



INVITATION FOR QUOTATION

20 JUL 2024

Our Ref No.: DBATU/ Store/Instrumentation Engg ( Diploma Wing)/Laboratory Trainer Kit/2024/ 1988

Date : 20/07/2024

Quotation For : Laboratory Trainer Kit

Due On : 05/8/2024

Date of Opening : 06/08/2024

Time : 12.30 pm

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 / /2024

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 charges 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 second 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
01	<b>Microprocessor 8085 Trainer Kit With Manual And Power Supply and Accessories</b> As Per Specification Annexure I		02		
02	<b>Digital Storage Oscilloscope, 100 MHz, dual channel, with Manual and Accessories</b> As Per Specification Annexure II		01		
03	<b>Variable DC power supply (0 to 30 volts, 0 to 5 Amp) with Manual and Accessories</b> As Per Specification Annexure III		02		
04	<b>Digital Multimeters with Manual and Accessories</b> As Per Specification Annexure IV		05		
05	<b>LCD Projector with in-built wifi</b> As Per Specification Annexure V		01		

- Quantity may vary

## Annexure I

### 8085 Microprocessor trainer kit - Specifications

#### *Specifications*

- Based on 8085 CPU operating at 6.144 Mhz.
- 16K bytes of Powerful Monitor Program using 27512 EPROM
- 8K bytes of RAM using 6264 with Battery Backup using NICD Battery.
- On-board one memory expansion up to 56KB.
- Three Channel Timer/Counter using 8253 brought out at 10 Pins FRC Connector.
- 48 I/O lines provided through two nos. of 8255 brought out at 26 Pins FRC Connector to interface with IC-XX Series.
- RS-232C interface through SID/SOD lines
- Two mode of commands:
  - ASCII Key pad Mode
  - Serial Mode
- Six Digit Seven Segment Display using 8279.
- 28Key's Hex Keypad using 8279 Keyboard Display Controller.
- Powerful Commands like Examine/Edit Memory, Examine/Edit Register, Single stepping, Execution, Block Move, Insert Data, Delete Data can be used through ASCII keyboard or PC serial mode.
- Facility for Downloading/Uploading files from/to PC.
- All address, data & control lines are available on KXT Bus 50 pin FRC Connector to interface with SC-XX Series.
- All ICS are mounted on IC Sockets.
- Bare board Tested Glass Epoxy SMOBC PCB is used.
- In-Built Power Supply of +5V/1.5A,  $\pm 12V/250mA$
- Attractive ABS Plastic enclosures.
- User's Manual with sample programs.

## Annexure II

### Digital Storage Oscilloscope

#### Technical Specifications

<b>Sampling System</b>	
Real Time Sampling 1Gsa/s	Memory Depth 2M points
Equivalent Sampling 50GSa/s	Sampling Mode Sample, Peak detect, Averaging, Roll Mode
Vertical Resolution 8Bits	Vertical System Channels 2 analog input channels
Auto Scale Automatically set vertical scale (V/div), time base (s/div), and trigger mode	Coupling DC, AC and GND
Bandwidth 100MHz	Calculated Rise Time < 3.5ns
Bandwidth Limit (-3dB) 20MHz	Vertical Gain Accuracy 2mV/div Variable Gain Ranges : < ±4% ;
Vertical Scale 2mV/div to 10V/div 1-2 -5 steps	Vertical Offset Range 2mV – 200mV: ± 1.6V 201mV – 10V: ± 40V
5mV/div to 10V/div in Fixed Gain Ranges: < ±3%	Probe Attenuation Factors Set x 1, x 5, x 10, x 50, x 100, x 500, x 1000
<b>Horizontal System</b>	
Scan 100ms – 50s/div (1-2 . 5 -5 sequence)	Horizontal Mode Main, Window, Window Zoom, Roll, X-Y
Time Base Accuracy ± 100 ppm measured over 1ms interval	Bandwidth 100MHz
Input X: Channel 1, Y: Channel 2	Time Base Range 2.5ns – 50s/div
<b>Signal Measurement</b>	
Parameters Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FOVShoot,	PREShoot, , FPREShoot, Rise time, Fall time, Freq, Period,+ Wid, -Wid, +Dut, -Dut, BWid, Phase,
FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF	Math Functions Add, subtract, multiply, divide & 1024 point FFT
Window Hanning, Hamming, Blackman, Rectangular	Cursor Measurement Manual, Auto, Track
<b>Storage &amp; Interface</b>	
Storage Internal: 2 reference waveform, 20 setup files & 10 captured waveform files	USB: Setups, Waveforms, CSV file, BMP
Interface : USB HOST, USB DEVICE, LAN & PASS/FAIL OUT	
<b>Display System</b>	
Display Screen TFT LCD display, 7.0''	Resolution 480 (Horizontal ) x 234 (Vertical) pixels
<b>General Information</b>	
Operating Condition 10°C to 40°C, < 85% RH	Power Consumption < 50VA
Power 100-240V AC, CAT II, 45Hz to 440Hz	Accessories Probes (2 Nos), Power cord, USB cable, Software CD

## Annexure III

### Variable DC Power Supply

#### Main Features

- Constant Voltage & Constant Current operation
- Digital display for voltage & current
- Adjustable current limiter
- Protection Against over load & short circuit
- Compact and light weight

#### Technical Specifications

1. No. of Channels – 2
2. DC Output: 0 ~ 32V/5A
3. Total Output Power: 320 W
4. Display Type Seven segment LED display for voltage and current with resolution of 0.1V and 0.01 A
5. Display Accuracy V :  $\pm (1\% + 1 \text{ digit})$ , I :  $\pm (1\% + 3 \text{ digit})$
6. Protection Built in overheat, Over load, Short circuit protections, Over and under mains/line voltage protection
7. Insulation Between chassis & output terminal  $> 10M\Omega$  at 100Vdc, Between chassis & AC plug  $> 50M\Omega$  at 500Vdc
8. Current Limit adjustment 100mA to max
9. Input Supply 230 VAC  $\pm 10\%$  / 50Hz
10. Operation condition 0 to 50°C RH 95%

## Annexure IV

### Digital Multimeter

<b>True-rms readings</b>	✓
<b>Voltage AC/DC</b>	1000 V
<b>Current AC/DC</b>	10 A
<b>Resistance</b>	50 M $\Omega$
<b>Capacitance</b>	9,999 $\mu$ F
<b>Temperature</b>	-40 °C to 400 °F
<b>Additional measurement capabilities</b>	Continuity/diode test, frequency, microamps
Manual and automatic ranging Display Hold and Auto Hold Min/Max-Average recording	✓

## Annexure V

### LCD Multimedia Projector

Supply and Installation of LCD/DLP projector with 4000 ANSI lumens brightness or above with 15000: 10 contrast ratio, 16:10 aspect ratio, XGA 1280x800 DPI resolution, HDMI port, VGA port, USB port, Including Wall/Ceiling Mount accessories

#### Technical Specifications

<b>Display Technology</b>	DLP /LCD
<b>Display Type</b>	DLP
<b>Image brightness</b>	4000 lumens
<b>Aspect Ratio</b>	16:10
<b>Screen Resolution</b>	1280 x 800
<b>Resolution</b>	1920 x 1200 Pixels
<b>Noise Level</b>	34 dB
<b>Voltage</b>	230 Volts
<b>Wattage</b>	260 Watts
<b>Power Source</b>	Corded Electric
<b>Refresh Rate</b>	120 Hz
<b>Total USB ports</b>	2, Type A -1 , Type B-1
<b>HDMI Ports</b>	2
<b>Connector Type</b>	VGA, USB, HDMI
<b>Remote control</b>	IR
<b>Built in speaker</b>	Yes
<b>Audio input</b>	Stereo mini, RCA Jack
<b>Wired network</b>	LAN
<b>Wireless network</b>	With adapter
<b>Zoom</b>	Auto/Manual