



# Government College of Engineering

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No. GECA/EED /2019-20/ **460**  
To,

Date **28 JAN 2020**

GECA Notice Board/ GECA Website

## Subject :- Quotation for Equipment of Electrical Department.

Dear Sir, You are requested to send your competitive quotations for the supply of the following items subject to the following conditions.

### Terms & Conditions -

- 1 Rates quoted should be FOR AURANGABAD or free delivery at the Institute inclusive of all lead and Lift.
- 2 Detailed specifications of the articles you intend to supply should be given. If not according to the specification, laid down here under.
- 3.The material should be supplied within (07) days from the date of order. List of material is given below.
- 4.The earliest delivery period should be quoted if you cannot supply within the period mentioned above.
- 5.Quotation should be in sealed cover and superscripted as **“Quotations” for Equipment of Electrical Department.** Due on : **05 - 02 - 2020** , at 5.00 P.M.
- 6.Quotation should be valid for 31.03.2020
- 7.Right to reject any or all quotations are reserved with the under signed.
- 8.Rates quoted must be inclusive of All applicable Taxes.
- 9.Delivery of the material will be carried out free of cost at our institute in EED Dep. 1<sup>st</sup> Floor in
- 10 **Installation of the material will be carried out free of cost at our institute by the supplier.**
11. Demonstration & Training Must be given to Staff
12. No advance shall be paid and No part payment shall be made.
- 13.Quotation not complying with the above conditions and incomplete once will not be considered


<b>5 in 1 Testlab - 02 Nos.</b>		
<b>The unit shall comprises of several instruments in One Package Dual Trace Oscilloscope, Component Tester/Comparator, Triple Output DC Power Source, Frequency Counter and Function Generator.</b>		
<b>The following are the required specifications-</b>		
<b>DUAL TRACE OSCILLOSCOPE</b>		
<b>VERTICAL DEFLECTION</b>	Deflection Coefficient (CH1 & CH2)	1mV/div to 20V/division. 5mV/div to 20V/div in 12 calibrated steps in 1-2-5 sequence. x5 Magnification increases the sensitivity to 1mV/div & 2mV/div (LED indication)
	Accuracy	±3%.
	Bandwidth	DC - 30MHz (-3dB), dc coupled: 10Hz - 30MHz (-3dB), ac coupled. 20MHz (-3dB) in x5 MAG
	Rise Time	11.6ns or Less, 17.5ns in x5 MAG
	Display Modes	CH1, CH2, CH1 & CH2 Alternate or Chop mode, Algebraic addition CH1+CH2, Algebraic subtraction CH1-CH2, CH2 Inverted and X-Y
	Input Impedance	1MΩ and 25pF (approx)
	Maximum Input Voltage	400V (dc + peak ac)
<b>TIME BASE</b>	Sweep Speed	18 calibrated steps. 0.5μs/div to 0.2s/ div in 1, 2 & 5 sequence



	Sweep Magnifier	x5Magnification extends the sweep speed to 100ns/div. x5 Magnification indication with LED
	Accuracy	±3%
	Variable	Uncalibrated continuously variable control between steps, extends fastest sweep speed to 40ns/div (approx). (Uncal LED indication)
	Hold-off Time	4:1 (approx.) variable control
<b>TRIGGER SYSTEM</b>	Triggering Mode	Automatic or Normal with Level control
	Source	CH1 / CH2 / LINE / EXT
	Slope	Positive or Negative
	Coupling	ac / dc / HF reject or TV-V / TV-H
	Trigger Sensitivity	Internal : AUTO 1 div 30Hz - 30MHz NORM 1 div 3Hz - 30MHz External : AUTO 1Vp-p 30Hz-30MHz NORM 1Vp-p 3Hz-30MHz(Typical 40MHz at 2 div)
<b>HORIZONTAL DEFLECTION</b>	Deflection Coefficient	Same as CH2
	Bandwidth	DC-1MHz (-3dB)
	Input Impedance	1MΩ and 25pF (approx.).
<b>GENERAL</b>	Cathode Ray Tube	140mm Rectangular Screen, Internal Graticule, 8 x 10 cm, P31 phosphor
	Accelerating potential	2 kV
	Trace Rotation	Front Panel Control, allows +50 of trace adjustment
	Z-Modulation	TTL Level
	Calibrator	Provides 0.2V ±2%, 1KHz square-wave output for probe compensation
<b>DUAL COMPONENT TESTER / COMPARATOR</b>		
	Test Voltage	8.6V rms
	Test Current	28mA max
	Test Frequency	50Hz or 60Hz (MAINS)
<b>TRIPLE OUTPUT DC SOURCE</b>		
The unit shall comprises of three independent regulated DC outputs +5V, ±12V, +5V at 1A max. and ±12V, at 200mA max. continuous. (common floating wrt ground)		
	Line / Load Regulation	±2%.
	Ripple	Less than 8mV r.m.s
	Termination	2mm Jacks on the Front Panel
<b>0.02Hz - 2MHz FUNCTION GENERATOR</b>		
	Frequency Range	0.02Hz to 2MHz in 8 Decade ranges
	Output Waveform	DC, sine, triangle, square
	DC Offset	±5V (across 50Ω), ±10V (open circuit)
	Maximum Output	10V p-p for all functions (with Voltage 50 Ω loads). 20Vp-p open circuit. (DC + AC PK not exceed 10V across 50 ohms)
	Output Impedance	50 Ω (nominal).
	Attenuator	0dB to 40dB in steps of 20dB, 20dB fine attenuation by amplitude control. Accuracy : ±0.5dB per 20dB step at 1KHz
	Sine Distortion	Less than 3% upto 200 KHz
<b>100MHz DIGITAL FREQUENCY COUNTER</b>		
	Frequency Range	20Hz to 100MHz (Usable)
	Gate Time	0.01, 0.1, 1 or 10 sec (switch selectable).Accuracy : ±1 count ± Time Base Accuracy
	Time Base	10MHz Crystal Oscillator. Accuracy : ±20 ppm at 25OC. Stability : ±30 ppm over 0OC to 50OC range
	Inputs (Switch Selectable)	General: Frequency of Function Generator. Scope : Signal through tripped channel of scope.

		Ext : External signal through BNC connector
	Sensitivity	Scope Input : Min. 4 div p-p swing on oscilloscope. Ext Input : 20mV rms over 10Hz to 50MHz. 50mV rms over 50MHz to 100MHz max. 5V p-p
	Input Impedance	Ext Input : 1M $\Omega$ / 30pF
	Display	7 segment LED display indicates frequency in Hz, KHz & MHz
<b>GENERAL</b>		
	Power Requirement	230V AC $\pm$ 10%, 47-65Hz, 90VA. or 115V AC $\pm$ 10%
	Dimensions	235 (H) x 315 (W) x 420 (D) mm (approx.).
	Weight	10 Kg. approx
	Accessories	Instruction Manual - 1 No. Input Lead BNC to Crocodile - 2 Nos. Component Test Lead (Set) - 1No. 50 ohms Termination - 1 No. BNC to BNC Lead - 1.No.
<b>Make</b>	<b>Aplab /L&amp;T /Systronics Only</b>	

Yours faithfully

  
Head of Electrical Engineering  
Govt. College of Engineering  
Aurangabad