



ASTI-FM 03-11
REV 0/2 APR 2018

**DOST-ASTI Bids and Awards Committee
Invitation to Bid (Public Bidding)**

ITB No:	18-10-2155	Date:	October-22-2018
PR No:	GAA-18-08-6328	Date:	August-14-2018
Source of Funds:	GAA		
Total ABC:	Php 1,924,313.00		
Time, Date & Venue of Pre-bid Conference:	October 30, 2018, 1:30 PM at DOST-ASTI		
Time and Date of Submission of Bids:	November 12, 2018, 12:00 PM		
Time, Date & Venue of Opening Bids:	November 12, 2018, 1:30 PM at DOST-ASTI		
Date of availability of Complete Set of Documents:	October 22, 2018		
Deadline of Potential Bidder's Clarifications:	November 02, 2018		
Deadline of ASTI's Supplemental Bid Bulletin:	November 05, 2018		
Delivery Schedule:			

The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - www.asti.dost.gov.ph

For further inquiries, contact ASTI's BAC Secretariat via email at bac-sec@asti.dost.gov.ph. Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,


PEDRITO B. MANGAHAS
Chairperson, BAC-1

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	Sand paper Waterproof Silicon Carbide Abrasive Paper Grit: #300, 50 pcs Grit #500, 50 pcs Size: 23x28cm For Burnish Wood, Ferrous and Non-Ferrous Metals Suitable for wet and dry application Waterproof backing Impregnated with Silicon Carbide Grain Closed coat structure for more material removal Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery	100	pc	25.00	2,500.00
2	Super Glue ADHESIVE, CYANOACRYLATE, 20G	30	pc	500.00	15,000.00

	<p>Adhesive Type: Ethyl Cyanoacrylate Dispensing Method: Bottle Components: One part - requires no mixing Colour: Transparent Min Weight: 20g Adhesive Applications: Bonding - General Purpose Viscosity: Low Max Cure Time: 20s Max Operating Temperature: 80°C Min Cure Time: 2s Weight: 20g Application: Bonding Key Substrates: Plastics, Rubbers and Metals RoHS: Compliant REACH SVHC: No SVHC Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
3	<p>Chemical Respirator Gas Mask Single Material: durable hard plastic and soft elastic nylon. 100% brand new and high quality Double Cartridges Anti-dust Spray Paint Respirator Mask Breathing Mask. Designed to protect you from breathing in dust and fine powders. Single gas cartridges for spray painting and organic vapours of low toxicity. Single cartridge system can be replaced with different cartridges for acidic gases or other chemical vapors. Soft nose and mouth cover make the mask fit all users to wear. Dual headband system can be adjusted easily for comfortable to wear.</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	16	pc	250.00	4,000.00
4	<p>Multicore Wire Lead solder Multicore 1.2mm Wire Lead solder (5 pcs) Multicore 0.46mm Wire Lead solder (5 pcs) Percent Lead 40% Product Form Wire Melting Point 183 → 188°C Percent Tin 60% Flux Type Rosin Based Product Weight 250g Flux Content Percent 3%</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes</p>	10	roll	1500.00	15,000.00

	and other fees. 3. Payment upon full delivery				
5	<p>Multi-Use Product Lubricant 6.5 fl oz. lubricates moving parts such as hinges, wheels, rollers, chains, and gears. It protects against rust and corrosion on items like tools, and sporting equipment. It penetrates to free stuck corroded parts like nuts, bolts, valves and locks. It quickly removes adhesives, corrosion and paint. It displaces moisture to restore water flooded equipment such as engines, spark plugs and power tools. Appearance: Aerosol – Aerosolized Liquid Bulk – Liquid</p> <ul style="list-style-type: none"> • Color: Light amber cloudy liquid • Odor: Characteristic • Freeze Point/Pour Point: <-81° F (-63° C)(ASTM D-97) • Kinematic Viscosity @ 100° F (38° C): 2.8 cSt • Specific Gravity @ 77° F (25° C): 0.81 • Boiling Point (initial): 360° F (183° C) • Vapor Density: >1 • Flash Point: 138° F (59° C)(TCC) • Percent Volatile: 70-75% by weight • VOCs: 24.5% by weight • Lower Flammability Limit: 0.6% • Upper Flammability Limit: 8.0% • Vapor Pressure: Aerosol: 95-115 psi @ 70° F (21° C) Bulk: 1 psi @ 100° F (38° C)(ASTM D323) <p>Note: Supplier must provide product brochures</p> <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	12	can	200.00	2,400.00
6	<p>PVC Acrylic Plastic Sheet Perspex Cutter Hook Cutting Tool With 10 Spare Blades Item: Laminate Scoring Knife Blade Operation: Retractable Blade Type: Scoring Blade Change: Thumb Blade Knob Overall Length: 7" Blade Material: Tungsten Steel Handle Color: Black/Yellow Handle Material: ABS Number of Blades Included: 3 Tether Capable: Tether Ready Overall Width: 1-9/16" Overall Thickness: 7/8" Position: 1 Handle Type: Contoured Features: Ratchet-Wheel Blade Lock, for Right and Left Handed Use Stores: (2) Blades Application: General Purpose</p> <p>Extra Blades</p>	3	set	2000.00	6,000.00

	<p>2-3/8" Carbide Steel 2-Point Scoring Blade, 3 PK Item: Scoring Blade Primary Cutting Application: General Purpose Material: Carbide Steel Blade Point Type: Hook Blade Edge: Straight Number of Blades Included: 3 Number of Cutting Edges: 1 Number of Blade Points: 2 Blade Dispenser Included: No Thickness: 0.025" Length: 2-3/8" Width: 1/2" Mount Type: (1) Hole Fits Utility Knives same as the specification above.</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
7	<p>Self Tapping Screws - Phillips Round Head - 2.9mmx14mm - 100 pcs per pack</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	3	pack	250.00	750.00
8	<p>Standoff hexagonal spacer 1. M3 x 12mm male to female 150 pcs</p> <p>2. M3 x 8mm female to female 150 pcs</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	300	pc	94.00	28,200.00
9	<p>Blind Rivets - 5/32 x 1/2 Aluminum material 1000 pcs approx per box</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	10	box	400.00	4,000.00

10	<p>Hacksaw Frame Heavy Duty TPR Handle 16" Size</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	5	pc	500.00	2,500.00
11	<p>hacksaw blade 12" Teeth per Inch: 18 TPI Product Type: Hacksaw Blade Cut Type: Fine Blade Length: 12 in. Number in Package: 2 Material: Bi-Metal Blade Width: 12 in. Tpi: 18</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	20	pc	50.00	1,000.00
12	<p>Soldering flux Completely non-corrosive liquid solder flux Completely safe to use on even the most delicate electronic equipment Anti-Static Formulation Minimized risk of Electrostatic Damage to Components</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	1	Liter	2500.00	2,500.00
13	<p>7pcs 8/10/12/13/14/17/19mm Double-ended Combination Ratchet Spanner Open-ended Wrench Set Flexible Head Double-ended combination spanners: open-ended head + ratchet ring head. - Color: mainly silver. - Material: Chrome vanadium steel alloy. - Size: 8mm, 10mm, 12mm, 13mm, 14mm, 17mm and 19mm. - Wrench hardness: 45-48 HRC. - With dual head design, convenient and easy to handle. - No more scrambling for the proper tool for your repair. - Ingenious travel tool puts wrench. - Suitable for both home and factory use</p>	5	set	1800.00	9,000.00

	<p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered and as part of the full delivery. 3. Supplier must provide product brochures 4. At least 2 years warranty of parts and services 5. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
14	<p>Portable Welding Machine TIG 200 Inverter with Free KYK Auto Darkening Welding Helmet KADWH High Quality MC ARC Industrial Supply-TIG 200w/KADWH Stable Arc Molten bath is easy to control No-load voltage is higher Able to be used widely Suitable for job of high-altitude and outdoor and fitment of inside or outside Lightweight Simple installing and operation</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Supplier must provide product brochures 3. At least 2 years warranty of parts and services 4. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	1	set	14900.00	14,900.00
15	<p>Professional Heavy Duty Impact Drill 16mm (750W) with 100pcs Various Accessories Kit GSB 16 RE Professional Heavy Duty Impact Drill 16mm 750W Robust Pot gear housing and clamp shell motor housing for tough jobsite conditions Powerful 750W motor to suit versatile professional needs Compact ergonomic design for fatigue free usage High dynamic load rated ball bearing for long life Forward / Reverse operation for more versatile application</p>	2	kit	6000.00	12,000.00

	<p>Soft in line grip for a secure hold Speed preselection with setting wheel Rotating brush plate for constant power in reverse and forward rotation Spindle collar diameter of 43 mm (European standard) – can be used in drill stands Plus FREE 100pcs Various Accessories Kit Set</p> <p>Notes: 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Supplier must provide product brochures 3. At least 2 years warranty of parts and services 4. Must be delivered to ASTI</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
16	<p>Cordless Impact Wrench 18V LXT Kit Set Cordless Impact Wrench LXT Lithium-ion eXtreme Technology Driving Shank: 1/2" Square Impacts: 0-3,000 ipm Standard Bolt: M8-M16 Noise sound pressure: 94 dB(A) Noise sound power: 105 dB(A) Noise K factor: 3 dB(A) No Load Speed: 0 - 2,300 rpm Max Fastening Torque: 190 Nm Vibration: Fastening Bolt: 8.5 m/sec² Vibration K factor: 1.5 m/sec² new Lithium-ion eXtreme Technology - with powerful new 18Vmax slide batteries in 3.0Ah, 4.0Ah and 5.0Ah and 6.0Ah.</p> <p>Notes: 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Supplier must provide product brochures 3. At least 2 years warranty of parts and services 4. Must be delivered to ASTI</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	2	set	14900.00	29,800.00
17	<p>30in. Heavy Duty Bolt Cutter Special heat treatment give blades extra hardness and durability Cutter blades are of chrome molybdenum tempered steel Cutting jaws tempered HRC 60&deg; 4 30in. bolt cutter Soft rubber grip</p>	2	pc	4000.00	8,000.00

	<p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Supplier must provide product brochures 3. At least 2 years warranty of parts and services 4. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
18	<p>Screwdriver Set Professional Repair Tool Kit Magnetic Driver Kit 8 Pieces Phillips and Slotted Magnetic Screwdriver Micro Fine Grip Non-Slip Rust Resistant, Ergonomic Fluted Toolkit.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. One (1) sample of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, sample will be retained for reference of the units to be delivered and as part of the full delivery. 3. Supplier must provide product brochures 4. At least 2 years warranty of parts and services 5. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	5	box	2000.00	10,000.00
19	<p>118 pc. Dual Marked Mechanics Tool Set Includes 72 sockets in 0.25-inch, 0.38-inch, and 0.5-inch drive sizes; 22 screw and nut driver bits; 14 hex keys; 2 quick release ratchets; and 4 wrenches Chrome plated, tough cast alloy steel construction Quick release mechanism in ratchets for quick socket switches Rust-resistant and dent-resistant box for ensured longevity</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Supplier must provide product brochures 3. At least 2 years warranty of parts and services 4. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 	2	set	14900.00	29,800.00

	<p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
20	<p>Two Way Radio Dual Band VHF&UHF 136-174MHz/400-480MHz 999 channels with charger with mic and head set with NTC license</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. End-user may request for a demonstration with the Least Calculated Bid (LCB) / Single Calculated Bid (SCB) during post-qualification. 2. Two (2) samples of actual unit must be provided by the LCB/SCB within seven (7) calendar days after the Opening of Bids for approval by the end-user as part of the post qualification and prior to award. If approved by end-user, one (1) sample will be retained for reference of the units to be delivered and as part of the full delivery. 3. Supplier must provide product brochures 4. At least 2 years warranty of parts and services 5. Must be delivered to ASTI <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	6	kit	5000.00	30,000.00
21	<p>Open source wireless sensor platform Includes - 1x open source wireless sensor node module Specifications: - Version: v15 - General data: Microcontroller: ATmega1281 Frequency: 14.7456 MHz SRAM: 8 kB EEPROM: 4 kB FLASH: 128 kB SD card: 16 GB Weight: 20 g Dimensions: 73.5 x 51 x 13 mm Temperature range: [-30 °C, +70 °C]* *Temporary extreme temperatures are supported. Regular recommended usage: -20, +60 °C Clock: RTC (32 kHz)</p> <p>Consumption: On: 17 mA Sleep: 30 µA Deep Sleep: 33 µA Hibernate: 7 µA Operation without recharging: 1 year* * Time obtained using the Hibernate mode as energy saving mode Inputs/Outputs: 7 analog (I), 8 digital (I/O), 1 PWM,</p>	1	lot	32000.00	32,000.00

2 UART, 1 I2C, 1 USB, 1 SPI

Electrical data:

Battery voltage: 3.3 – 4.2 V

USB charging: 5 V – 480 mA (max current input)

Solar panel charging: 6 - 12 V – 300 mA (max current input)

Built-in sensors on the board:

Accelerometer: $\pm 2g/\pm 4g/\pm 8g$

Low power: 0.5/1/2/5/10 Hz

Normal mode: 50/100/400/1000 Hz

- 1x Embedded module

- allows the user to send data and reach extremely long ranges at low data-rates

Specifications:

Frequency: 868 MHz

Max TX power: 14 dBm

Sensitivity: -137 dBm

Range:

• Line of Sight: 21+ km / 13.4+ miles (LoS and Fresnel zone clearance)

• Non Line of Sight: 2+ km / 1.2+ miles (nLoS going through buildings, urban environment)

Antenna: 868 / 915 MHz: 0 / 4.5 dBi

Connector: RPSMA

Encryption: AES 128/192/256 bits (performed by Waspote API)

Control Signal: RSSI

Topology: Star

Receiver/Central node: Special Gateway LoRa (SPI) or another embedded module unit

- 1x Gateway embedded module

- allows you to connect your laptop/computer with a LoRa network.

- includes an 868 MHz antenna to be used in this frequency.

- USB-PC interface

- Communication:

- Programmable buttons and LEDs

- Language: C++

- IDE: Open source platform

- Compiler versions: Windows, Linux and Mac-OS

- 1x Rechargeable Battery

- 6600 mAh

- Lithium Ion polymer battery

- comes terminated with a standar connector

Note: Supplier must provide product brochures

Others:

1. Delivery: Thirty (30) days upon issuance of NTP

2. Price is inclusive of government duties and taxes and other fees.

	3. Payment upon full delivery				
22	<p>Gases Sensor Board Embedded module</p> <p>Application: supports calibrated gas sensors; can be used to get the maximum performance of calibrated gas sensors for metering in accurate ppm or percentage</p> <p>Sensor board version: 3.0</p> <p>Specifications:</p> <p>Weight: 20 g</p> <p>Dimensions: 73.5 x 51 x 22 mm (without sensors)</p> <p>T^a range: [-20 °C, 65 °C]</p> <p>Electrical characteristics:</p> <p>Board power voltage: 3.3 V and 5 V</p> <p>Sensor power voltage: Gas sensors and BME280, 3.3 V. Particles-dust sensor, 3.3 V and 5 V</p> <p>Maximum admitted current (continuous): 200 mA</p> <p>Maximum admitted current (peak): 400 mA</p> <p>Note: Supplier must provide product brochures</p> <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	2	pc	7000.00	14,000.00
23	<p>Calibrated Methane (CH₄) and combustible gases sensor</p> <p>- Includes AFE sensor board for interfacing gas sensor to module</p> <p>Main gas: Methane CH₄</p> <p>Performance Characteristics</p> <p>Nominal Range: 0 to 100% LEL methane</p> <p>Long Term Output Drift: < 2% signal/month</p> <p>Response Time (T₉₀): ≤ 30 seconds</p> <p>Accuracy: as good as ±0.15% LEL* (ideal conditions)</p> <p>Operation Conditions</p> <p>Temperature Range: -40 °C to 55 °C</p> <p>Expected Operating Life: 2 years in air</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	1	kit	29500.00	29,500.00
24	<p>Calibrated Temperature, humidity and pressure sensor</p> <p>Electrical characteristics:</p> <p>Supply voltage: 3.3 V</p> <p>Sleep current typical: 0.1 µA</p> <p>Sleep current maximum: 0.3 µA</p> <p>Temperature sensor:</p> <p>Operational range: -40 ~ +85 °C</p>	2	kit	3100.00	6,200.00

	<p>Full accuracy range: 0 ~ +65 °C Accuracy: ±1 °C (range 0 °C ~ +65 °C) Response time: 1.65 seconds (63% response from +30 to +125 °C) Typical consumption: 1 µA measuring</p> <p>Humidity sensor: Measurement range: 0 ~ 100% of Relative Humidity (for temperatures < 0 °C and > 60 °C see figure below) Accuracy: < ±3% RH (at 25 °C, range 20 ~ 80%) Hysteresis: ±1% RH Operating temperature: -40 ~ +85 °C Response time (63% of step 90% to 0% or 0% to 90%): 1 second Typical consumption: 1.8 µA measuring Maximum consumption: 2.8 µA measuring</p> <p>Pressure sensor Measurement range: 30 ~ 110 kPa Operational temperature range: -40 ~ +85 °C Full accuracy temperature range: 0 ~ +65 °C Absolute accuracy: ±0.1 kPa (0 ~ 65 °C) Typical consumption: 2.8 µA measuring Maximum consumption: 4.2 µA measuring</p> <p>Notes: 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
25	<p>Calibrated Carbon Monoxide (CO) Gas Sensor for high concentrations - Includes AFE sensor board for interfacing gas sensor to module Gas: CO Sensor: 4-CO-500 Performance Characteristics Nominal Range: 0 to 500 ppm Maximum Overload: 2000 ppm Long Term Output Drift: < 2% signal/month Response Time (T90): ≤ 30 seconds Sensitivity: 70 ± 15 nA/ppm Accuracy: as good as ±1 ppm* (ideal conditions) Operation Conditions Temperature Range: -20 °C to 50 °C Operating Humidity: 15 to 90% RH non-condensing Pressure Range: 90 to 110 kPa Storage Temperature: 0 °C to 20 °C Expected Operating Life: 5 years in air</p> <p>Notes: 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures</p>	1	kit	22700.00	22,700.00

	<p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
26	<p>Calibrated Carbon Dioxide (CO2) Gas Sensor - Includes AFE sensor board for interfacing gas sensor to module Gas: CO2 Performance Characteristics Nominal Range: 0 to 5000 ppm Long Term Output Drift: < ± 250 ppm/year Warm up time: 60 seconds @ 25 °C At least 30 min for full specification @ 25 °C Response Time (T90): ≤ 60 seconds Resolution: 25 ppm Accuracy: as good as ± 50 ppm*, from 0 to 2500 ppm range (ideal conditions) as good as ± 200 ppm*, from 2500 to 5000 ppm range (ideal conditions) Operation Conditions Temperature Range: -40 °C to 60 °C Operating Humidity: 0 to 95% RH non-condensing Storage Temperature: -40 °C to 85 °C MTBF: ≥ 5 years</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	1	kit	79400.00	79,400.00
27	<p>Calibrated Nitric Dioxide (NO2) high accuracy Gas Sensor - Includes AFE sensor board for interfacing gas sensor to module Gas: NO2 Sensor: NO2-A43F Performance Characteristics Nominal Range: 0 to 20 ppm Maximum Overload: 50 ppm Long Term Sensitivity Drift: < -20% to -40% change/year in lab air, monthly test Long Term zero Drif: < 20 ppb equivalent change/year in lab air Response Time (T90): ≤ 60 seconds Sensitivity: -175 to -450 nA/ppm Accuracy: as good as ± 0.1 ppm* (ideal conditions) O3 filter capacity @ 2 ppm: > 500 ppm-hrs Operation Conditions Temperature Range: -30 °C to 40 °C Operating Humidity: 15 to 85% RH non-condensing Pressure Range: 80 to 120 kPa Storage Temperature: 0 °C to 20 °C</p>	1	kit	33500.00	33,500.00

	<p>Expected Operating Life: 2 years in air</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
28	<p>Smart Cities PRO sensor board kit</p> <p>Includes:</p> <ul style="list-style-type: none"> - 1 Sensor board module <ul style="list-style-type: none"> - can be used to perform IoT projects in Smart Cities and urban environment - adds support for the Noise Level Sensor - Weight: 20 g - Dimensions: 73.5 x 51 x 22 mm (without sensors) - Temperature range: [-20 °C, 65 °C] - Electrical characteristics: <ul style="list-style-type: none"> - Board power voltages: 3.3 V and 5 V - Sensor power voltages: 3.3 V and 5 V - Maximum admitted current (continuous): 200 mA - Maximum admitted current (peak): 400 mA - 1 Calibrated Temperature, Humidity and Pressure Sensor <ul style="list-style-type: none"> - Electrical characteristics: <ul style="list-style-type: none"> - Supply voltage: 3.3 V - Sleep current typical: 0.1 µA - Sleep current maximum: 0.3 µA Temperature sensor: <ul style="list-style-type: none"> - Operational range: -40 ~ +85 °C - Full accuracy range: 0 ~ +65 °C - Accuracy: ±1 °C (range 0 °C ~ +65 °C) - Response time: 1.65 seconds (63% response from +30 to +125 °C) - Typical consumption: 1 µA measuring Humidity sensor: <ul style="list-style-type: none"> - Measurement range: 0 ~ 100% of Relative Humidity (for temperatures < 0 °C and > 60 °C see figure below) - Accuracy: < ±3% RH (at 25 °C, range 20 ~ 80%) - Hysteresis: ±1% RH - Operating temperature: -40 ~ +85 °C - Response time (63% of step 90% to 0% or 0% to 90%): 1 second - Typical consumption: 1.8 µA measuring - Maximum consumption: 2.8 µA measuring Pressure sensor <ul style="list-style-type: none"> - Measurement range: 30 ~ 110 kPa - Operational temperature range: -40 ~ +85 °C - Full accuracy temperature range: 0 ~ +65 °C - Absolute accuracy: ±0.1 kPa (0 ~ 65 °C) - Typical consumption: 2.8 µA measuring - Maximum consumption: 4.2 µA measuring 	1	kit	19000.00	19,000.00

	<ul style="list-style-type: none"> - 1 UltraSound Sensor - Operation frequency: 42 kHz - Maximum detection distance: 765 cm - Consumption (average): 2 mA - Consumption (peak): 50 mA - Usage: Indoors only <p>Notes:</p> <ol style="list-style-type: none"> 1. Supplied with comprehensive, traceable, calibration certificates 2. Supplier must provide product brochures <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
29	<p>Vibration Sensor Electronic Components</p> <p>2-3.6V Supply ±2 g/±4 g/±8 g adjustable acceleration range ±1200 µT magnetic sensor range Output data rates (ODR) from 1.563 Hz to 800 Hz 14-bit ADC resolution for acceleration measurements 16-bit ADC resolution for magnetic measurements</p> <p>Note: Supplier must provide product brochures</p> <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 	1	kit	3043.00	3,043.00
30	<p>Diagnostic Cable Platform Electronic Components</p> <p>Contains the following: 1x OBD-II UART 1x OBD-II to DB9 Cable</p> <p>Specs: Fully compatible with the ELM327 AT command set Extended ST command set UART interface (baud rates from 38 bps to 10 Mbps) Secure bootloader for easy firmware updates Support for all legislated OBD II protocols: ISO 15765-4 (CAN) ISO 14230-4 (Keyword Protocol 2000) ISO 9141-2 (Asian, European, Chrysler vehicles) SAE J1850 VPW (GM vehicles) SAE J1850 PWM (Ford vehicles) Support for non-legislated OBD protocols: ISO 15765 ISO 11898 (raw CAN) Support for SAE J1939 OBD protocol Superior automatic protocol detection algorithm</p>	1	kit	5560.00	5,560.00

	<p>Large memory buffer Voltage input for battery monitoring</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
31	<p>Sensor Interface Platform Electronic Components</p> <p>802.11 b/g/n wireless LAN Bluetooth® 4.1 Bluetooth Low Energy (BLE) 1GHz, single-core CPU 512MB RAM Mini HDMI and USB On-The-Go ports Micro USB power HAT-compatible 40-pin header pins Composite video and reset headers CSI camera connector</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	3	kit	1500.00	4,500.00
32	<p>Image Sensor Image Sensor: Sony IMX219 Maximum Photo Resolution: 3280 x 2464 pixel Supported Video Resolution: 1080p30, 720p60 and 640x480p90 Physical Dimensions: 25mm x 23mm x 9mm Interface: CSI connector (15cm ribbon cable included)</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	2	kit	3330.00	6,660.00
33	<p>Conductive Sheet Electroni Passive Component Dimensions: 11" x 11" (280mm x 280mm) 4 mil / 0.1mm thick Weight: 18.66g Temperature Limits : -45°C to 65°C (-50°F to 150°F) Heat Sealable : Yes Volume Resistivity : <500 ohm-cm Surface Resistivity : < 31,000 ohms/sq.cm</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP</p>	10	pc	400.00	4,000.00

	<p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
34	<p>Conductive Tape Electroni Passive Component</p> <p>Copper tape 5 meters long, this tape is 3mils/0.07mm thick, 1"/25mm wide</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	2	roll	1900.00	3,800.00
35	<p>Flash Memory Module Electronic Computing Module</p> <p>16 gigabyte 45MB/s read-write</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	6	pc	2000.00	12,000.00
36	<p>Flash Memory Module Embedded Module 500gb capacity560MB/s</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	2	pc	11000.00	22,000.00
37	<p>Conductive Paint Electronic Passive Component</p> <p>Water-based, nontoxic and dries at room temperature. Electric Paint can be applied to a wide variety of materials, including (but certainly not limited to) paper, cardboard vellum, wood, metal, plaster, some rubbers, plastics and many textile.</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	4	pc	2500.00	10,000.00
38	<p>Sensor Interface Platform Electronic Development Kit</p>	1	pc	3800.00	3,800.00

	<p>Broadcom BCM2837B0 64-bit ARM Cortex-A53 Quad Core Processor SoC running @ 1.4GHz 1GB RAM LPDDR2 SDRAM 4x USB2.0 Ports with up to 1.2A output Extended 40-pin GPIO Header Video/Audio Out via 4-pole 3.5mm connector, HDMI, CSI camera, or Raw LCD (DSI) Storage: microSD Gigabit Ethernet over USB 2.0 (maximum throughput 300Mbps) 2.4GHz and 5GHz IEEE 802.11.b/g/n/ac wireless LAN, Bluetooth 4.2, BLE H.264, MPEG-4 decode (1080p30); H.264 encode (1080p30); OpenGL ES 1.1, 2.0 graphics Low-Level Peripherals: 27x GPIO UART I2C bus SPI bus with two chip selects +3.3V +5V Ground</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>				
39	<p>GPS Module IC Component</p> <p>Satellites: 22 tracking, 66 searching Patch Antenna Size: 15mm x 15mm x 4mm Update rate: 1 to 10 Hz Position Accuracy: < 3 meters (all GPS technology has about 3m accuracy) Velocity Accuracy: 0.1 meters/s Warm/cold start: 34 seconds Acquisition sensitivity: -145 dBm Tracking sensitivity: -165 dBm Maximum Velocity: 515m/s Vin range: 3.0-5.5VDC MTK3339 Operating current: 25mA tracking, 20 mA current draw during navigation Output: NMEA 0183, 9600 baud default, 3V logic level out, 5V-safe input DGPS/WAAS/EGNOS supported FCC E911 compliance and AGPS support (Offline mode : EPO valid up to 14 days) Up to 210 PRN channels Jammer detection and reduction Multi-path detection and compensation</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP</p>	2	pc	3800.00	7,600.00

	<p>2. Price is inclusive of government duties and taxes and other fees.</p> <p>3. Payment upon full delivery</p>				
40	<p>Image Sensor</p> <p>- Kit includes the following: 2 image sensor and 1 data logger</p> <p>Image Sensor 1: High Speed Sensor sensor resolution: 1920x1080 @30fps, 1280x720 @60fps, 640x480 @120fps Field of View : 100 degrees diagonal. Lenses are exchangeable: ships with 60deg and 100 deg FOV lenses. Latency : 5.7ms</p> <p>Image Sensor 2: sensor : Global Shutter. 200x200 @200fps, 400x400 @120fps illumination : IR camera with IR illumination with tracking capability latency : 4.5ms</p> <p>Sensors are UVC compliant</p> <p>Data Logger: 4 hours of video locally on memory or stream video and sensor data over Wifi. comes with the ff accessories: 1 power pack, 64gb SD card, USBC-USBC cable</p> <p>Notes: 1. Supplier must provide product brochures 2. At least 2 years warranty of parts and services 3. Must be delivered to ASTI</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	1	kit	320000.00	320,000.00
41	<p>Sensor interface board</p> <p>Electronic Computing Module</p> <p>ATmega328 microcontroller Input voltage - 7-12V 14 Digital I/O Pins (6 PWM outputs) 6 Analog Inputs 32k Flash Memory 16Mhz Clock Speed</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees.</p>	3	pc	2900.00	8,700.00

	3. Payment upon full delivery				
42	<p>Lead Acid Battery Valve Regulated Lead-Acid Battery (Heavy Duty) 12V, 12 AH DIMENSION Length: 151 mm Width: 98 mm Height: 101 mm Application • General Electronics • Medical • Mobility • Telecommunications • UPS • Solar • Emergency lighting • Aerospace • Defense • Global positioning systems Product Feature • Excellent cycling capability • Very high energy density • High rate discharge capability • Lowest self discharge rate • Approved for shipping as non-hazardous, non-spillable • Operates in any position • Low internal resistance</p> <p>With at least 6 months warranty **Manufacturer of the battery must have the ISO / YYS16949 Calibration</p> <p>Note: Supplier must provide product brochures</p> <p>Others: 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery</p>	80	pc	2800.00	224,000.00
43	<p>Lead Acid Battery Valve Regulated Lead-Acid Battery (Heavy Duty) Voltage: 12V Capacity: 17AH Dimension: 180x77x168 (LxWxH) Application • General Electronics • Medical • Mobility • Telecommunications • UPS • Solar • Emergency lighting • Aerospace • Defense • Global positioning systems Product Feature</p>	250	pc	3300.00	825,000.00

<ul style="list-style-type: none"> • Excellent cycling capability • Very high energy density • High rate discharge capability • Lowest self discharge rate • Approved for shipping as non-hazardous, non-spillable • Operates in any position • Low internal resistance <p>With at least 6 months warranty</p> <p>**Manufacturer of the battery must have the ISO / YYS16949 Calibration</p> <p>Note: Supplier must provide product brochures</p> <p>Others:</p> <ol style="list-style-type: none"> 1. Delivery: Thirty (30) days upon issuance of NTP 2. Price is inclusive of government duties and taxes and other fees. 3. Payment upon full delivery 				
TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):				Php 1,924,313.00
RESERVATION CLAUSE				
<p>The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.</p>				