 02/01/2019 & Date of Opening: 03/01/2019)

Dear Sir,

Sealed Quotations are invited from eligible and interested manufacturers/ dealers/distributors/ for the following items on the terms and conditions mentioned below.

Sr. No.	Name of the item with specification		Quantity required	Approximate cost per unit (Inclusive of GST and all) (Rs.)
	Name of the item	Specification		
1	Trainer kit for MOSFET	Trainer kit suitable to plot I/p, O/P characteristic of MOSFET with inbuilt DC supply and required digital meters (4 No.) and various Test point	2	4000
2	Trainer kit for single tuned amplifier	Trainer kit suitable to plot the frequency response of a Transistorized L-C tuned (single) circuit amplifier. Centre frequency above 400 KHz. (any other suitable frequency) Inbuilt DC supply and various Test points.	2	4000
3	Trainer Kit suitable to plot Anode	Trainer kit suitable to plot anode - cathode characteristics and gate characteristics of silicon controlled Rectifier (SCR). 0 - 10V and 0 - 150V DC power supply of required current rating & 4 no of digital voltmeter & current meter are inbuilt in the kit.	1	4000
4	Study of SCR Turn ON Methods	Trainer kit suitable to study the basic triggering methods of SCR like Resistance triggering circuit; R-C triggering circuit. Should be provided with SCR, Lamp load (15W) & isolation transformer. Trainer kit should demonstrate effect of variation of resistor and capacitor in R & RC triggering circuit on firing angle of SCR. SCR should be operated on 230V, 50Hz AC supply	1	4000

5	Study of SCR Turn ON Methods	Trainer kit suitable to study the SCR triggering using Synchronized UJT triggering. Trainer kit should demonstrate effect of variation R on firing angle in Synchronized UJT triggering circuit.	1	4000
6	Trainer kit for single stage and Multistage BJT amplifier	Trainer kit suitable to plot Frequency response of 2 stage common emitter transistor amplifier circuit. Facility to measure A1& A1xA2. Inbuilt DC supply and various Test points.	2	3000
7	Trainer Kit for FM Modulator using IC 566	AC Source:600Hz-2.5KHz, FM Modulator: VCO, Test Points, Circuit diagram engraved on front panel with transparent rear panel	2	4000
8	Trainer Kit for FM Demodulator using IC 564/565	AC Source:600Hz-2.5KHz, FM Demodulator: VCO, Test Points, Circuit diagram engraved on front panel with transparent rear panel	2	4000
9	Antenna trainer kit	Waveforms: Sine RF Generator: 750 MHz approximately (output adjustable) Tone Generator : 1 KHz approximately (output adjustable).Directional Coupler: Forward & Reverse (selectable).Matching Stub : Slider type. Antenna Rotation: 0-360 deg. Resolution 1 deg. Receiving Antenna: Folded dipole with reflector. Detector Display: Level adjustable meter Interconnections: 2 mm Banana sockets Antenna with Radiation Pattern Plotting Software and 10 Antennas RF Generator for easy experimentation with built-in modulation and DC transmitting mast, and receiving mast with detector. Experiment with different types of antennas. Antenna Fabrication kit Forward / Reverse power & SWR measurements	2	6000
10	Trainer kit for Sampling theorem and PCM modulation and demodulation	STUDY OF SAMPLING THEOREM. Trainer kit suitable to demonstrate the principle of Sampling theorem which is basic of digital communication system by IC based circuit. Kit should have built in Clock generator, Pulse generator Sample & Hold circuit, Microphone Preamplifier & Filter circuit. Also provided with signal recovery section. Effect of aliasing should be demonstrated. Inbuilt DC supply and various Test points. ii) PULSE CODE MODULATION. Trainer kit suitable to demonstrates the principle of pulse code modulation. Kit should consist of Crystal based clock generator, Divider circuit, A to D converter and parallel to serial converter. Trainer should give the pulse code modulated signal at output. Inbuilt DC supply and various Test points. iii) PULSE CODE DEMODULATION. Trainer kit suitable to demonstrate the principle of pulse code demodulation using IC based circuit. Kit consists of serial to parallel converter, D to A converter, filter and amplifier. This unit should be matched with PCM trainer & original modulating	2	5000

11	Trainer kit for DPCM modulation and demodulation	Onboard DPCM Transmitter and receiver. Onboard Audio input & output processing. Circuits Clock and entire control Signal section. Detailed signal processing circuit with complete data and control signal flow Signal generator block. Functions: Sine and Square O/P frequency range: 300Hz to 3.4 KHz Audio blocks: Audio I/P and O/P processing circuits Control signals: R/W for ADC, reset. Latch enables, OEs. Sampling frequency : 8 KHz Total Bits per sample :5 bits including sign bit Compared to 8 bit PCM :3 bits per sample	2	7500
12	Trainer kit for delta and adaptive delta modulation	Input Channel: Time Division Multiplexed .Serial Crystal Frequency: 6.400 MHz Sampling Clock Frequency: 50, 100, 200 & 400 KHz (Switch selectable).On board Generator: Synchronized and Adjustable Integrator: Four integrator gain settings .Normal, X 2, X 4, X 8Low Pass Filter: Fourth order Butterworth (Cut Off Frequency 4.8 KHz).	2	7500
13	Trainer kit for Study of Data Formats. Line code trainer for UPNRZ, PRZ, BPRZ, PNRZ, and UNRZ. Manchester and Differential	Technical Specification .Data Formatting and Carrier Modulation Transmitter .Crystal Frequency: 4.096 MHz Data formats: NRZ (L), NRZ (M), RZ, AMI, and RB. Biphase (Manchester), Biphase (Mark).On-board carrier : Sine waves synchronized to transmitted data at 1.6 MHz, 960 KHz, (0 deg. phase) 960 KHz, (90 deg. phase) Power Supply : 220/110V, 50/60 Hz.	2	5000
14	Trainer kit for ASK , PSK , FSK modulation and Demodulation	Trainer kit for Study of keying techniques .For Study of Amplitude Shift Keying Study of Frequency Shift Keying for Study of Phase Shift Keying for Study of Differential Phase Shift Keying for Study of Quadrature Phase Shift Keying Study of Differential Quadrature Phase Shift Keying Technical Specifications Carrier Demodulation and Data Reformatting Receiver IC carrier Demodulation : ASK - Rectifier	2	7500
15	Trainer kit for QPSK modulation and Demodulation	Trainer kit shall demonstrate principle of QPSK modulation and demodulation	2	4000
16	Trainer kit for QAM modulation and Demodulation	Trainer kit shall demonstrate principle of QAM modulation and demodulation	2	5000

17	Trainer kit for DPSK modulation and demodulation	Trainer kit shall demonstrate principle of DPSK modulation and demodulation	2	5000
18	Trainer kit for FDM and TDM and de-multiplexing	Trainer kit shall demonstrate principle of FDM and TDM multiplexing and DE multiplexing	2	10000
19	CDMA – DSSS signal generator and demodulator	Trainer kit shall demonstrate principle of CFMA DSSS signal generation and demodulation	2	10000
20	FHSS signal modulator and demodulator	On-board data generators and PRN sequence generators. BCD rotary switches for Data Selection Tap selectable PN sequence generators Multiple data rate and chip rate selection Variable processing gain selection Slow and Fast frequency hopping demonstration PN sequence driven Frequency synthesizer with non-overlapping frequency channel assignment Data Rates :16 Kbps, 8 Kbps and 4 Kbps Word Length :8 bits Data Format :NRZ (Not Return to Zero) Chip Rates :240 KHz, 120 KHz, 60 KHz, (DSSS CDMA)16 KHz, 8 KHz and 4 KHz (for FHSS) Sequence Type :Maximum Length Sequence Sequence Pattern :Selectable through feedback taps in LFSR array. BFSK Frequencies: 100 KHz for mark and 50 KHz for space. Frequency Synthesizer Output: Sinusoidal Frequency Synthesizer: 1.6 MHz, 1.2 MHz, 800 KHz and 400 KHz. Channels Hoping Channels :Four Number of Hopes :Variable depending upon data rate and chip rate per Data Periods	2	10000
21	Trainer kit for UJT	Trainer kit suitable to plot V I characteristic of UJT with inbuilt DC supply and required digital meters (2 No.) and various Test point	2	4000
22	Trainer kit for RC Phase shift oscillator	Trainer kit suitable to produce oscillations of frequency 10 KHz (any other suitable frequency) Inbuilt DC supply and various Test points.	2	5000
23	Trainer kit for crystal oscillator	Trainer kit suitable to produce oscillations of frequency 10 KHz (any other suitable frequency) Inbuilt DC supply and various Test points.	2	5000
24	Trainer kit for negative feedback amplifier	Trainer kit suitable to plot the frequency response with and without Voltage series feedback, Voltage shunt, Current series and current shunt feedback. Inbuilt DC supply and various Test points.	2	5000

(Note: Please note the terms and conditions mentioned below)

TERMS AND CONDITIONS

- The bid/quotation should be submitted in **two bid format**. (Technical bid & Commercial Bid)
- **The first envelope will contain Technical specifications of the product, technical literature / leaflet and other documents mentioned below.** It is mandatory to the suppliers to submit following documents without which your quotation will not be considered.
 1. Covering Letter for tender on the company letter head mentioning official address, Contact No, E-Mail address and website (if available) address.
 2. Registration letter of supplier's establishment (company / organization)
 3. EMD in this regard (3% of the quoted cost or Re. 5000 whichever is minimum) to be paid in the form of DD in favour of Principal, Govt. Polytechnic, Khamgaon OR Exemption certificate from competent authorities, if exemption is claimed.
 4. GST registration certificate / Number.
 5. GST Clearance Certificate / GST Challan for last quarter of the financial year. **(Paid up to July 2018)**
 6. Authorization / Distributorship certificate from manufacturer. Proof of permission to manufacture
 7. The equipment / item mentioned in the quotation from competent authorities. (to be submitted if the bidder is not a manufacturer)
 8. Technical literature / leaflet of the make and model no of equipment quoted.
 9. Undertaking by supplier confirming quality of Equipment / Machinery.
 10. Under taking by supplier towards supply of equipment within prescribed date / period and post sales services.

(Additional document may also be asked by undersigned for confirming the details.)

- **The second envelope will contain the financial bid** in which the all inclusive rates F.O.R. Destination will be written and signed with the stamp of the establishment in the following format.

Sr. No.	Name of the item with specification		Quantity required	All inclusive cost per unit (Rs.)	All inclusive cost for quantity mentioned. (Rs.)
	Name of the item	Specifications			

Date -

(Signature)

Place -

Rubber Stamp of Organization

Important Instructions

- The two envelopes should be sealed with a mention of the type of envelope (technical / Financial), Reference no., Date of opening the quotation on the front side of the envelope. These two envelopes should be sealed in a third envelope by giving heading "Quotation for supply of **“Electronics and Communication Engg. Department Equipment”** and writing complete address of the undersigned. (Address: Principal, Government Polytechnic, Khamgaon, Jalamb Road, Khamgaon, Dist: Buldana, (M.S.), Pin 444 303.
- **The quotations should reach the undersigned on or before date 02/01/2019**
- The material will be checked at this institute.
- No extra charges will be paid for cartage, packing etc. for the material rejected and replaced.
- Quotations will be opened at 3.00 AM/ PM on date **03/01/2019** at office of the Principal of Institute.
- Rates should be valid for 6 months from the date of confirmation letter.
- Materials should be quoted for standard makes and minimum pkgs.
- Delivery to the consignee has to be effected within **1 week** from the date of issue of purchase order or **on or before the prescribed date.** (if any)
- The undersigned reserves the right to accept or reject any offer or all offers without assigning any reason thereof.
- The said process is subjected to the necessary approval from higher authorities.



Principal
Govt. Polytechnic, Khamgaon.

Copy to:

- 1) Hon. Director, Directorate of Technical Education M. S. Mumbai for information please. It is requested to do needful for uploading the same on website as per instructions issued.
- 2) Hon. Joint Directorate of Technical Education Amravati Region, Amravati for information please. It is requested to do needful for uploading the same on website as per instructions issued.
- 3) Head of Electronics and communication Department for information & n a
- 4) Suppliers as list attached herewith
- 5) Shri. Ambatakar, Programmer, GP Khamgaon, for uploading on Institute website.
- 6) Institute Notice Board