Sant Longowal Institute of Engineering & Technology, Longowal
(Deemed to be University)

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)
[Phase-III]

Sub-Component 1.3: (Twinning Arrangement to build capacity and Improve Performance of Participating Institutes)

INVITATION FOR QUOTATION

Ref No. SLIET/TEQIP-III/ **13/06/2019**

To,

Sub: Invitation for Quotations (Bids) for supply of Goods (Package No. TEQIP-III/2019/SLIE/28).

Dear Sir,

1. You are invited to submit your most competitive quotation for the goods with item wise detailed specifications attached at Annexure I,
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 technical & financial bids should be submitted on company's letter head.
   3.2 The contract shall be for the full quantity as described above.
   3.3 Corrections, if any, shall be made by crossing out, initiating, dating and re writing.
   3.4 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
   3.5 Applicable taxes shall be quoted separately for all items.
   3.6 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.
   3.7 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit one quotation.
5. **Technical bid and Financial bid should be placed in separate sealed envelopes.**
6. Quotation shall remain valid for a period not less than 40 days after the last date of quotation submission.

7. Evaluation of Quotations,
   The purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
   7.1 are properly signed; and
   7.2 confirm to the terms and conditions, and specifications.
8. The Quotations would be evaluated for all items together.
9. 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.
10. Payment shall be made in Indian Rupees as follow:
    Satisfactory Acceptance-100% of total cost

11. All supplied items are under warranty of 12 months from the date of successful acceptance of items.
12. You are requested to provide your offer latest by **04/07/2019** upto 16:30 hours.
13. Detailed specifications of the items are attached as **Annexure I.**
14. Training Clause (if any) Yes
15. Testing /Installation Clause (if any) to be installed at SLIET Longowal.
16. Information brochures/Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
17. Sealed quotation to be **submitted/delivered by post/in person** at the address mentioned below:
    Coordinator TEQIP-III, Department of Mechanical Engineering,
    S.L.I.E.T., Longowal-148106 (Distt. SANGRUR) Punjab
18. We look forward to receiving your quotation and thank you for your interest in this project.

Prof. V.K. Kukreja
Coordinator (Procurement) TEQIP-III
teqip2sliet@gmail.com, 8427757135

Annexure-I

(1)

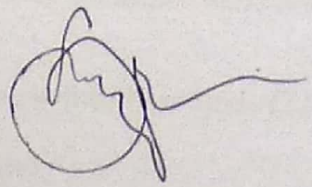
Technical Specifications of the Deliverable Equipments:

S. no	Items	Qty
1.	Wireless Sensor Network Based IOT Tool Kit	
	IOT Gateway • Must Supporting various Network Topology • On boards 20X4 LCD display • Facility to store the data • Zig bee 2.4 GHz Coordinator based on ARM 7 LPC2148. • On Board WI-FI & Bluetooth for data transfer selectable through Switch. • On Board Power supply(5V,3.3V)with rechargeable battery backup. • Configurable device software, for GUI based • Must have a enclosure. • Android app to watch data live with graphical representations of data. • Power supply indication on switch itself. • USB connector	10
	Re Programmable Sensor Nodes • The end devices must be enclosed with **enclosure** batteries for field applications • The Programmable Intelligent End Device with USB interfaces, with ARM 7 Processor • Zig bee 2.4 GHz with antenna • Supporting various Network Topology • Onboard 20X4LCDdisplay. • On Board Power supply (5V,3.3V) • I2C, SPI, UART, Modbus, Analog Digital sensor interface.	30
	Mod bus IOT Node • RS-485 Interface (Modbus RTU) • Wi-Fi 2.4 GHz, support WPA/WPA2 • Circular 8 pin connectors , metal switch • Integrated low power 32-bit MCU Circular Connectors for the sensors interface , Rechargeable battery and Usb connection through Circular connectors	5
	Wi- FI IOT Node • Wi-Fi 2.4 GHz, support WPA/WPA2 • Circular 8 pin connectors , metal switch • Integrated low power 32-bit MCU UART ,I2c, SPI Sensor Interfacing provision • AVR/ARM family based processor Sensor Connection through 8 Pin metal circular Connectors with interlock USB facility for pc interfacing, serial communication and power led for module indication Circular Connectors for the sensors interface , Rechargeable battery and Usb connection through Circular connectors	5

Air Quality Sensors

(Must be compatible and interfaced to above sensor nodes and Scratch modules)

S.no	Items	Qty
	PM Sensor Measuring output PM2.5,PM10, Range 0.0-999.9 ug/m3,Power supply voltage 5V ,Maximum working current 100mA,Sleep current 2 mA, Operating temperature range -20-50°C,7 Response time 1s ,8 Serial data output frequency 1 time/s ,9 Particle diameter resolution Less than 0.3um	10
	NO2 ,NH3, CO Gas Sensor Air Quality Sensor Three fully independent sensing elements on one package Built with ATmega168PA I2C interface with programmable address Heating power can be shut-down for low power Detectable gases Carbon monoxide CO 1 – 1000ppm Nitrogen dioxide NO2 0.05 – 10ppm Ammonia NH3 1 – 500ppm	10
	O3 Gas Sensor with the signal light indicates the output the dual signal output (analog output, and TTL-level output) TTL output valid signal is low; (low output signal light, can be accessed by the microcontroller IO port) the analog output increases with the concentration, the higher the voltage the higher the concentration the ozone gas with high sensitivity (detection concentration range 10PPB-2PPM Ozone)	10
	CO2 Gas Sensor Measuring the range of 0-2000 parts per million (PPM) Resolution of 1 PPM 0-2000 parts per million (PPM) Accuracy of 200 PPM A Warm - up time 3 minutes Response Time < 90s Operating temperature 0 to 50°C ,Operating Humidity 0% ~ 90% RH Storage temperature - 20-60°C ,Operating Voltage4.5 V to 6 V DC The Current maximum Current of less than 100 ma, the average Current of less than 50 ma Output mode UART	10



Water Quality Sensors

(Must be compatible and interfaced to above sensor nodes and Scratch modules)

S.no	Items	Qt
	Water Oxidation Reduction potential Sensor Module Power:+5.00V Module Size: 40mmX27mm(1.57"x1.06") Measuring Range:-2000mV – 2000mV Suitable Temperature:5-70°C Accuracy:±10mv (25 °C) Response Time:≤20sec, ORP Probe with BNC Connector,PH2.0 Interface(3 foot patch),Zero calibration button, Power Indicator LED	10
	WATER PH SENOSR Module Power : 5.00V Module Size : 43 x 32mm(1.69x1.26") Measuring Range :0 - 14PH Measuring Temperature: 0 - 60 °C Accuracy : ± 0.1pH (25 °C) Response Time : ≤ 1min pH Sensor with BNC Connector, pH2.0 Interface (3 foot patch), Gain Adjustment Potentiometer , Power Indicator LED	10
	WATER TDS SENSOR Input Voltage: 3.3 ~ 5.5V Output Voltage: 0 ~ 2.3V Working Current: 3 ~ 6mA TDS Measurement Range: 0 ~ 1000ppm TDS Measurement Accuracy: ± 10% F.S. (25 °C) Module Size: 42 * 32mm Module Interface: PH2.0-3P Electrode Interface: XH2.54-2P, TDS probe, Number of Needle: 2, Total Length: 83cm Connection Interface: XH2.54-2P, Color: Black, Other: Waterproof Probe	10
	Dissolved Oxygen Sensor Type: Galvanic Probe Detection Range: 0~20mg/L Response Time: Up to 98% full response, within 90 seconds (25°C) Pressure Range: 0~50PSI, Electrode Service Life: 1 year (normal use) Maintenance Period: Membrane Cap Replacement Period: 1~2 months (in muddy water); 4~5 months (in clean water) Filling Solution Replacement Period: Once every month Cable Length: 2 meters Probe Connector: BNC Signal Converter Board Operating Voltage: 3.3~5.5V Output Signal: 0~3.0V, Cable Connector: BNC, Signal Connector: Gravity Analog Interface (PH2.0-3P)	10

Agriculture Sensors

(Must be compatible and interfaced to above sensor nodes and Scratch modules)

S.No	Items	Qty
	Soil Moisture Sensor temperature: -40°C-80°C; moisture: 0-100%; RS485/0-10V/0-5V/4-20mA Temperature accuracy:±0.5°C;	10
	Soil Temperature and Moisture Sensor Relative humidity and temperature measurement With dew point All calibration, digital output Excellent long term stability Waterproof package, and can be used for measurement of soil Low energy consumption Body dimensions: 14mm diameter, 50mm long Cable length: 1 ft Humidity readings with 4.5% accuracy Temperature readings with 0.5 degree C accuracy Working Temperature/Humidity range: -40°C ~ 120°C, 0~100% RH	10
	Wind Speed Wind Direction Rating gauge sensor Wind Vane, Cup Anemometer, Tipping Bucket Rain Gauge Two-Part Mounting Mast, Rain Gauge Mounting Arm, Wind Meter Mounting Bar	10
	Solar Radiation Sensor Range: 0 to 1800 W/ m2 Accuracy: ± 5% of full scale Drift: up to ± 2% per year	10

General Sensors

((Must be compatible and interfaced to above sensor nodes and Scratch modules)

	Items	Qty
	Temperature Humidity Sensor Good for 0-100% humidity readings with 2-5% accuracy; Good for -40 to 80°C temperature readings ±0.5°C accuracy 1-1.5mA measuring current; 40-50 uA standby current 3 to 5V power and I/O; 2.5mA max current use during conversion (while requesting data) Real time Data acquisition unit	10
	Smoke sensor Smoke detector ,photoelectric type, Dc 8v-30v ,Real time installed in various industries for safety alarm purpose	10
	Motion Sensor Operating voltage range: DC 4.5-20V, Level output: High 3.3 V /Low 0V, Quiescent Current: <50uA Lens size sensor: Diameter:23mm(Default) Angle Sensor: <100 ° cone angle	10
	Light sensor Operating voltage 5v ,LDR ,	10
	Magnet sensor Output high and low ,operating voltage 5v Real time application for door closing and opening operation	10
	Proximity Sensor	10

	. Output Type: PNP NO(Normally Open) Detecting Distance: 4mm 1% Theory: Inductive Sensor Wire Type: 3 Wire Type (Brown, Blue, Black) Switch Appearance Type: Cylinder Type, Brass Shell Supply Voltage: DC 3-36V Current: 300mA Detect Object: Metal Diameter: 12mm Cable Length: 1.5M Package Includes: 1x Inductive Proximity Sensor Switch. Real time application in industry for production counting Display	
	Ultrasonic Sensor Operating Voltage: 5V(DC) Output Signal: Electric frequency signal, high level 5V, low level 0VSensor Angle: Not more than 15 degrees; Input Trigger Signal: 10us TTL impuls mEcho Signal: output TTL PWL signal Detection Distance: 2cm-450cm	10

2.	IOT For Environment Applications	1
3.	IOT For Water Applications	1
4	IOT For Agriculture Applications	1
5	Technical Specification for Scratch Module for IOT	1
	Items	Qty
	Universal Mother Board I2C - 24C04 EPROM Programmable memory ,RTC DS1307 with 32 KHz Crystal , CR2032- 3V Lithium battery back-up with Display LM35 Transducer, interface 128X64 , 8x9 Led Matrix and 8x9 digital inputs on board , 4-Single bit interrupt keys , 8 Channel ADC with Potentiometers and reference set voltage 8 Channel DAC with amplifier & CRO connection. 8 digital I/O led and Dip. RS-232 with DB9, Display 16x2 and 4 Seven segment, Buzzer Relay 6v on board, motor drive circuitry on board for Stepper and DC Motor, ARM 7 LPC2148 Board and Arduino Mega Board with replaceable arrangement and 10 pin Box header connections. **Modules must be detachable and multiple IOT application must be able to develop on this kits in the form of different projects.**	10
	RF 2.4 GHz Module Transmit Power: 3.1 mW (+5 dBm) Channels: 16 channels. Data Rate: RF 250 Kbps Interface through 10 pin Box header	20
	Wi-Fi Module Wi-Fi Module - .USB - micro USB port for power, programming and debugging Headers header with access to GPIOs, SPI, UART, ADC, and power pins Misc - Reset and Flash buttons Power - 5V via micro USB port Interface through 10 pin Box header	10
	Wireless GSM GPRS Module A Network support: Quad-Band 850/900/1800/1900 MHz - works on GSM networks in all countries across the world. Interface through 10 pin Box header	10
	Global Positioning Interface	10

	5Hz position update rate , EEPROM to save configuration settings, Rechargeable battery for BackupThe cold start time of 38 s and Hot start time of 1 s Configurable from 4800 Baud to 115200 Baud rates. (default 9600) SuperSense ® Indoor GPS: -162 dBm tracking sensitivity Interface through 10 pin Box header	
	Bluetooth Module Profiles: Bluetooth serial port Profile, Bluetooth protocol: Bluetooth Specification v2.0+EDR, With at least one applications Frequency: 2.4GHz ISM band, Interface through 10 pin Box header	10
	Weigand rfid Interface Input voltage: 9-16VDC (12VDC) Current consumption: < 60mA, Output mode: Standard Wiegand26 Format Frequency: 125KHz Read range: 5cm,Card Type: RFID	10
	Modbus Interface Module Fully compliant USB 2.0 standard, backward compatible with USB1.1 Support System: Windows XP, Vista, Windows 7, Linux, Mac OS, and WinCE5.0 drive	10
	Standalone Micro Controller Board Linux Microprocessor. Atheros AR9331. Operating Voltage: 3.3V. Architecture: MIPS @400MHz. Ethernet: IEEE 802.3 10/100Mbit/s. WiFi: IEEE 802.11b/g/n. PoE Compatible 802.3, Microcontroller. ATmega32u4. Input Voltage: 5V. 20 Digital I/O Pins.	10
	Standalone Pi Board Quad-core ARM Processor 1.4GHz Connectivity 802.11 b/g/n Wireless LAN Bluetooth 4.1, zigbee, USB & Ethernet RAM 1GB Memory 16GB (upgradable) OS Linux Ethernet 10/100 BaseT Ethernet socket Video Output HDMI and Composite RCA Audio Output Audio Output 3.5mm jack USB 4 nos. Camera 15-pin MIPI Camera Serial Interface Memory Card Push/pull Micro	10
	Human Machine interface 480 x 320 Resolution RGB 65K true to life colours TFT screen with integrated resistive touch panel 4 pin TTL . micro-SD card slot for firmware upgrade Interface through 10 pin Box header	10
6.	Cloud Computing Software 30 Users with 5 Years License a) ANEKA .NET Cloud Computing Software –Version 5.0 (Enterprise Edition license for 5 years) SDK (Software Development Kit) with APIs for: * Task Programming Model * Thread Programming Model * Map Reduce Programming Model b) Aneka Cloud Resource Management System	01

FORMAT OF QUOTATION

Sr. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						In Figures	In Words

Gross Total Cost: Rs. .....

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

We also confirm that the normal commercial warrantee/guarantee of ..... months shall apply to the offered goods.

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: _____

Contact No._____