

## INVITATION FOR QUOTATION

TEQIP-III/2018/uiej/Shopping/22

03-May-2018

To,

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**Sub: Invitation for Quotations for supply of Goods of ELECTRICAL- INSTRUMENTATION -LAB - Equipments**

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	Advance Solar Trainer System	1	40	JAUNPUR, UP	
2	Angular Displacement Trainer system	1	40	JAUNPUR, UP	
3	BLDC Motor Trainer System	1	40	JAUNPUR, UP	
4	Color Sensor, Touch Panel &Water Flow Development work bench Trainer System.	1	40	JAUNPUR, UP	
5	Electro pneumatic Trainer System PLC Based	1	40	JAUNPUR, UP	
6	PC Based Data Acquisitions	1	40	JAUNPUR,	

	System			UP	
7	Portable data logger	2	40	JAUNPUR, UP	
8	Proximity Trainer, Accelerometer Measurement	1	40	JAUNPUR, UP	
9	Stepper motor Trainer System	1	40	JAUNPUR, UP	
10	Strain Gauge Trainer, LVDT & Load Cell Development work bench Trainer System.	1	40	JAUNPUR, UP	
11	TEMP. , Humidity & Pressure Development work bench Trainer System.	1	40	JAUNPUR, UP	
12	Temperature Calibration & Measurement	1	40	JAUNPUR, UP	
13	Universal Transducer Development Board	1	40	JAUNPUR, UP	

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. Quotation,

3.1 The contract shall be for the full quantity as described above.

3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.

3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

3.4 Applicable taxes shall be quoted separately for all items.

3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.

5. Quotation shall remain valid for a period not less than **40** days after the last date of quotation submission.

6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

6.1 are properly signed ; and

6.2 confirm to the terms and conditions, and specifications.

7. The Quotations would be evaluated for all items together.

8. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

9. Payment shall be made in Indian Rupees as follows:

**Delivery and Installation - 100% of total cost**

**Satisfactory Acceptance - 0% of total cost**

10. All supplied items are under warranty of **12** months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by **12:00** hours on **18-May-2018** .

12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Training Required**
14. Testing/Installation Clause (if any) **Training Required**
15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,  
**Dr. Rajnish Bhasker , Procurement Officer TEQIP-III, VBS Purvanchal University Campus,  
 Shahganj Road, Jaunpur, UP pin-222003**
17. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)  
 Name & Designation

**Annexure I**

Sr. No	Item Name	Specifications
1	Advance Solar Trainer System	DC Voltmeter (0-100V), DC Ammeter (0-5A) *Rheostat as load (800E, 2.5A), *Battery 12v , Standalone Inverter. <ul style="list-style-type: none"> <li>• Multi-channel DPM for temperature display, *50Wx2 photo-voltaic (PV),</li> </ul> *Spectral response & Carrier Lifetime Measurement, AC load , DC load *50x50mm x2 nos. solar cells for series and parallel connections experiments, *Dimmers to set intensity of halogen *500w halogen lamp as source of light *Energy Meter for energy measurement *RTD Temperature PID Control. *Data Logger for energy measurement and data logging in pc. *Lux meter *Tiltable frame for angle measurement of solar panel Experiments:: Voltage Measurement in Open Circuit solar panel Current Measurement in Open Circuit solar panel To operate DC Load ( Fan/ LED) To measure the Voltage and current of DC Load To operate AC Load (Bulb) using inverter circuit Study of Components of Solar Panel Trainer Measurement of the energy consumption by Using the energy meter ( various parameter voltage , current , power factor , kilo watt and kwh) Study of the charging and discharging status of battery To study the spectral response char. Of light To study the temperature controlled PID To study the different parameter 's of energy meter and datalogging of parameters in pc through labview To

		control the intensity of the light source using dimmer panel To verify the light intensity using lux meter Software CD, User Mannuals
2	Angular Displacement Trainer system	Variable gang condenser provided on a suitable base forms part of a Wein bridge oscillator and the system can be used to demonstrate measurement of angular displacement in the range 0 to 360 degrees. However the response of the transducer is non linear. Appropriate test points are provided, display with 3 ½ DPM
3	BLDC Motor Trainer System	Based on 8051 µC Having manual control and through µC also. On board control for the speed of DC motor through potentiometer On board direction control switch. 24V/ 40W DC BLDC motor with Driver (24V DC/ 40W). Can be controlled internally by motor driver. Can be controller externally by controlling switches. or switch for internal or external control. PWM output for RPM measurement can be connected to CRO. User RPM ion switches with power supply of 24V DC/ 2.5A Metal enclose with easy assemble and dissemble facility Display facility to observe motor RPM and directions control Microcontroller based operations facility to program hardware through RS232 or USB.
4	Color Sensor, Touch Panel &Water Flow Development work bench Trainer System.	The system must be provided in aluminum rack. Data acquisition system for data logging. The System is Having the Facility to Log the Data into PC using USB PC interface with reprogrammable facility. PC Interface is having the 6 Analog and 12 Digital Channels to Interface the Data into Pc. The Software is giving output of the Data into Excel Sheet and Plots the Waveforms for Real Time Variable Data. Multimeter/Voltmeter controller for accurate reading of the following modules. System comes with user manual, connecting cables and power supply. Touch Panel Module(System comes with Touch sensor, Output Reading Rate Every 50 Mili Seconds Data Format (fixed length) 22 Byte ASCII The baud rate of output is 9600 bps. It output X,Y and Z values The XY are co-ordinates of touch and Z is pressure value Working Voltage 3-5 V DC 16*2 LCD display to show value of X,Y Co-ordinates value. with reprogramming facility .On board power supply section with power indicator and test point .8051 compatible. <b>Water Flow Module</b> (1~30 L/min Flow rate range measurement. On Board Flow control provision. On Board LCD 16x2 Flow rate display unit. On board BNC socket for CRO connectivity. with reprogramming facility Provision for measurement of voltage in the form of voltage using millimeter. Durable water container. Unbreakable metal enclosure. Capable to operate in commercial temperature. Can work with Liquid temperature less than 120 degree C. Operating Pressure Under 1.2Mpa. Based On 8051 Microcontroller. Electric pump mechanism To provide flow of water). <b>Color Sensor Module</b> ( System comes with RGB color sensor Can detect different color up to 10 color On board color strip provided for experiments Test point for observations. with reprogramming facility8051 compatible16*2 LCD display to show value of color On board power supply section with power indicator System comes with user manual, connecting cables and power supply*ON board programming facility of 8051).
5	Electro pneumatic Trainer System	The system comes with the Aluminium Framing and the with 128*64 Graphical Lcd display . Manifold 4 Port 1/8" BSP Female Plasic Silencer 1/8" BSP Female Spares Mini Lubroet with Pressure Gauge female

	PLC Based	<p>Pressure Gauge 40 MM dial Male Connector 1/8"X8mm</p> <p>5/2 way internal Pilot operated spool single solenoid valve 1/8" BSP Female</p> <p>5/2 way internal Pilot operated spool single valve 1/8" BSP Female</p> <p>5/3 way internal Pilot operated spool type double valve 1/8" BSP Female</p> <p>5/3 way internal Pilot operated spool type double solenoid valve 1/8" BSP Female</p> <p>3/2 way internal pilot operated spool type solenoid valve 1/8" BSP Female</p> <p>5/3 way internal hand lever operated type double valve 1/8" BSP Female</p> <p>Limit switches for operation detection</p> <p>Dead plug sockets for blocking the air flow when not required.</p> <p>Swivel flow control valve</p> <p>Single Acting Pneumatic Cylinder</p> <p>Double Acting Pneumatic Cylinder</p> <p>Pneumatic Motor</p> <p>PU Tube 6mm ID X 8 mm OD</p> <p>1/8" BSP Female Socket</p> <p>Micrologix PLC with power supply &amp; Relay Card</p> <p>Suitable Air Compressor to run the basic Experimentation</p>
6	PC Based Data Acquisitions System	<p>20 Digital I/O (Up to 50 Hz per I/O) Having 8 channel 12-Bit Analog Inputs, 2 Analog Outputs, On board 8 digital output (LED's) &amp;with on board 8 digital input(DIP) On board Relay, Buzzer Section. Temp Sensors (LM35 , Pt100) Proximity switches, LDR (LM 324 &amp; LDR) &amp; IR Sensors, On Board signal conditioning For above sensor USB Bus with data acquisition system Complete Software Control &amp; it supports Lab view software Codes for the above mentioned sensors. switch)on board buzzer for indication Facility for external signal interface, with Potentiometer. It supports Software or Hardware Timed Acquisition Re-programmable facility &amp; PC interface with Lab view Easy to perform</p>
7	Portable data logger	<p>Data Logger with 8 channel Memory Card for Storage of data using FAT32 Protocol High rate/Low rate/Trigger Mode/Channel ion/Buzzer Alarm options are available 600 samples per second to 1 sample per week Build in Real Time Clock AC and DC both supply are supported with Battery Facility Data Output in ms Excel sheet ach records are stored with time and Date Stamp Real Time Variable Data Logging 4*4 hex keypad and menu driven system to operate the trainer 20*4 LCD Display Size::162x122x65mm Enclosure::Hand Held/Wall Mountable. This Data Logger is PC independent and can be used in Field using its Battery Backup</p>
8	Proximity Trainer, Accelerometer Measurement	<p>The system must be provided in aluminum rack. Data acquisition System for data logging. The System is Having the Facility to Log the Data into PC using USB PC interface with reprogrammable facility. PC Interface is having the 6 Analog and 12 Digital Channels to Interface the Data into Pc. The Software is giving output of the Data into Excel Sheet and Plots the Waveforms for Real Time Variable Data. Multimeter/Voltmeter controller for accurate reading of the following modules. System comes with user manual, connecting cables and power supply.</p> <p><b>Proximity Module</b>(Platform to learn metal detecting facility using proximity metal detector.12 volt DC motor mechanism to produce rpm. Rpm count display using LCD (16X2).Switches control to control direction and motor speed. Based On 8051 microcontroller. Test points for conceptual study during different hardware operations. Variac to give variable supply to motor. Each section is having Test Point. It comes with reprogramming facility</p>

		<p>2 push button to increase and decrease the speed of motor. 2 push to change direction of motor. Start and stop button to make operation smooth. Sensor operates voltage +5 to +40 volt. Inductive Sensor metal detection range 3mm to 4mm.)<b>Accelerometer Module</b> (Acceleration along X, Y, Z axis. High sensitivity of 800mV/g @1.5g. User selectable acceleration range of <math>\pm 1.5g</math> or <math>\pm 6g</math>. Onboard 3.3V low drop voltage regulator. Input range of 3.6V to 6V. Supply voltage (Vdd): 2.2V to 3.6V @400<math>\mu</math>A (accelerometer supply range) Sleep mode current: 10 <math>\mu</math>A. Sensitivity: 1.5g: 800 mV/g 6g: 206 mV/ g. Static acceleration: XOUT,YOUT, ZOUT @ -1g: 0.85V @ 0g: 1.65V @ +1g: 2.45. Bandwidth: X, Y axis: 400Hz,Z axis: 300Hz. Output Impedance: 32K<math>\Omega</math>. Based On PIC 18F452 Microcontroller. with reprogramming facility Display 16X2 LCD. Study of accelerometer Concept. Measurement accelerometer of movement using Sensor. Measurement of angle using accelerometer sensor. To control the movement of cursor using accelerometer. To control ROBOT using accelerometer). <b>Ultrasonic Module</b>(Range: 6 inches to 15 inches Accuracy: 1 inch On Board 5 V Supply 16*2 LCD Display Test Points to study the Voltage at the Particular Levels. with reprogramming facility .Fault Study available to study using toggle switches 15 inches scale for distance measurement concept study The Trainer is Based on the 8051 microcontroller with its basic circuitry)</p>
9	Stepper motor Trainer System	<p>Step/continuous operation by Control Program  Direct/reverse rotation operation by Control Program  Output pulse frequency operation by Control Program On-line, real time control by RS-232C  2- Stepping Motor  2-phase HB type, unipolar operation, 0-2000 PPS  PWM constant-current driver (Position control) and Circular Board operation (angle control)  Ball screw distance: Over 200mm, 400/Rev; built-in signal output terminal  Speed control by control S/W  Angle control by simulation S/W  3- Manual Control  Step/continuous operation by the values set manually.  Direct/reverse rotation operation by the values set manually.</p>
10	Strain Gauge Trainer, LVDT & Load Cell Development work bench Trainer System.	<p>The system must be provided in aluminum rack. Data acquisition System for data logging. The System is Having the Facility to Log the Data into PC using USB PC interface with reprogrammable facility. PC Interface is having the 6 Analog and 12 Digital Channels to Interface the Data into Pc. The Software is giving output of the Data into Excel Sheet and Plots the Waveforms for Real Time Variable Data. Multimeter/Voltmeter controller for accurate reading of the following modules. System comes with user manual, connecting cables and power supply.  Strain Gauge Module (Strain Gauge (350<math>\Omega</math>): 2 Nos with SS Cantilever setup, Gauge Factor: 2.11, <math>\pm 1\%</math>, Bridge Voltage: +5 V DC, Bridge Configuration: Half Bridge, External Cantilever Arrangement, High Repeatability and Reliability, Power On/ Off switch with LED indication, Weight: 1 Kg (Approx., Operational amplifier and signal conditioning Circuit, LCD (16 X 2) / 7 segment based unit to display strain status, Test point to measure different signals and voltage, Based On PIC microcontroller. USB/PC Interface/GUI display &amp; re-programming facility.) Load</p>

		<p>Cell Module(Load Cell platform with Capacity of 10 kg, Load cell input sections with test points, 5V operated system, Power On/Off switch with LED indication, On board amplifier and signal conditioning Circuit, LCD (16 X 2) / 7 segment based unit to display load status, Test point to measure different signals and voltage, Based On PIC microcontroller, Weight provided for experimentation (500g, 100g, 200g).Load Cell Sensor :-Excitation Voltage 9 -12 (DC),Rated Output (mv/v) <math>2\pm 0.2</math>,Output Resistance (<math>\Omega</math>) <math>350\pm 2</math>,Cable 4mm,0.42mtr,On board memory card to save readings, On board reprogramming facility.)LVDT Measurement Module(AC-AC spring loaded 20mm LVDT with Micrometer scale &amp; test points, Based On PIC microcontroller, LCD 16x2 display unit to observe LVDT changes output results, Inbuilt Excitation Frequency generator with test points &amp; adjusts frequency (4.2 Khz), On Board Test points to test output of LVDT, Onboard power reset switch with LED indicator to reset display, Buzzer indicator for finding LVDT null point, On board amplifier and signal conditioning circuit with test points, Programming header to program and develop customized application).</p>
11	TEMP. , Humidity & Pressure Development work bench Trainer System.	<p>The system must be provided in aluminum rack. Data acquisition System for data logging. The System is Having the Facility to Log the Data into PC using USB PC interface with reprogrammable facility. PC Interface is having the 6 Analog and 12 Digital Channels to Interface the Data into Pc. The Software is giving output of the Data into Excel Sheet and Plots the Waveforms for Real Time Variable Data. Multimeter/Voltmeter controller for accurate reading of the following modules. System comes with user manual, connecting cables and power supply <b>Temperature Module</b> (On Board 4 different Kind Temperatures Sensor (LM-35, RTD, Thermister, Thermocouple-j type),On Board Buzzer for conditioning alarm (using optional programming facility),Banana Socket for each sensor input individually., On board power Supply, Testing Sockets, On board sensors selection toggle switch, On board signal condition for each type of above temperature sensor, On board LCD (16X2) display for measuring o/p temperature, Water heater with AC main cord provided, Block description printed on system, Based on PIC microcontroller, USB/PC Interface/GUI display &amp; re-programming facility, 2- Ic's- LM358, On board 6 pin relimate connector, On board toggle switches, On board reset switch. <b>Humidity Module</b>(Based on 8051 microcontroller, ADC 0800(8 channel ADC module),Test point to check the voltage, Internal reference voltage adjustment, On Board 16*-2 Lcd, Reprogrammable facility.) <b>Pressure Measurement Module</b>(On Board Pressure Sensor with 2PSI / 6PSI,Output is Ratio metric to the Power Supply, Facility to generate and monitor Pressure, In Both Engineering Units mmHg as well as PSI Units, LED indicators and display on LCD, Each section is having testing point, On board signal conditioner, On board microcontroller based, Reprogrammable Facility)</p>
12	Temperature Calibration & Measurement	<p>Thermal bath of AISI 304 stainless steel equipped with stirrer shielded heating element safety level switch  Digital temp. Indicator-cum-Controller  Working temperature range:- 5°C ~100°C  6 holes and 8 liters capacity  Dewar flask of stainless steel with high vacuum insulation,  Capacity of 1 litre</p>



		<p>Support for thermometers  Reference Pt100 thermo resistance with 3 points calibration Certificate.  Range :-50 to 200C  Accuracy:- <math>\pm 0.1C</math>  Resolution : 0.01C  Input J, K, Pt100  Different Type Of Temperature Sensor  Industrial Pt100 thermo resistance of class A  Range: -200 to 650C  Accuracy: <math>\pm 0.2C</math>  K-type thermocouple.  Thermistor (PTC)  Liquid thermometer  Range:- -10 to 110C  Gas thermometer  Range:- 0 to 100C  Accuracy:- <math>\pm 3C</math>  Electric console with 20*4 LCD displays and controls.  PC/USB interface for calibration.  Milli Voltmeter.  Range:- 0mV to + 3300mV</p>
13	Universal Transducer Development Board	<p>On board Center zero voltmeter (0-15v). LVDT sensor, strain gauge, air pressure, microphone, Buzzer, LCD display and proximity for speed measurement of DC motor, smoke sensor &amp; humidity sensor. On board Variable capacitor, carbon track resistors, servo potentiometer, Wire wound resistors. On board precision rotary switch. On board Photovoltaic, photoconductive, Photodiode cell, photo transistor, LDR, Bar graph LED, hall effect. On board Temperature sensor (LM35), Thermister, Thermocouple, Humidity &amp; Proximity sensors. On board Slide potentiometer, ultrasonic sensor. On board signal conditioning circuit. On board Solenoid valve. On board Tacho-Generator. On board Speed Measurement Using Slotted Optical Switch. On board ATMEGA328 based. USB/PC Interface/GUI display &amp; re-programming facility. The system Comes with the Aluminium Framing</p>

**FORMAT FOR QUOTATION SUBMISSION**

(In letterhead of the supplier with seal)

Date: \_\_\_\_\_

To:

\_\_\_\_\_  
\_\_\_\_\_

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
<b>Total Cost</b>							

Gross Total Cost (A+B): Rs. \_\_\_\_\_

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. \_\_\_\_\_ (Amount in figures) (Rupees \_\_\_\_\_ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ————— months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact No: \_\_\_\_\_