

Notice for Quotation (NIQ)

ABV-IIITM/Reg/2394

Date: 16/09/2020

Sub: Enquiry Nodes/Gateways with interface and sensors

Dear Sir/Madam,

1. On behalf of Director, ABV-IIITM Gwalior, quotations are invited in sealed cover for supply of the under mentioned products. You are invited to submit your most competitive quotation and the technical specifications of these products are mentioned in the Annexure I.

Sr. No.	Item Description	Qty.
1.	Raspberry Pi 4B 2GB/4GB/8GB Pi 4 official case 16 GB Noobs card BIS 2Amps charger Copper heat sink HDMI Cable Ethernet cable Adaptor.	06
2.	ADC/DAC extension board for Raspberry Pi	05
3.	Isolated Optocoupler Driver Expansion Board Relay Module 4CH 5Volt	06
4.	Temperature, Humidity, Acceleration, Pressure and 3D orientation	06
5.	GPS INTERFACE FOPRT RASSBERRY PI board:	02
6.	GSM Interface for Raspberry Pi:	02
7.	Smoke sensor	02
8.	Motion Sensor	02
9.	Light sensor	02
10.	Magnet sensor	02
11.	Proximity Sensor	02
12.	Ultrasonic Sensor	02
13.	Soil Temperature and Moisture Sensor	02
14.	Carbon mono-oxide (CO) sensor:	02
15.	Hydrogen gas sensors:	02
16.	LPG, methane and smoke sensor:	02
17.	Sulfur di-oxide sensor (SO2) sensors:	02
18.	Air Quality Index Sensor PM2.5, PM10:	02
19.	Battery Lithium Ion	10
20.	ARM based Gateway	01
21.	ARM BASED NODES	02

2. Quotation:

- 2.1 The price should be quoted on F.O.R. ABV-IIITM Gwalior delivery basis.
- 2.2 Please quote your unit price as well as total amount for supplying the goods along with the discount, if any as per above format.
- 2.3 The supplier has to provide all equipment as a package, supply order will not be for individual items as this is a project work
- 2.4 Supplier must have supplied the similar equipment to some other reputed institutes.
- 2.5 Supplier has to provide 2 days training to the faculty and research students
- 2.6 Supplier must have experience working with IoT project
- 2.7 The quotation should be valid for 90 days from the date of submission.
- 2.8 The institute has the right to increase or decrease the number of quantity.
- 2.9 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
- 2.10 Applicable taxes shall be quoted separately for this item.
- 2.11 The Prices should be quoted in Indian Rupees (₹) only.

3. Evaluation of Quotations: The committee will evaluate and compare the quotations determined to be substantially responsive i.e. which

- 3.1 are properly signed; and
- 3.2 Confirm to the terms and conditions, and specifications

4. You are also requested to submit the following documents:

- 4.1 Proof of Registration under relevant law, such as Companies Act, and / or Shops & Establishment Act or Trade License from appropriate authority etc.
- 4.2 Dealership/authorisation certificate from the OEM (Original Equipment Manufacturer).
- 4.3 Copy of PAN, GSTIN
- 4.4 Details of the after sales service facilities available at Gwalior, Madhya Pradesh responsible for maintaining the equipment during the entire period of warranty.

5. Payment shall be made in Indian Rupees as follows: Satisfactory Delivery, Installation & Acceptance –100% of total cost

6. You are requested to provide your offer latest by **05-10-2020, 4.00 PM.**

7. Detailed specifications of the items are in Annexure I and the format for submitting quotation is at Annexure II

8. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.

9. Any quotations submitted after the specified time and with incomplete information will not be accepted.

10. Sealed tender/quotation to be submitted/delivered at the address mentioned below,

The Registrar,
[Attention: Prof. Aditya Trivedi]
ABV-Indian Institute of Information Technology and Management Gwalior,
Morena Link Road, Gwalior,
Madhya Pradesh, India-474015

Registrar

TECHNICAL SPECIFICATION

1	<p>Raspberry Pi 4B 4GB Pi 4 official case 16 GB Noobs card BIS 2Amps charger Copper heat sink HDMI Cable Ethernet cable Adaptor.</p>
2	<p>ADC/DAC extension board for Raspberry Pi Supported Pi : Raspberry Pi 1 Model A+; Raspberry Pi 1 Model B+; Raspberry Pi 2 Model B; Raspberry Pi 3 Model B; Raspberry Pi 3 Model B+ Onboard ADS1256, 8ch 24bit high-precision ADC (4ch differential input), 30ksps sampling rate; Onboard DAC8532, 2ch 16bit high-precision DAC Onboard input interface via pinheaders, for connecting analog signal; the pinout is compatible with Waveshare sensor interface standard, easy to connect various analog sensor modules Onboard input/output interface via screw terminals, for connecting analog/digital signal Features AD/DA detect circuit, easy for signal demonstration</p>
3	<p>Isolated Optocoupler Driver Expansion Board Relay Module 4CH 5Volt 5V 8-Channel relay interface board and each one needs 15-20mA driver current Equipped with high-current relay, AC250V 10A DC30V 10A Standard interface that can be controlled directly by microcontroller (Arduino, 8051, AVR, PIC, DSP, ARM, ARM, MSP430, TTL logic) Indication LED's for relay output status</p>
4	<p>Temperature, Humidity, Acceleration, Pressure and 3D orientation</p> <p>Raspberry Pi Sense HAT is a sensor-packed add-on to your Raspberry Pi 3, 2, B+ and A+ boards. It mounts right on top of your Raspberry Pi and all you need to do is run your code. Raspberry Pi Sense HAT has integrated sensors that can measure temperature, humidity, acceleration, pressure and 3D orientation. Also, you get an 8×8 LED matrix for displaying data read through all these sensors. Writing programs for the Sense HAT are very simple with a Python library available to get started quickly and easily.</p>
5	<p>GPS INTERFACE FOPRT RASSBERRY PI board: Cold start time of 38 s and Hot start time of 1 s Configurable from 4800 Baud to 115200 Baud rates. (default 9600) Super Sense ® Indoor GPS: -162 dBm tracking sensitivity</p>
6	<p>GSM Interface for Raspberry Pi: AT command interface Quad-band 850/900/1800/1900MHz Make and receive voice calls Send and receive SMS messages Send and receive GPRS data (TCP/IP, HTTP, etc.)</p>
7	<p>Smoke sensor must be interfaceable with items Smoke detector Photoelectric type Dc 8v-30v Must be interfaced with item no 1</p>
8	<p>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)</p>

	Angle Sensor: <100 ° cone angle Must be interfaced with item no 1
9	Light sensor Operating voltage 5vLDR
10	Magnet sensor Output high and low Operating voltage 5v Real time application for door closing and opening operation
11	Proximity Sensor 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 TypeBrass Shell Supply Voltage: DC 3-36V Current: 300mA Detect Object: Metal Diameter: 12mm Cable Length: 1.5M
12	Ultrasonic Sensor Operating Voltage: 5V(DC) Output Signal: Electric frequency signal, high level 5V, low level 0V Sensor Angle: Not more than 15 degrees Input Trigger Signal: 10us TTL impulse Echo Signal: output TTL PWL signal Detection Distance: 2cm-450cm
13	Soil Temperature and Moisture Sensor Relative humidity and temperature measurement With dew point All calibration, digital output Witg modbus 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
14	Carbon mono-oxide (CO) sensor: Power supply needs: 5V Interface type: Analog Pin Definition: 1-Output 2-GND 3-VCC High sensitivity to carbon monoxide
15	Hydrogen gas sensors: Using high-quality dual-panel design, with power indicator and TTL signal output instructions. The switching signal having a DO (TTL) output and analog output AO. TTL output valid signal is low. (Low-level signal when the output light can directly connect to the microcontroller or relay module) The higher the voltage, the concentration of the analog output voltage is higher. A hydrogengas detection with good sensitivity.
16	LPG, methane and smoke sensor: High sensitivity to LPG Natural gas Town gas.
17	Sulfur di-oxide sensor (SO2) sensors: Measurement Range:0 to 20 ppm Response Time:< 15 seconds typical

	<p>Repeatability:< +/- 3 % of reading</p> <p>Operating Humidity Range - non-condensing:0 to 100% RH (15 to 95% continuous)</p> <p>Sensitivity @ 200 mV bias:25 +/- 10 nA/ppm</p> <p>Power Consumption:10 to 50 uW (circuit & ambient SO2 dependent)</p> <p>Operating Temperature Range:-30 to 50 C (-20 to 40 C continuous)</p> <p>Expected Operating Life:> 5 years (10 years @ 23+/-3C; 40+/-10% RH)</p>
18	<p>Air Quality Index Sensor PM2.5, PM10:</p> <p>Measuring output PM2.5, PM10</p> <p>Range 0.0-999.9 ug/m3</p> <p>Power supply voltage 5V</p> <p>Maximum working current 100mA</p> <p>Sleep current 2 mA</p> <p>Operating temperature range -20-50°C</p> <p>Response time 1s</p> <p>Serial data output frequency 1 time/s</p> <p>Particle diameter resolution Less than 0.3um</p>
19	<p>Battery Lithium Ion with enclosure</p> <p>7.4V/2200mah</p> <p>with chargers</p>
20	<p>ARM based Gateway:</p> <p>The Gateway must be based around LPC2148 With all facilities</p> <p>Gateway must be interfaceable with END Devices ,</p> <p>the coordinators must be designed around advance processors and must act as gateway with other wireless connectivity.</p> <p>Zig bee 2.4 GHz Coordinator based on ARM 7 LPC2148 based processor.</p> <p>Supporting various Network Topology with RF data rate 250kbps/80kbps.</p> <p>On board two relays with isolated Output & one Buzzer for alarm activation.</p> <p>On boards 20X4 LCD display for display for end device status.</p> <p>On board Facility to store the data SD Card for Storage.</p> <p>Data entry using 4X4 Hex Keypad digital Input.</p> <p>On board WI-FI (To share data on Cloud) & Bluetooth for data transfer.</p> <p>On Board Power supply (5V,3.3V) with rechargeable battery backup.</p> <p>Configurable device software, for GUI based, along with testing utility, RF data rate 250 KBPS with software selectable Data rate, with input / output range 100Ft / 300Ft, power supply 2.8V. Power supply indication on switch itself. And Bluetooth led 'should be easily visible.</p> <p>A Switch Must be provided to select the interface of RF module with controller and with the USB section.</p> <p>2D type USB connector must be their one for RF configuration and one for Microcontroller programming Sample program for the reception of data on the gateway of the nodes.</p> <p>All programs of Sensor interfaces with node must be provided.</p> <p>All system must be in a metal enclosure.</p> <p>Must be supplied with battery etc</p> <p>Real time applications .</p>
21	<p>ARM BASED NODES(put the data loggers specs)</p> <p>With GSM</p> <p>8 Channel, Analog / digital / 4-20 mA / 0-5V input ports.,</p> <p>Rs232/ Rs485/ Modbus communication port. Low power,</p> <p>ideal for remote siting Full instructions & Manufacturer's support, LCD display for onsite reading,</p> <p>Logging option configuration by minutely, hourly, Daily,</p> <p>Extensive 8 Mb on-board flash memory (Non- volatile)</p> <p>Hex keyboard to set the various parameters, to configure the channel.</p>

Lock key facility. Battery indicator. Reset switch facility.
Size Enclosure: Wall mountable)
With built in GSM interface to log the data lon cloud
Must be supplied with mobile app and cloud app,
Facility to interface real time sensors .

FORMAT FOR SUBMITTING QUOTATION

(In letterhead of the supplier with seal)

Date:.....

To

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Sr. No.	Item/Specifications	Qty.	Basic Rate P.U. (Rs.)	GST % & Amount P.U (Rs.)	Total Amount in (Rs.)
	Quote Special Educational Discount (In % age)				
	Total Cost with Educational Discount				

[A] Duties & Taxes (if applicable):

1. Custom Duty: _____
2. Freight/ Transportation: _____
3. Insurance: _____
4. GST: _____
5. Packing & Forwarding: _____
6. Others, (if any): _____

[B] Others Details (Enclosed Certified Copy)

1. Specification as per Requirements: Yes/No
2. Warranty/Guarantee: _____ Years
3. Delivery period: _____
4. Authorization Letter: _____
5. GST Registration certificate: _____
6. Certificate Copy: _____
7. PAN /GST No: _____
8. Others, (if any): _____

Finally, we agree to supply the above items for **Total (Rs. _____ Amount in figures) (Rs _____ Amount in words)** included all above within the period specified in the Invitation for Quotations.

Signature of Supplier

Stamp:

Date: