Government College of Engineering, Chandrapur

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Quotation Call

No:GCOEC/Purchase/2021-22/1332.
Date:- 09 JUL 2021

To,

M/s.....
Mentioned over leaf
.....

Subject: Quotation for the supply of **Wireless Sensors & Transducer Network Laboratory Equipments.**

Sir,

With reference to above, sealed quotations are invited for the supply of following items subject to the conditions mentioned below.

Quotations should be sent in envelop duly sealed and super scribed **"Quotations for Wireless Sensors & Transducer Network Laboratory Equipments", so** as to reach this office on or before **22/07/2021**

1. Quotations will be opened at 15.00 p.m. on date **23/07/2021.** You or your representative may, if you so desire, remain present at your own cost.
2. The instruments /equipments /goods / materials, quoted for, should be of the best quality and should be in conformity with specifications. Clearly indicate the Make / Manufacturer / Country and other specifications in details. You are also requested to quote for the substitute or equivalent stores / items. **Complete technical description / literature of the goods / material quoted must accompany the quotations without which the quotation will not be considered.**
3. The rates should be **F.O.R. Chandrapur** by the tenders outside **Chandrapur** and **Delivery on Campus** by local tenders.
4. Supply will have to be completed within **15 Days** from the date of issue of the supply order.
5. The rates should be **inclusive of all the taxes (GST), packing, forwarding, freight, insurance, transportation etc.**
6. The payment will be subject to delivery of items in good condition at the institute premises and will be made only after installation, commissioning and satisfactory test / trial of the same at the institute. Three copies of the bill should be supplied along with goods / materials.
7. If the supplied item or any part of the item supplied is rejected, the supplier will have to bear all expenses incurred in this case including all charges of return and replacement of the items if any.
8. Goods not up to the standard or without I.S.I. mark, even if it is lowest in price, will not be accepted and decision of the undersigned in this respect will be final.
9. The items will be inspected by the inspection team authorized by this office and the supply is subjected to the approval of the said team.
10. This office reserves the right to accept or reject any or all quotations and to order any of the items in any quantity without assigning any reason thereof.
11. **Late delivery**: @ 0.5% of the value of undelivered stores per week, maximum 5% of the value of undelivered stores.
12. Quotations should be submitted in following format.

S.N.	Description of goods	Specifications	Qty.	Quoted Unit Rate in Rs	Total Amount (All inclusive)	
					In figures	In words

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प्राचार्य
शासकीय अभियांत्रिकी महाविद्यालय,
चंद्रपूर

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निविदा पाठविण्याची पद्धत

मुख्य लिफाफ्यात खालील प्रमाणे दोन लिफाफे टाकुन लिफाफ्यावर लिफाफा क्रमांक नमुद करावा.

लिफाफा क्र. अ- तांत्रिक निविदेचा लिफाफा. (खालील वैध कागदपत्रे लिफाफ्यात टाकावी)

I. निवीदाकाराच्या आस्थापनेचे नोदणी प्रमाणपत्र (Firm Registration Certificate)

II. रजिस्ट्रेशन प्रमाणपत्र/क्रमांक (GST Registration Certificate)

III. जुलै २०१८ पर्यंत भरल्याच पुरावा (GST paid certificate up to July 2018)

IV. निविदेतील वस्तू चे निविदाकाराचे / उत्पादकाचे /.

V. पुरवठा करण्यात येणाऱ्या यंत्रसामग्री / उपकरणांच्या व विक्री पश्चात सेवेबाबत हमीपत्र.(After sell Quality & Service Undertaking)

VI. निवीदाकार स्वतः उत्पादक नसेल तर मूळ उत्पादकाचे बाबतीत वरीलपैकी सर्व कागदपत्रे तसेच मुखत्यारपत्र / वितरक प्रमाणात जोडणे अपेक्षित आहे .

लिफाफा क्र. ब - वाणिज्यिक निविदेचा लिफाफा.

I. सदर लिफाफ्यात निविदाकाराचे सर्व समावेशक दर अपेक्षित आहे. (Rates of Goods)

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Specifications of Equipment for Tendering

Modernization of Wireless Sensors & Transducer Network Laboratory

S. No.	Item	Detailed Specifications	Qty.	Rate / Item	Total cost
1	Wireless Sensor Network setup	Processor : 64bit ARMv7 Quad Core Processor 1.2GHz Connectivity : 802.11 b/g/n Wireless LAN Bluetooth 4.1, zigbee, USB & Ethernet, RAM : 1GB , Internal Memory : 32GB ,OS : Linux, Ethernet : 10/100 BaseT Ethernet socket, Display Interface : HDMI , USB : 1 no. foe external and 3 numbers for internal interface , Analog Input : 6 nos., Zigbee Frequency : 2.4GHz, Power : 220VAC , Analog Inputs : 6 nos., Digital Outputs : 4 nos., I2C channel : 1 no., Communication : Zigbee 2.4 GHz, PC Interface : USB, Charging : USB and Solar Panel, Internal Battery : 3.7V/4400 mAh, Solar Panel : 6W (optional), ADC Resolution : 10 Bit, ADC reference voltage : 3.3V, Battery Charging supply : +5V via USB Device Features, • Zigbee 2.4 GHz based ISM band Wireless Network • 6 nos. Analog and 4 nos. digital sensors interface and data collection from End Device, • Reconfigurable to End device or Router., • Data Transmission and battery charging indication., Data Monitoring software, • Software should be linux based and support C, C++ and python, • HTML and PHP support provided, Point to point, star and mesh topology. ,· Battery charging via USB cable, · Node reconfiguration software, · GUI based , reprogrammable software, · Historical data plot support	1		
2	Wireless Sensor Node (Zigbee)	• Analog Inputs : 6 nos. • Digital Input and outputs : 4 nos. • I2C channel : 1 no., • Communication : Zigbee 2.4GHz, • Power Output Capability : 63mW (+18dBm), • PC Interface : USB, • Charging : USB and Solar Panel, • Battery : 3.7V/4400mAH • DC Adaptor : 5VDC/1A, • Solar Panel : 6W Product should have following features: • Solar re-chargeable, • Wireless sensor nodes with 6 analog or 5 digital sensors interface • Inbuilt XBee S2C Pro Zigbee module., • IP65 Packaging, • Arduino programming Compatible • Reprogrammable and Reconfigurable, • Provided load switches to control sensors' power	1		

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3	Wireless Sensor Node (LoRa)	• Analog Inputs : 6 nos., • Digital Input and outputs : 4 nos. • I2C channel : 1 no., • Communication : LoRa 433MHz, • Modulation Mode : GFSK (Gaussian Frequency Shift Keying), • Power Output Capability : +20dBm – 100 mW, • PC Interface : USB • Charging : USB and Solar Panel, • Battery : 3.7V/4400mAH, • DC Adaptor : 5VDC/1A, • Solar Panel : 6W Product should have following features: • Solar re-chargeable, • Wireless sensor nodes with 6 analog or 5 digital sensors interface • Inbuilt LoRa 433Mhz module., • IP65 Packaging, • Arduino programming Compatible, • Reprogrammable and Reconfigurable, • Provided load switches to control sensors' power	1		
4	Wireless Sensor Node (RS485)	• Analog Inputs : 6 nos., • Digital Input and outputs : 4 nos., • I2C channel : 1 no. • Communication : Wired RS485, • PC Interface : USB, • Charging : USB and Solar Panel • Battery : 3.7V/4400mAH, • DC Adaptor : 5VDC/1A, • Solar Panel : 6W Product should have following features: • Solar re-chargeable, • Wireless sensor nodes with 6 analog or 5 digital sensors interface • Inbuilt RS485 module., • IP65 Packaging, • Arduino programming Compatible • Reprogrammable and Reconfigurable, • Provided load switches to control sensors' power	1		
5	Wireless Sensor Node (Bluetooth)	• Analog Inputs : 6 nos., • Digital Input and outputs : 4 nos., • I2C channel : 1 no. • Communication : V4.0 BLE 2.4 GHz, • Modulation Mode : GFSK (Gaussian Frequency Shift Keying), • Transmitting Power : ≤4dBm, • PC Interface : USB, • Charging : USB and Solar Panel, • Battery : 3.7V/4400mAH, • DC Adaptor : 5VDC/1A, • Solar Panel : 6W Product should have following features: • Solar re-chargeable, • Wireless sensor nodes with 6 analog or 5 digital sensors interface • Inbuilt BLE V4 module., • IP65 Packaging, • Arduino programming Compatible • Reprogrammable and Reconfigurable, • Provided load switches to control sensors' power	1		

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6	Industrial IoT gateway (IIoT)	System design should be based on 64 bit Quad core Cortex-A72 @1.5GHz Connectivity : 2.4 Ghz 802.11 ac Wireless LAN, Bluetooth 5.0, Zigbee, Gigabit Ethernet and 4 USB ports., Memories: 32GB Flash, 4GB LPDDR4SDRAM , Operating system: Linux Sensor Interfaces: 6 Analog Inputs, 6 Digital Inputs/Outputs , ADC resolution: 10 bits (optional 16 bits), Radio Interfaces Wi-Fi: Bluetooth: BLE 5.0 Ethernet: 1 x Gigabit Ethernet GSM/GPRS: 4G (SIM slot available) , Zigbee: 2.4 GHz , LoRa: 433/867 MHz , Wired: Modbus RS485 , Antennas: 1x cellular, 1 x Zigbee, 1 x RF , Display: HDMI port, Power Operating Voltage: 230V ±10% 50Hz , Software Framework: HTML, CSS, PHP, C and Python. DBMS: MySQL, Cloud Platform: Azure, AWS & other supported System includes: • Data Acquisition System with 10 bit Resolution, • 4G GPRS Modem, • Linux based core software, • Controller unit, • Weather Proof mechanical housing IP65 , • Remote Debugging • Local data storage with edge computing, • Wi-Fi, Zigbee, Bluetooth, RS485 and LoRa supported, • Supports HTTP, MQTT, TCP and application layer protocol, • Cloud ready gateway with Node.js script, • Analog, digital and I2C sensor Interface, • Digital Output for actuator interface, • Outdoor ready to deploy solution, • Easily programmable. Uses , YTHON/JAVA/C/C++, • Modular software and hardware architecture, • Inbuilt temperature sensor	1		
7	IOT Builder	Processor : 64bit ARMv7 with 1GB RAM , Memory 32GB ,OS: Open source Linux, Connectivity: Wireless LAN, Bluetooth, Zigbee, USB & Ethernet, HDMI interface, 1.77" Color TFT LCD , Driver for Stepper and DC Motor, six 16 bit Analog Input, RTC and 4-20mA input. Zigbee: 2.4GHz, Sensors: Temperature and Humidity, Air Quality, Soil Moisture, Ambient Light, Soil/Water temperature, PIR Sensor. GSM IoT Gateway - Quad-Band 850/900/1800/1900 MHz - GPRS multi-slot class, Control via AT commands. Explore physical and application layer protocols like RS232, RS485, GSM, Ethernet and MQTT, CoAP, HTTP, FTP. Cloud/server configuration includes HTML, Java, php and mySQL. IoT Node: Wireless 2.4GHz Zigbee, 5 Analog Inputs and at least 3 Digital Outputs, At least one I2C Channel, support OTA. It should have inbuilt battery 3.7V/4400mAH with Solar Panel or USB charging option. Sensors Specifications: Temperature and Humidity: Operating Humidity: 0 to 100 %RH , Temperature Range : 0 to 100 C , Output Signal : Analog Voltage Air Quality Sensor: Signal : Analog Voltage , Detection Range: PM2.5 and PM10 , Alcohol Heater Voltage : 5.0V Soil Moisture: Output Signal : Analog Voltage, Ambient Light Sensor, Output Signal : Analog Voltage Soil/Water temperature: Output Signal : Analog Voltage , Temperature Range : 0 to 100 C, PIR Sensor: Detection Range : 2 Meter , Output Signal : Analog Voltage	1		

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8	Online VPS Cloud Server	It should be an online server with static IP address, one domain (Website) name and one database along with email address. Technical Specs: • KVM Hypervisor, • 1 vCore(s) Fair Share, • 50 GB NVMe SSD RAID1, • 4 GB DDR4 ECC RAM • 1 Gbps Burst Unmetered Bandwidth, • 1 IPv4 + 1 IPv6, • Enterprise Level Anti DDOS Protection, • Private Networking, • Virtualizor VM Controls, • One Dedicated IP • Full Virtual Control of PC, • Install and reinstall OS from control panel.,• Operating System available, any of Windows Server, Ubuntu, CentOS, Debian, • 2 years (customer has to renew annual subscription after 2 years)	1			
9	Sensor Lab with Temperature Light, IR Sensors	IoT enabled Android based 7" Graphical touch LCD with inbuilt cortex processor & DAQ for acquiring 4nos. analog inputs and 4 nos. digital inputs data and software for viewing the output waveforms with USB storage and HDMI output. It should have Ethernet port to connect with real world. Inverting, Non – Inverting, Power, Current, Instrumentation and Differential Amplifier, F to V, V to F, I to V, V to I Converter, High Pass and Low Pass Filter, Buffer, LED, Buzzer and relay. System should have PC interface to display real time data. Included Sensors: RTD, NTC Thermistor, LM35, Photovoltic Technical Specifications: LM35 : 10mV/ °C, Platinum RTD : 100Ω at 0°C (Temp. coefficient 0.385 Ω /°C), K Type Thermocouple : -200°C to 1250°C, NTC Thermistor : 4.7KΩ, BPX65 Photo Diode : 500nm – 1100nm, L14G1 Photo Transistor : 500nm – 1100nm Photovoltaic Cell : 500mV – 580mV, 2 mm interconnection : Min 80 nos sockets	1			
10	Wireless Sensors	1.Pressure Sensor : Sensor name : SX100DN, Pr. Transducer: 0 – 60 psi 2.LVDT Coil : Measurement Range : 20 mm (±10 mm) 3. Strain Guage: Strain Gauge (350Ω) : 4 Nos., Gauge Factor : 2:1 Maximum bearable weight : 500 Gms 4. Solar radiation sensor :Range : 0-2000w/m2, Output : 0-2v 5.Alcohol Sensor : Warm up time : 10 Mins, Supply Voltage: +5V DC 6.Magnetic Sensors: Hall Effect Sensor : WSH315, Sensitivity : 1.5 mV/ Ga 7.Analog pH sensor :Measuring Range 0 – 14 PH 8.Capacitive Proximity Sensor: Type PNP, O/p V 12V DC, Range 0-10 mm 9.Inductive Proximity Sensor: Sensing Range : 0-10 mm 10.Level Sensor:Sensor Type : Capacitive 11.Fire Sensor: Sensitivity : -44 to ± 3dB, Output: TTL 12.Flow Sensor: Working Flow Rate : 1 to 30 Liters/Minute, Maximum water pressure : 2.0 MPa 13.Smoke Sensor: Calibrated Gas/Smoke : 1000 ppm iso-butane 14.Accelerometer Sensor 15.Potentiometric Displacemnet sensor:Linear displacement : 0 to 10 mm, Angular displacement : 0 to 2700 16.Capacitive Dispacement Sensor:Angular Displacement : 00 to 1800 17.Atmospheric Pressure Sensor :Pressure Range Min. : 15kPa Max. : 115 kPa	1 Each			

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11	Wireless Gaseous Sensors	1.CO2 Sensor: Sensor type: NDIR, Range: 0-5000ppm, Provided DIN connector and cable glad fitting 2.O2 Sensor: Sensor type : Electrochemical, Range : 0-25%, Provided DIN connector and cable glad fitting 3.Nitrogen Dioxide (NO2) : Sensor type : Electrochemical, Range : 0-20ppm, Provided DIN connector and cable glad fitting 4.Carbon monoxide (CO) : Sensor type : Electrochemical, Range : 0-1000ppm, Provided DIN connector and cable glad fitting 5.Humidity Sensor 6. Air Quality Sensor 7.Soil Moisture 8.Ambient Light Sensor 9.Soil/Water temperature 10.PIR Sensor	1 Each		
				Total	
				Taxes / GST if any	
				Grand Total	

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