



Philippine Normal University  
**BIDS AND AWARDS COMMITTEE**  
National Center for Teacher Education  
Prosperidad, Agusan del Sur

*Bids and Awards Committee*

**I. Invitation for Negotiated Procurement (Sec. 53.1 – Two failed Biddings)**

**SUPPLY AND DELIVERY OF LABORATORY EQUIPMENT (STEM)  
*Solicitation No. PNU-MIN GD 2016-07-012***

1. The **Philippine Normal University – Mindanao, Prosperidad, Agusan del Sur** through the funding of the Government of the Philippines intends to apply the sum of **Six Million Two Hundred Seventy Two Thousand Four Hundred Three Pesos and 38/100 (P6,272,403.38)** being the Approved Budget for the Contract (ABC) to payments under the contract for **PNU-MIN GD 2016-07-012**. Bids received in excess of the ABC shall be automatically rejected at Opening of Proposals.
2. The **Philippine Normal University – Mindanao, Prosperidad, Agusan del Sur** now invites Bidders/Suppliers to submit eligibility requirements and proposals/quotations for the **Supply and Delivery of Laboratory Equipment (STEM)**. The mode of procurement will be **Negotiated Procurement – Sec. 53.1 Two Failed Biddings**.
3. Interested Bidders/Suppliers may obtain the complete list of Eligibility Requirements and Technical Specifications from the **PNU Mindanao BAC Office** at the address given below from **July 20 to 28, 2016 at 8:00 A.M. – 5:00 P.M.**, or you may download the requirements at the PNU Mindanao Website - **[www.pnu.edu.ph/downloadable\\_forms.ph](http://www.pnu.edu.ph/downloadable_forms.ph)** or view at **PhilGEPS**.
4. The Opening of Proposals/Quotations and submission of requirements will be on **July 29, 2016 (Friday), at exactly 1:00 P.M. at the PNU Mindanao Accreditation Room**. Late Bids shall not be accepted.
5. **The Philippine Normal University – Mindanao Bids and Awards Committee** reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award, without thereby incurring any liability to the affected bidder/s.

**Dr. Ma. Teresa P. Baylon**  
*Chair, Bids and Awards Committee*  
PNU Mindanao  
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**MA. TERESA P. BAYLON, Ph. D.**  
Chair, Bids and Awards Committee

# **SUPPLY AND DELIVERY OF LABORATORY EQUIPMENT (STEM)**

## **PNU-MIN GD 2016-07-012**

### **Instructions to Bidders**

1. Attached herewith are the following documents:
  - Invitation for Negotiated Procurement – Section 53.1 – Two Failed Biddings
  - List of Eligibility and Financial Requirements
  - Technical Specifications and Schedule of Requirement
  - Blank Forms to fill-up:
    - (1) Bid Form
    - (2) Omnibus Sworn Statement
    - (3) Bill of Quantities and/or
    - (4) Bid Securing Declaration
  
2. Submission and Opening of Proposals shall be on **July 29, 2016 (Friday), 1:00 P.M.** at PNU Mindanao Accreditation Room.

**Note: Late Bids shall not be accepted.**

**BAC SECRETARIAT**

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**Project:** Supply and Delivery of Laboratory Equipment (STEM)  
**Mode of Procurement:** Negotiated Procurement – Sec. 53.1 – Two Failed Biddings  
**ABC:** Php 6,272,403.38

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**LIST OF REQUIREMENTS**

• **Requirements for Opening of Proposals**

**Technical Component:**

1. Registration Certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA);
2. Valid and current Mayor’s permit issued by the city or municipality where the principal place of business of the prospective bidder is located;
3. Bid Securing Declaration or at least one (1) other form:

Form of Bid Security	Amount of Bid Security (Equal to Percentage of the ABC)
(a) Cash or cashier’s/manager’s check issued by a Universal or Commercial Bank;	2% of Total ABC per Lot Item
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank;	
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	5% of Total ABC per Lot Item

4. Conformity with Technical Specifications and Schedule of Requirement;
5. Omnibus Sworn Statement (*using the prescribed form*);
6. Copy of at least one (1) similar contract of this project (*it must be at least 50% of the ABC*);
7. Vicinity Map of the company (for Post-Qualification purposes);
8. Tax Clearance per Executive Order 398, Series of 2005.

**Financial Component:**

9. Financial Bid Form – duly accomplished and signed by the bidder and;
10. Bill of Quantities (*using the prescribed form*).

- **Requirements during Post Qualification**

11. Latest Business and Income Tax Returns (Manual Filing or EFPS);
12. PhilGEPS Certificate of Registration (latest);
13. Other appropriate licenses and permits required by law.

**Note: Provide Three (3) copies – One (1) original/certified true copy and Two (2) duplicate copies of each requirement.**

# Bid Form

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

Invitation to Bid<sup>1</sup> N°: \_\_\_\_\_

To: PHILIPPINE NORMAL UNIVERSITY  
Prosperidad, Agusan del Sur

Gentlemen and/or Ladies:

Having examined the Documents for **Negotiated Procurement (Section 53.1 – Two Failed Biddings)** including Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to **Supply and Delivery of Laboratory Equipment (STEM)** in conformity with the said Documents for **Negotiated Procurement(Section 53.1 – Two Failed Biddings)** for the sum of ***[total Bid amount in words and figures]*** or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we undertake to provide a performance security in the form, amounts, and within the times specified in the Documents.

We agree to abide by this Bid for the Bid Validity Period of 120 calendar days and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:<sup>2</sup>

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____
(if none, state "None")		

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

We understand that you are not bound to accept the lowest or any Bid you may receive.

We certify/confirm that we comply with the eligibility requirements as per Documents for Negotiated Procurement (Small Value).

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[in the capacity of]*

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

<sup>1</sup> If ADB, JBIC and WB funded projects, use IFB.

<sup>2</sup> Applicable only if the Funding Source is the ADB, JBIC or WB.

## Omnibus Sworn Statement

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REPUBLIC OF THE PHILIPPINES )  
CITY/MUNICIPALITY OF \_\_\_\_\_ ) S.S.

### AFFIDAVIT

I, *[Name of Affiant]*, of legal age, *[Civil Status]*, *[Nationality]*, and residing at *[Address of Affiant]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. **Select one, delete the other:**

*If a sole proprietorship:* I am the sole proprietor of *[Name of Bidder]* with office address at *[address of Bidder]*;

*If a partnership, corporation, cooperative, or joint venture:* I am the duly authorized and designated representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

2. **Select one, delete the other:**

*If a sole proprietorship:* As the owner and sole proprietor of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to represent it in the bidding for *[Name of the Project]* of the *[Name of the Procuring Entity]*;

*If a partnership, corporation, cooperative, or joint venture:* I am granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the *[Name of Bidder]* in the bidding as shown in the attached *[state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate issued by the corporation or the members of the joint venture)]*;

3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. **Select one, delete the rest:**

*If a sole proprietorship:* I am not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*If a partnership or cooperative:* None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*If a corporation or joint venture:* None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:
  - a) Carefully examine all of the Bidding Documents;
  - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
  - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
  - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_ day of \_\_\_\_, 20\_\_ at \_\_\_\_\_, Philippines.

\_\_\_\_\_  
Bidder's Representative/Authorized Signatory

\* This form will not apply for WB funded projects.

REPUBLIC OF THE PHILIPPINES)  
CITY OF \_\_\_\_\_) S.S.  
X-----X

## BID-SECURING DECLARATION

Invitation to Bid No.: [Insert reference number]

To: [Insert name and address of the Procuring Entity]

I/We<sup>2</sup>, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration<sup>3</sup>, if I/we have committed any of the following actions:
  - (i) Withdrawn my/our Bid during the period of bid validity required in the Bidding Documents; or
  - (ii) Fail or refuse to accept the award and enter into contract or perform any and all acts necessary to the execution of the Contract, in accordance with the Bidding Documents after having been notified of your acceptance of our Bid during the period of bid validity.
3. I/We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
  - (a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
  - (b) I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right;
  - (c) I am/we are declared as the bidder with the Lowest Calculated and Responsive Bid/Highest Rated and Responsive Bid<sup>4</sup>, and I/we have

**IN WITNESS WHEREOF**, I/We have hereunto set my/our hand/s this \_\_\_\_ day of [month] [year] at [place of execution].

**[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]**

**[Insert signatory's legal capacity]**

Affiant

**SUBSCRIBED AND SWORN** to before me this \_\_ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_ and his/her Community Tax Certificate No. \_\_\_\_\_ issued on \_\_\_\_\_ at \_\_\_\_\_.

Witness my hand and seal this \_\_\_\_ day of [month] [year].

### NAME OF NOTARY PUBLIC

Serial No. of Commission \_\_\_\_\_

Notary Public for \_\_\_\_\_ until \_\_\_\_\_

Roll of Attorneys No. \_\_\_\_\_

PTR No. \_\_, [date issued], [place issued]

IBP No. \_\_, [date issued], [place issued]

Doc. No. \_\_\_\_\_

Page No. \_\_\_\_\_

Book No. \_\_\_\_\_

Series of \_\_\_\_\_.



## Technical Specifications

### SUPPLY AND DELIVERY OF LABORATORY EQUIPMENT (STEM)

Bidders must state either "**Complied**" or "**Not Complied**" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Complied" or "Not Complied" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence.

**Evidence shall be in the form of manufacturers' un-amended sales literature, unconditional statements of specifications and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection.**

A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of ITB Clause 3.1(a) (ii) and/or GCC Clause 2.1(a)(ii).

**Total Approved Budget for the Contract (ABC): P 6,272,403.38**

LOT No.	TECHNICAL SPECIFICATIONS	QTY.	COMPLIED	NOT COMPLIED
LOT 1	<b>BIO-CHEM LAB EQUIPMENT AND SUPPLIES</b> <b>ABC: Php 518,927.00</b>			
	<b>Alcohol Burner/ Spirit Lamp (glass)</b> Lamp that burns a volatile liquid fuel such as alcohol.	3 pcs.		
	<b>Bio- Viewer-</b> A very economical and convenient model for 35MM (2"x2") slides, no electricity required, very handy with 13 transparency slides	5 units		
	<b>Double Beam Balance</b> - For weighing up to 2 kg. The balance has 2 beams with center reading sliding masses. These weight up to 0-200gm x 10gm and 0-10gm x 0.01gm total 210gm. Supplemental masses extended the range to 2 kg. With spring loaded zero adjuster and magnetic damping	3 units		
	<b>Dissecting Scissor-</b> Very fine points for delicate work, closed shanks, stainless steel. Overall length 100m.	5 pairs.		
	<b>Filter Paper (12.5 cm)</b> A semi- permeable paper barrier placed perpendicular to a liquid flow. It is used to separate fine solids from liquids.	5 packs		
	<b>Distillation Apparatus-</b> With ground glass standard interchangeable jointed Borosilicate glass. Consisting of round bottom flask with 24/29 socket, still had 24/29 cones, condenser, with 19/26 socket and cone and receiver adapter with 19/26 socket Flask capacity of 1 liter condenser 400mm	4 sets		
	<b>Filtering Flask 250 ml</b>	4 pcs.		
	<b>Funnel Separating- Borosilicate Glass-</b> Used in liquid-liquid extractions to separate (partition) the components of a mixture between two immiscible solvent phases of (250 ml) diameter.	6 sets		
	<b>Glass Tubing</b> - 10mm dia 30 cm long. Mainly used for generating glass in laboratories	6 sets		
	<b>Glass Tubing- 6mm.</b> Mainly used for generating glass in laboratories	6 sets		
	<b>Heat Conductivity Apparatus</b> (convection)	4 units		

	<b>Heat Transfer Apparatus-</b> Conversion/ Ventilation	4 units		
	<b>Heat Transfer Apparatus-</b> Radiation/ Radiation Heat	4 units		
	<b>Digital Weighing scale Biology Equipment and Apparatus</b>	6 units		
	<b>Microscope Dissecting</b> - Ideal for Demonstration Close study of small organism and fine dissection work Base: Heavy round base with precisely designed body Focusing: Sensitive focusing, done by rack and pinion arrangement. Revolving arm provided for moving magnifying lens over full stage area Stage: 85mmx75mm glass plate Illumination: A plane-concave lens fitted in fork for light reflection Optics.	4 units		
	<b>Microscope Binocular Stereo-</b> Observation Head: Binocular head inclined at 45 deg with adjustable inter pupillary distance Focusing: by rack and pinion mechanism Magnification: standard magnification 20X4X selected by sliding nosepiece eyepiece: Standard extra wide field eyepiece WF -10Xor 15X are provided	2 units		
	<b>Microscope prepared slides Set of 25pcs</b>	5 units		
	<b>Steam Generator</b> [1] Steam output is 10 gram/minute,[2] Variable power (0-400 watts) for adjustable steam flow,[3] Automatic safety shut-off,[4] Internal electric coils,[5] Dual Steam ports [6] Baster included for removing hot water for experiments.	6 units		
	<b>Basic Digital Multimeter</b> [1] DC Voltage: 200mV,2V,200V,1000V at 10 Mohms input impedance [2] AC Voltage: 200mV,2V,20V,200V,750V at 4.5 Mohms input impedance [3] DC Current :20 uA, 200uA,2 mA,20mA 200 mA, 2A, 10A [4] Resistance: 200 Ohms, 2 kOhms, 20 kOhms, 200 kOhms, 2 Mohms, 20 Mohms [5] Diode Test, Audible continuity test fold- out stand [6] 3-1/2 digit LCD , 25 mm high digits, polarity indicator and low battery indicator [7] Drop resistant to 4 feet, [8] 200 hour life on 9V battery	5 units		
	<b>Bar Magnets</b> [1] Dimensions are 150mm by 13mm, [2] Made of Alnico Alloy [3] Polarity indicated by notched north poles	6 pcs.		
<b>LOT 2</b>	<b>BIO-CHEM LABORATORY DIGITAL APPARATUS ABC: Php 1,490,395.00</b>			
	<b>Smart Cart Dynamic System</b>	1 set		
	<b>Propeller Wind Turbine w/ Energy transfer Generator</b>	1 unit		
	<b>Spectrometer, Wireless with fiber optic cable</b>	1 unit		
	<b>Polarizer Demonstrator</b>	1 unit		
	<b>Electrostatics Materials, Class Set</b>	5 sets		
	<b>Coulomb's Law Apparatus</b>	3 units		
	<b>Electricity Kit</b>	5 sets		
	<b>Motion Sensor</b> Ultrasonic range-finding sensor ; Range: 0.15 to 8 meters Sensor rotates 360 degrees Mount on table top, support rod or dynamics Track with 1.8 meter cable Resolution: 1 mm Sample at up to 50hz Range select switch reduces spurious measurement Sensor capability description due to built-in flash memory Constructed of tough, impact-resistance polycarbonate plastic Digital signal processing insures accurate stable, and repeatable measurement	3 units		
	<b>Force Sensor</b> (1) Range : +/- 50 newtons, [2] Finger holes for easy grip,[3] Mounts on a dynamic cart or a rod ( up to 12 mm diameter,[4] Use in muscle	3 units		

	fatigue experiments or visual/ auditory response time experiment,[5] Tare button to zero the sensor,[6] Overload protection built in,[7] Resolution : 0.03 N or 3.1 gms,[8] Includes hook, rubber bumper and mounting thumbscrew,[9] Sensor capability description upgradeable, [10] Constructed of tough, impact-resistant polycarbonate plastic,[11] Digital signal processing insures accurate, stable, and repeatable measurements			
	<b>Ideal Gas Law Apparatus</b> [1] Experimentally determine the ideal Gas Law,[2] Large syringe provides accurate volume measurements,[3] Built-in fast- response Thermistor,[4] Mechanical stop is included on the syringe to prevent damage of the thermistor within the syringe [5] Investigate Relationships in Gay-Lussac's Law, Boyle's Law and Charles Law [6] Calculate the number of moles of air in the syringe based on pressure, temperature and volume measurement <b>INCLUDES:</b> Ideal Gas Law Syringe, Built-in Fast Response Thermistor, Probe Quick Connect Pressure Port	3 units		
	<b>Absolute Pressure/ Temperature Sensor</b> [1] Pressure 0 to 700 kpa with +- 2kpa, 0.1 kPa resolution and 1kPa repeatability [2] Displays pressure in kPa, N/m <sup>2</sup> , and psi [3] Temperature - 10 to 70 °C with +- 0.5 °C Display temperature in °C,K and F	3 units		
	<b>Temperature Sensor</b> [1] Comes with stainless steel temperature probes and fast response Probe [2] Accuracy :35 to 135 °C=+/-0.5 °C, [3] Displays: °C, °F, K [4] Resolution : 0.0025 °C, [5] Maximum Sample Rate : 100 Hz	5 units		
	<b>2-Axis Magnetic Field Sensor</b> [1] Measure Radial and Axial fields simultaneously [2] Sensitive enough to measure Earth's Magnetic Field [3] Measure magnetic field ( magnitude and direction from a coil or a bar magnet [4] Study AC fields, [5] Range : +/- 1000 Gauss [6] Accuracy: 5% of reading @ 25 degree C( after 4 min warm-up and Tare using Zero Gauss Chamber), [7] Resolution: 0.01 Gauss @ 10 Hz [8] Maximum Sampling rate : 1000 Hz, [9] Repeatability : 0.05 %	3 units		
	<b>Light Sensor</b> [1] Ranges : 0-2.6 Lux (candle) ; 0-260 Lux (bulb); 0-26,000 Lux (sun) [2] Accuracy :+/- 1 dB of Max value of selected Range [3] Resolution : 1/10,000 of max value of selected range [4] Sensor capability description upgradeable due to built in flash memory [5] Constructed of tough, impact resistant polycarbonate plastic [6] Digital signal processing insures accurate, stable and repeatable measurement	3 units		
	<b>Dual Humidity / Temp/ Dew Point Sensor</b> Humidity 1, 2 Range 3 0% to 100 % (RH), 0 g/m <sup>3</sup> to 50 g/m <sup>3</sup> (AH) Accuracy from 10% to 95%, +/- 3 % to +/-5% RH) 10% of Reading (AH) Resolution 1% or better (RH), 0.1 g/m <sup>3</sup> or better (AH) Repeatability 0.5 % or better (RH), 0.1 g/m <sup>3</sup> or better (AH) Temperature 2 Range -20 °C to 55 °C	3 units		

	<p>Accuracy 4 +/- 0.5 °C  Resolution 0.1 °C or better  Repeatability 0.1 °C or better  Dew Point  Range -50°C to 55 °C  Accuracy 4 +/- 2°C  Resolution 0.1 °C or better  Repeatability 0.1 °C or better</p>			
	<p><b>Weather/ Anemometer Sensor</b>  WIND SPEED Range 0.5 to 29 m/s, Resolution Accuracy +/- (3 % of Reading + 0.2 m/s  BAROMETER Range 150 to 1150 hectopascals ( hPa) 4.4 to 34 inches of mercury (inHg) +/-0.03 in Hg (1 hPa) Accuracy 0.001 in.Hg(0.03hPA) Resolution  HUMIDITY Relative Humidity +/- 2% (from 0-60 %) Accuracy 1% or better Resolution  Absolute Humidity 0 to 50g/m3 +/- 10% Accuracy 0.1g/m3 or better Resolution  TEMPERATURE Range -20°C to 55 °C +/- 0.5 °C  Accuracy 0.1 °C or better Resolution  DEW POINT  Range -50 °C to 55 °C +/- 2 % Accuracy 0.1 °C or better Resolution</p>	3 units		
	<p><b>Carbon Dioxide Gas Sensor</b>  [1] Range : 0 to 300,000 ppm CO2, [2] Resolution : 10 ppm  [3] Accuracy descriptions : 0 to 10,000 ppm, 100 ppm or 10% of value, 10,000 to 50,000 ppm, 20% of value, above 50,000 ppm, qualitative only  [4] One button calibrator, [5] Large vent holes means faster response  [6] Digital signal processing gives more stable data  [7] Includes 250 ml sample bottle  [8] Sensor capability description upgradeable due to to built-in flash memory  [9] Constructed of tough, impact resistant polycarbonate plastic  [10] Digital signal processing insures accurate , stable and repeatable measurements</p>	3 units		
	<p><b>Resistance and Resistivity Apparatus</b>  [1] Slide-wire potentiometer, [2] Measure resistance and resistivity  [3] Built-in scale makes it easy to measure wire length  [4] Built-in storage tray to hold wires includes 2 each of the following 30cm long wires:  Copper (1.0 mm diameter) , Aluminum(1.0 mm diameter), Stainless Steel (1.0 mm diameter) Nichrome (1.0 mm diameter, Brass (0.5 mm 0.8 mm and 1.3 mm diameter)</p>	5 units		
	<p><b>550 Universal Interface UI-5001</b>  Pasport ports: 2  Analog Inputs: 2 (<math>\pm 10</math> V, optional gain voltage 10x, 100x)  Digital inputs: Yes  Connects Via USB: Yes  Connects via Bluetooth: Yes  Rechargeable battery for cordless operation: No (AC Adapter only)  Works with PASCO Capstone Software: Yes  Works with SPARKvue Software: Yes  Accepts PASPORT Sensors: Yes  Accepts ScienceWorkshop Sensors: Yes  Maximum Sampling Rate: Up to 2 MHz on one channel  Signal Generator: <math>\pm 8</math> V, at 400 mA, DC to 100 kHz  Included items: USB cable, Power Supply  Expansion Port: No</p>	1 unit		
	<p><b>AirLink PS-3200</b>  Pasport ports: 1</p>	3 units		

	Analog Inputs: 0 Digital inputs: 0 Connects Via USB: Yes Connects via Bluetooth: Yes Rechargeable battery for cordless operation: Yes Works with PASCO Capstone Software: Yes Works with SPARKvue Software: Yes Accepts PASPORT Sensors: Yes Accepts Science Workshop Sensors: No Maximum Sampling Rate: Sensor dependent <1000 Hz Signal Generator: N/A Included items: USB cable Expansion Port: No			
	<b>PS-2400 SPARKvue Site License</b> NOTE: If the wireless interfaces are use with a Tablet Sparkvue is free to download at app store. If use with a laptop or PC the site license quoted above must be purchased	1 unit		
<b>LOT 3</b>	<b>ASTRONOMICAL SCIENCE LABORATORY EQUIPMENT</b> <b>ABC: Php 175,288.00</b>			
	Reading Telescope	2 units		
	Solar System Model	2 units		
	Sun Dial	3 units		
	Astronomical Telescope Stand	2 units		
	Solar System Chart	2 sets		
	Rain Gauge	2 sets		
	Fortine Barometer	2 sets		
	Barometer Aneroid	1 set		
	Distillation Apparatus	1 set		
<b>LOT 4</b>	<b>LABORATORY LIGHTING EQUIPMENT</b> <b>ABC: Php 700,000.00</b>			
	Generator Set - Brand new Sound Proof Diesel 40 KW/50KVA (US Brand)	1 set		
<b>LOT 5</b>	<b>LABORATORY EQUIPMENT (REFRIGERATION/AIRCONDITIONING)</b> <b>ABC: Php 326,754.00</b>			
	Refrigerator SU 140 A 14 cu. Ft. Chiller	1 unit		
	Air-conditioning Unit KV 12WMARF 21 B/KV129D 2.5 HP	6 units		
<b>LOT 6</b>	<b>DISPLAY GLASS SHELF</b> <b>ABC: Php 15,000.00</b>			
	steel shelf with glass cover 6 ft. x 6 ft. 4 layers	2 units		
<b>LOT 7</b>	<b>MATH SOFTWARE</b> <b>ABC: Php 193,500.00</b>			
	SPSS Software network license for 1 set of computer	1 lic.		
	Anti- plagiarism software network license for 4 sets of computers	4 lic.		
<b>LOT 8</b>	<b>COMPUTER OPERATING SYSTEM</b> <b>ABC: Php 852,539.38</b>			
	Microsoft WINHOME 10 Sngl Academic OLP 1License No Level Legalization Get Genuine	58 lic.		
	Microsoft Windows Professional 10 Sngl Upgrade Academic OLP 1License No Level	58 lic.		
	Microsoft Office professional Plus 2016 Sngl Academic OLP 1License No Level	58 lic.		
<b>LOT 9</b>	<b>SOLAR ELECTRIC SYSTEM</b> <b>ABC: Php 2,000,000.00</b>	1 Lot		
	Solar Electric System Solar Panel 250W			

<p>Solar cells Polycrystalline  Max. Power (w) 250  Max. Power voltage (v) 30.3  Max. Power current (a) 8.27  Open circuit voltage (v) 38  Short circuit current (a) 8.79  Module Efficiency (%) 15.3  Cell orientation 60 cells  Glass 3.2 mm, High Transmission, AR coated tempered glass  Degree of protection IP65  Weight (kg) 18.6  Dimension (mm) 1650x992x35  Tin-sheet PV roof mounting advantages:</p> <ul style="list-style-type: none"> <li>*Easy Installation</li> <li>*Versatile Application</li> <li>*Great Compatability</li> <li>*High quality</li> <li>*Corrosion resistance</li> </ul> <p>Composition:  4100mm Rail  35mm End-clamp  35mm Middle-clamp  Tin Interface (L-foot)</p> <p><b>Sunny Boy 5000TL</b></p> <p>Technical Parameters:</p> <p>DC Input:  Max. Input voltage (v) 750  Min. Input voltage (v) 125  Max. DC power @ PF=1 (w) 5200  AC Output:  Rated power (w) 4600  Max. Grid voltage (v) 280  Efficiency (%) 97</p> <p>Structures:  Dimension (mm) 490x519x185  Weight (kg) 26  Degree of protection IP65</p> <p><b>Sunny Island 6.0H</b></p> <p>Technical Parameters:</p> <p>Rated power (w) 4600  Rated grid voltage (v) 230  Rated current (a) 20  Max. output current for 60 ms (a)120</p> <p><b>Ritar DC2-1200ah</b></p> <p>Technical Parameters:</p> <p>Rated voltage (v) 2v  Capacity (ah) 1200  Dimension 479mmx175mmx327mm</p> <p>FREE: Installation, maintenance and orientation</p>			
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\*Schedule of Delivery:

**60 calendar days upon receipt of approved Purchase Order**

**Bill Of Quantities**

**SUPPLY AND DELIVERY OF LABORATORY EQUIPMENT (STEM)**

LOT No.	TECHNICAL SPECIFICATIONS	QTY.	UNIT PRICE	TOTAL BID AMOUNT
<b>LOT 1</b>	<b>BIO-CHEM LAB EQUIPMENT AND SUPPLIES</b> <b>ABC: Php518,927.00</b>			
	<b>Alcohol Burner/ Spirit Lamp (glass)</b> Lamp that burns a volatile liquid fuel such as alcohol.	3 pcs.		
	<b>Bio- Viewer-</b> A very economical and convenient model for 35MM (2"x2") slides, no electricity required, very handy with 13 transparency slides	5 units		
	<b>Double Beam Balance</b> - For weighing up to 2 kg. The balance has 2 beams with center reading sliding masses. These weight up to 0-200gm x 10gm and 0-10gm x 0.01gm total 210gm. Supplemental masses extended the range to 2 kg. With spring loaded zero adjuster and magnetic damping	3 units		
	<b>Dissecting Scissor-</b> Very fine points for delicate work, closed shanks, stainless steel. Overall length 100m.	5 pairs		
	<b>Filter Paper (12.5 cm)</b> A semi- permeable paper barrier placed perpendicular to a liquid flow. It is used to separate fine solids from liquids.	5 packs		
	<b>Distillation Apparatus-</b> With ground glass standard interchangeable jointed Borosilicate glass. Consisting of round bottom flask with 24/29 socket, still had 24/29 cones, condenser, with 19/26 socket and cone and receiver adapter with 19/26 socket Flask capacity of 1 liter condenser 400mm	4 sets		
	<b>Filtering Flask 250 ml</b>	4 pcs.		
	<b>Funnel Separating- Borosilicate Glass-</b> Used in liquid-liquid extractions to separate (partition) the components of a mixture between two immiscible solvent phases of (250 ml)diameter.	6 sets		
	<b>Glass Tubing</b> - 10mm dia 30 cm long. Mainly used for generating glass in laboratories	6 sets		
	<b>Glass Tubing- 6mm.</b> Mainly used for generating glass in laboratories	6 sets		
	<b>Heat Conductivity Apparatus</b> (convection)	4 units		
	<b>Heat Transfer Apparatus-</b> Convection/ Ventilation	4 units		
	<b>Heat Transfer Apparatus-</b> Radiation/ Radiation Heat	4 units		
	<b>Digital Weighing scale Biology Equipment and Apparatus</b>	6 units		
	<b>Microscope Dissecting</b> - Ideal for Demonstration Close study of small organism and fine dissection work Base: Heavy round base with precisely designed body Focusing: Sensitive focusing, done by rack and pinion arrangement. Revolving arm provided for moving magnifying lens over full stage area Stage: 85mmx75mm glass plate Illumination: A plane-concave lens fitted in fork for light reflection Optics.	4 units		
	<b>Microscope Binocular Stereo-</b> Observation Head: Binocular head inclined at 45 deg with adjustable inter pupillary distance Focusing: by rack and pinion mechanism Magnification: standard magnification 20X4X selected by sliding nosepiece eyepiece: Standard extra wide field eyepiece WF -10Xor 15X are provided	2 units		



	<b>Microscope prepared slides Set of 25pcs</b>	5 units		
	<b>Steam Generator</b> [1] Steam output is 10 gram/minute,[2] Variable power (0-400 watts) for adjustable steam flow,[3] Automatic safety shut-off,[4] Internal electric coils,[5] Dual Steam ports [6] Baster included for removing hot water for experiments.	6 units		
	<b>Basic Digital Multimeter</b> [1] DC Voltage: 200mV,2V,200V,1000V at 10 Mohms input impedance [2] AC Voltage: 200mV,2V,20V,200V,750V at 4.5 Mohms input impedance [3] DC Current :20 uA, 200uA,2 mA,20mA 200 mA, 2A, 10A [4] Resistance: 200 Ohms, 2 kOhms, 20 kOhms, 200 kOhms, 2 Mohms, 20 Mohms [5] Diode Test, Audible continuity test fold- out stand [6] 3-1/2 digit LCD , 25 mm high digits, polarity indicator and low battery indicator [7] Drop resistant to 4 feet, [8] 200 hour life on 9V battery	5 units		
	<b>Bar Magnets</b> [1] Dimensions are 150mm by 13mm, [2] Made of Alnico Alloy [3] Polarity indicated by notched north poles	6 pcs.		
<b>LOT 2</b>	<b>BIO-CHEM LABORATORY DIGITAL APPARATUS ABC: Php1,490,395.00</b>			
	<b>Smart Cart Dynamic System</b>	1 set		
	<b>Propeller Wind Turbine w/ Energy transfer Generator</b>	1 unit		
	<b>Spectrometer, Wireless with fiber optic cable</b>	1 unit		
	<b>Polarizer Demonstrator</b>	1 unit		
	<b>Electrostatics Materials, Class Set</b>	5 sets		
	<b>Coulomb's Law Apparatus</b>	3 units		
	<b>Electricity Kit</b>	5 sets		
	<b>Motion Sensor</b> Ultrasonic range-finding sensor ; Range: 0.15 to 8 meters Sensor rotates 360 degrees Mount on table top, support rod or dynamics Track with 1.8 meter cable Resolution: 1 mm Sample at up to 50hz Range select switch reduces spurious measurement Sensor capability description due to built-in flash memory Constructed of tough, impact-resistance polycarbonate plastic Digital signal processing insures accurate stable, and repeatable measurement	3 units		
	<b>Force Sensor</b> (1) Range : +/- 50 newtons, [2] Finger holes for easy grip,[3] Mounts on a dynamic cart or a rod ( up to 12 mm diameter,[4] Use in muscle fatigue experiments or visual/ auditory response time experiment,[5] Tare button to zero the sensor,[6] Overload protection built in,[7] Resolution : 0.03 N or 3.1 gms,[8] Includes hook, rubber bumper and mounting thumbscrew,[9] Sensor capability description upgradeable, [10] Constructed of tough, impact-resistant polycarbonate plastic,[11] Digital signal processing insures accurate, stable, and repeatable measurements	3 units		
	<b>Ideal Gas Law Apparatus</b> [1] Experimentally determine the ideal Gas Law,[2] Large syringe provides accurate volume measurements,[3] Built- in fast- response Thermistor,[4] Mechanical stop is included on the syringe to prevent damage of the thermistor within the syringe [5] Investigate Relationships in Gay-Lussac's Law, Boyle's Law and Charles Law [6] Calculate the number of moles of air in the syringe based on pressure, temperature	3 units		



	and volume measurement <b>INCLUDES:</b> Ideal Gas Law Syringe, Built-in Fast Response Thermistor, Probe Quick Connect Pressure Port			
	<b>Absolute Pressure/ Temperature Sensor</b> [1] Pressure 0 to 700 kpa with +- 2kpa, 0.1 kPA resolution and 1kPa repeatability [2] Displays pressure in kPa, N/m2, and psi [3] Temperature - 10 to 70 °C with +- 0.5 °C Display temperature in °C,K and F	3 units		
	<b>Temperature Sensor</b> [1] Comes with stainless steel temperature probes and fast response Probe [2] Accuracy :35 to 135 °C=+/-0.5 °C, [3] Displays: °C, °F, K [4] Resolution : 0.0025 °C, [5] Maximum Sample Rate : 100 Hz	5 units		
	<b>2-Axis Magnetic Field Sensor</b> [1] Measure Radial and Axial fields simultaneously [2] Sensitive enough to measure Earth's Magnetic Field [3] Measure magnetic field ( magnitude and direction from a coil or a bar magnet [4] Study AC fields, [5] Range : +/- 1000 Gauss [6] Accuracy: 5% of reading @ 25 degree C( after 4 min warm-up and Tare using Zero Gauss Chamber), [7] Resolution: 0.01 Gauss @ 10 Hz [8] Maximum Sampling rate : 1000 Hz, [9] Repeatability : 0.05 %	3 units		
	<b>Light Sensor</b> [1] Ranges : 0-2.6 Lux (candle) ; 0-260 Lux (bulb); 0-26,000 Lux (sun) [2] Accuracy :+/- 1 dB of Max value of selected Range [3] Resolution : 1/10,000 of max value of selected range [4] Sensor capability description upgradeable due to built in flash memory [5] Constructed of tough, impact resistant polycarbonate plastic [6] Digital signal processing insures accurate, stable and repeatable measurement	3 units		
	<b>Dual Humidity / Temp/ Dew Point Sensor</b> Humidity 1, 2 Range 3 0% to 100 % (RH), 0 g/m3 to 50 g/m3 (AH) Accuracy from 10% to 95%, +/- 3 % to +/-5% RH) 10% of Reading (AH) Resolution 1% or better (RH), 0.1 g/m3 or better (AH) Repeatability 0.5 % or better (RH), 0.1 g/m3 or better (AH) Temperature 2 Range -20 °C to 55 °C Accuracy 4 +/- 0.5 °C Resolution 0.1 °C or better Repeatability 0.1 °C or better Dew Point Range -50°C to 55 °C Accuracy 4 +/- 2°C Resolution 0.1 °C or better Repeatability 0.1 °C or better	3 units		
	<b>Weather/ Anemometer Sensor</b> WIND SPEED Range 0.5 to 29 m/s, Resolution Accuracy +/- (3 % of Reading + 0.2 m/s BAROMETER Range 150 to 1150 hectopascals ( hPa) 4.4 to 34 inches of mercury (inHg) +-0.03 in Hg (1 hPa) Accuracy 0.001 in.Hg(0.03hPA) Resolution HUMIDITY Relative Humidity +- 2% (from 0-60 %) Accuracy 1% or better Resolution	3 units		

	<p>Absolute Humidity 0 to 50g/m<sup>3</sup> +- 10% Accuracy 0.1g/m<sup>3</sup> or better Resolution  TEMPERATURE Range -20°C to 55 °C +- 0.5 °C  Accuracy 0.1 °C or better Resolution  DEW POINT  Range -50 °C to 55 °C +- 2 % Accuracy 0.1 °C or better Resolution</p>			
	<p><b>Carbon Dioxide Gas Sensor</b>  [1] Range : 0 to 300,000 ppm CO<sub>2</sub>, [2] Resolution : 10 ppm  [3] Accuracy descriptions : 0 to 10,000 ppm, 100 ppm or 10% of value, 10,000 to 50,000 ppm, 20% of value, above 50,000 ppm, qualitative only  [4] One button calibrator, [5] Large vent holes means faster response  [6] Digital signal processing gives more stable data  [7] Includes 250 ml sample bottle  [8] Sensor capability description upgradeable due to built-in flash memory  [9] Constructed of tough, impact resistant polycarbonate plastic  [10] Digital signal processing insures accurate , stable and repeatable measurements</p>	3 units		
	<p><b>Resistance and Resistivity Apparatus</b>  [1] Slide-wire potentiometer, [2] Measure resistance and resistivity  [3] Built-in scale makes it easy to measure wire length  [4] Built-in storage tray to hold wires includes 2 each of the following 30cm long wires:  Copper (1.0 mm diameter) , Aluminum(1.0 mm diameter), Stainless Steel (1.0 mm diameter) Nichrome (1.0 mm diameter, Brass (0.5 mm 0.8 mm and 1.3 mm diameter)</p>	5 units		
	<p><b>550 Universal Interface UI-5001</b>  Pasport ports: 2  Analog Inputs: 2 (±10 V, optional gain voltage 10x, 100x)  Digital inputs: Yes  Connects Via USB: Yes  Connects via Bluetooth: Yes  Rechargeable battery for cordless operation: No (AC Adapter only)  Works with PASCO Capstone Software: Yes  Works with SPARKvue Software: Yes  Accepts PASPORT Sensors: Yes  Accepts ScienceWorkshop Sensors: Yes  Maximum Sampling Rate: Up to 2 MHz on one channel  Signal Generator: ±8 V, at 400 mA, DC to 100 kHz  Included items: USB cable, Power Supply  Expansion Port: No</p>	1 unit		
	<p><b>AirLink PS-3200</b>  Pasport ports: 1  Analog Inputs: 0  Digital inputs: 0  Connects Via USB: Yes  Connects via Bluetooth: Yes  Rechargeable battery for cordless operation: Yes  Works with PASCO Capstone Software: Yes  Works with SPARKvue Software: Yes  Accepts PASPORT Sensors: Yes  Accepts Science Workshop Sensors: No  Maximum Sampling Rate: Sensor dependent &lt;1000 Hz  Signal Generator: N/A  Included items: USB cable  Expansion Port: No</p>	3 units		
	<p><b>PS-2400 SPARKvue Site License</b>  NOTE: If the wireless interfaces are use with a Tablet Sparkvue is free to download at app store. If use with a laptop or PC the site</p>	1 unit		

	license quoted above must be purchased			
<b>LOT 3</b>	<b>ASTRONOMICAL SCIENCE LABORATORY EQUIPMENT ABC: Php175,288.00</b>			
	Reading Telescope	2 units		
	Solar System Model	2 units		
	Sun Dial	3 units		
	Astronomical Telescope Stand	2 units		
	Solar System Chart	2 sets		
	Rain Gauge	2 sets		
	Fortine Barometer	2 sets		
	Barometer Aneroid	1 set		
	Distillation Apparatus	1 set		
<b>LOT 4</b>	<b>LABORATORY LIGHTING EQUIPMENT ABC: Php700,000.00</b>			
	Generator Set - Brand new Sound Proof Diesel 40 KW/50KVA (US Brand)	1 set		
<b>LOT 5</b>	<b>LABORATORY EQUIPMENT (REFRIGERATION/AIRCONDITIONING) ABC: Php326,754.00</b>			
	Refrigerator SU 140 A 14 cu. Ft. Chiller	1 unit		
	Air-conditioning Unit KV 12WMARF 21 B/KV129D 2.5 HP	6 units		
<b>LOT 6</b>	<b>DISPLAY GLASS SHELF ABC: Php15,000.00</b>			
	steel shelf with glass cover 6 ft. x 6 ft. 4 layers	2 units		
<b>LOT 7</b>	<b>MATH SOFTWARE ABC: Php193,500.00</b>			
	SPSS Software network license for 1 set of computer	1 lic.		
	Anti- plagiarism software network license for 4 sets of computers	4 lic.		
<b>LOT 8</b>	<b>COMPUTER OPERATING SYSTEM ABC: Php 852,539.38</b>			
	Microsoft WINHOME 10 Sngl Academic OLP 1License No Level Legalization Get Genuine	58 lic.		
	Microsoft Windows Professional 10 Sngl Upgrade Academic OLP 1License No Level	58 lic.		
	Microsoft Office professional Plus 2016 Sngl Academic OLP 1License No Level	58 lic.		
<b>LOT 9</b>	<b>SOLAR ELECTRIC SYSTEM ABC: Php2,000,000.00</b>	1 Lot		
	Solar Electric System Solar Panel 250W Solar cells Polycrystalline Max. Power (w) 250 Max. Power voltage (v) 30.3 Max. Power current (a) 8.27 Open circuit voltage (v) 38 Short circuit current (a) 8.79 Module Efficiency (%) 15.3 Cell orientation 60 cells Glass 3.2 mm, High Transmission, AR coated tempered glass Degree of protection IP65 Weight (kg) 18.6 Dimension (mm) 1650x992x35 Tin-sheet PV roof mounting advantages:			

<p>*Easy Installation  *Versatile Application  *Great Compatability  *High quality  *Corrosion resistance</p> <p>Composition:  4100mm Rail  35mm End-clamp  35mm Middle-clamp  Tin Interface (L-foot)</p> <p><b>Sunny Boy 5000TL</b></p> <p>Technical Parameters:</p> <p>DC Input:  Max. Input voltage (v) 750  Min. Input voltage (v) 125  Max. DC power @ PF=1 (w) 5200</p> <p>AC Output:  Rated power (w) 4600  Max. Grid voltage (v) 280  Efficiency (%) 97</p> <p>Structures:  Dimension (mm) 490x519x185  Weight (kg) 26  Degree of protection IP65</p> <p><b>Sunny Island 6.0H</b></p> <p>Technical Parameters:</p> <p>Rated power (w) 4600  Rated grid voltage (v) 230  Rated current (a) 20  Max. output current for 60 ms (a)120</p> <p><b>Ritar DC2-1200ah</b></p> <p>Technical Parameters:</p> <p>Rated voltage (v) 2v  Capacity (ah) 1200  Dimension 479mmx175mmx327mm</p> <p>FREE: Installation, maintenance and orientation</p>			
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**Amount (TOTAL LOT ITEMS) in Words**

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*Signature over printed name of Bidder*

\_\_\_\_\_  
*Name of Company*

\_\_\_\_\_  
*Company Address*

**Contact Numbers:**

\_\_\_\_\_  
*Telephone Nos. / Telefax Nos.*