GOVERNEMNT COLLEGE OF ENGINEERING, KARAD
(An Autonomous Institute of Government of Maharashtra)

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No. GCEK/ ENTC /INC/2019-2020/ 3359

DATE – 20 / 09 /2019

To,

20 SEP 2019

Subject – Quotation for Instrumentation and Control Lab Kits

Dear Sir,

With reference to above, I have to request you to kindly quote your rates for below mentioned material for **Electronics and Telecommunication Engineering Department** "of this Institute so as to reach this office on or before 11 /10/2019 till 5.00 pm ,The details are as given below –

Sr. No.	Description	Qty.
1	**Instrumentation and Control Lab Kits Displacement Measurement Using LVDT**	1
2	**Temperature Measurement Using Thermocouple**	1
3	**Temperature Measurement Using RTD**	1
4	**Temperature Measurement Using Thermister**	2
5	**Pressure Measurement With Pressure Generator**	1
6	**Universal Sensor Training System**	1

Your quotation should be valid for at least 30 days from the date of opening. The quotation should be sent to **"The Principal, Government College of Engineering, Karad"** in sealed envelope superscripted with word **"Quotation of Instrumentation and Control Lab Kits for Electronics and Telecommunication Engineering Department" due on 20-9-2019** .The Institute does not bind itself to accept or reject the quotation. Please note that if there is any over-writing in the quotation, the said term will not be taken into consideration.

Terms and Conditions:

1. Quotation validity for at least 30 days from the date of opening.
2. Delivery period 4 weeks from date of supply order.
3. Payment 100% after delivery and satisfactory acceptance.
4. Warranty 12 months or more.
5. Total amount will be considered for final call for quotation.

The quotation will be opened on **14 -10-2019 at 11.00 a.m**
Specification are as enclosed.

Thanking you.

for Principal,
Govt. College of Engineering, Karad.

Sr. No.	Name and description of the equipment	Specification
1	**Displacement Measurement Using LVDT Trainer**	**. Displacement Measurement Using LVDT Trainer** **Specification:** **Transducer** • LVDT Transducer with transparent enclosure. • Displacement of ± 5mm • Primary Excitation voltage of Sine wave 1V p-p **Measurement Options** • On-board Digital Panel Meter provided • Output available on 2mm Banana sockets for Monitoring • Screw Gauge for reference displacement reading **Onboard Features** • Provided with excitation voltage • Onboard Instrumentation Amplifier provided • Block Description Screen printed on glassy epoxy PCB • Facility to Interface with PC **(Optional)** • Facility to Interface with 8085/86/51 kit**(Optional)** **Interconnections** • All interconnections are made using 2mm banana Patch cords. • Test points are provided to analyze signals at various points. • All ICS are mounted on IC Sockets. • Bare board Tested Glass Epoxy SMOBC PCB is used. • In-Built Power Supply of +5V/1.5A, ±12V/250mA with Power ON indication • Attractive ABS Plastic enclosures • Set of 2mm Patch cords for interconnections • User's Manual. •
2	**Temperature Measurement Using Thermocouple**	**Temperature Measurement Using Thermocouple** **Specification:** • **Sensor** • K-type Thermocouple is used. • Temperature measurement up to 100°C **Measurement Options** • On-board Digital Panel Meter provided • Output available on 2mm Banana sockets for Monitoring • Thermometer for measurement of temperature **Onboard Features** • Thermometer for measurement of temperature up to 100°C • Water Heater with AC mains Chord provided • Onboard Instrumentation Amplifier provided • Block Description Screen printed on glassy epoxy PCB • Facility to Interface with PC **(Optional)** • Facility to Interface with 8085/86/51 kit**(Optional)** **Interconnections** • All interconnections are made using 2mm banana Patch • cords. • Test points are provided to analyze signals at various points. • All ICS are mounted on IC Sockets. • Bare board Tested Glass Epoxy SMOBC PCB is used. • In-Built Power Supply of +5V/1.5A, ±12V/250mA with Power • indication • Attractive ABS Plastic enclosures • Set of 2mm Patch cords for interconnections • User's Manual.

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3	**Temperature Measurement Using RTD**	**Temperature Measurement Using RTD** **Specification:** **Sensor** • PT-100 Type RTD sensor is used • Temperature measurement up to 100°C **Measurement Options** • On-board Digital Panel Meter provided • Output available on 2mm Banana sockets for Monitoring • Thermometer for measurement of temperature **Onboard Features** • Thermometer for measurement of temperature up to 100°C • Water Heater with AC mains Chord provided • Block Description Screen printed on glassy epoxy PCB • Facility to Interface with PC **(Optional)** • Facility to Interface with 8085/86/51 kit**(Optional)** **Interconnections** • All interconnections are made using 2mm banana Patch cords. • Test points are provided to analyze signals at various points. • All ICS are mounted on IC Sockets. • Bare board Tested Glass Epoxy SMOBC PCB is used. • In-Built Power Supply of +5V/1.5A, ±12V/250mA with Power indication • Attractive ABS Plastic enclosures • Set of 2mm Patch cords for interconnections • User's Manual..
4	**Temperature measurement using Thermister**	**Temperature measurement using Thermister** **Specification:** **Transducer /Sensor** • AD590 /Thermistor Sensor is used. • Temperature measurement up to 100°C **Measurement Options** • On-board Digital Panel Meter provided • Output available on 2mm Banana sockets for Monitoring • Thermometer for measurement of temperature **Onboard Features** Onboard Instrumentation Amplifier provided • Block Description Screen printed on glassy epoxy PCB • Thermometer for measurement of temperature up to 100°C • Facility to Interface with PC **(Optional)** • Facility to Interface with 8085/86/51 kit**(Optional)** **Interconnections** • All interconnections are made using 2mm banana Patch cords. • Test points are provided to analyze signals at various points. • All ICS are mounted on IC Sockets. • Bare board Tested Glass Epoxy SMOBC PCB is used. • In-Built Power Supply of +5V/1.5A, ±12V/250mA with Power indication
5	**Pressure Measurement With Pressure Generator**	**Pressure Measurement With Pressure Generator** **Specification:** **Transducer** • Resistive Pressure Transducer with transparent enclosure. • Pressure of 0-300mm hg / 6psi • Primary Excitation voltage of 5V DC **Measurement Options** • On-board Digital Panel Meter provided • Output available on 2mm Banana sockets for Monitoring • Pressure generation and Monitor using a Mercury gauge

		• manometer **Onboard Features** • Provided with excitation voltage • Onboard Instrumentation Amplifier provided • Block Description Screen printed on glassy epoxy PCB • Facility to Interface with PC **(Optional)** • Facility to Interface with 8085/86/51 kit**(Optional)** **Interconnections** • All interconnections are made using 2mm banana Patch cords. • Test points are provided to analyze signals at various points. • All ICS are mounted on IC Sockets. • Bare board Tested Glass Epoxy SMOBC PCB is used. • In-Built Power Supply of +5V/1.5A, ±12V/250mA with Pow • indication • Attractive ABS Plastic enclosures • Set of 2mm Patch cords for interconnections
6	**UNIVERSAL SENSOR TRAINING SYSTEM**	**UNIVERSAL SENSOR TRAINING SYSTEM** **Specification:** • Instrumentation Amplifier, Differential Amplifier, Amplifier, • X100 Amplifier, Power Amplifier, Current Amplifier, AC • Amplifier, Alarm Amplifier, RPM Amplifier • 40Khz Oscillator Signal generator • 40Khz Filter, Full wave Rectifier, Low Pass filter, Buffer, Inverter, Comparator • 10K linear Potentiometer & 100KΩ Potentiometers • Analog Input ADC of 4 channel, 16 bit Resolution • Analog output DAC of 2 channel, 16 bit Resolution • 5" TFT LCD Display of 800x480 resolution • Digital Input: 8 nos. Digital output: 8 nos. • 32 bit counter provided for RPM Measurement. • RJ45 Ethernet connection • Data Acquisition Software : Windows 10/7, displays X-T, • Digital values & Saves data • +5V, -5V, +12V, -12V fixed power supply • Plated-through Hole (PTH) Bare Board Tested Printed Circuit Board • ABS plastic enclosed Experimental Board with mimic diagram • All input & output are terminated in 2mm banana connector, • 2mm banana cable for experiments.