



BID BULLETIN 01

Date: 21 November 2022

Project Title: *Supply and Delivery of Technical and Scientific Equipment and Supplies (VSU-GOODS-23-04)*

Location: VSU Main, Visca, Baybay City, Leyte

Bidders are hereby informed/reminded of the following addendums/amendments/clarifications:

I. LIST OF REQUIREMENTS

(1st Envelope) TECHNICAL COMPONENT ENVELOPE	
<i>Legal Documents</i>	
1	PhilGEPS Certificate of Registration (Platinum)
<i>Technical Documents</i>	
2	Statement of All On-Going Government & Private Contracts
3	Statement of Bidder's Single Largest Completed Contract (at least 50% of the ABC or Php 5,798,040.00)
	Or
	Statement of at least two (2) similar completed contracts w/ total amount of at least Php 5,798,040.00 and the largest of which should be at least Php 2,899,020.00 .
4	Bid Security
5	Technical Specifications
6	SCHEDULE of Requirements/Production and delivery schedule
7	Manpower Requirements
8	After Sales service/parts from acceptance of delivered goods (at least 1 year for equipment and 3 months for supplies)
9	Original Duly Signed Omnibus Sworn Statement
<i>Financial Documents</i>	
10	The Supplier's Audited Financial Statements
11	Net Financial Contracting Capacity (at least Php 11,596,080.00)
	Or
	Committed Line of Credit (at least Php 1,159,608.00)
(2nd Envelope) FINANCIAL COMPONENT ENVELOPE	
12	Original of duly signed and accomplished Financial Bid Form
13	Original of duly signed and accomplished Price Schedule(s)



Please take note:

1. In the **Technical Specifications**, bidders must state either “Comply” or “Not Comply” **against each of the individual parameters of the specifications** per item stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in the **Bidders Bid** and cross-referenced to that evidence. Evidence shall be in the form of **manufacturer’s un-amended sales literature (Data Sheets), unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data, and Brand and Model** 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).

2. Bidders are advised to use the latest GPPB forms for the following documents:

- a) Omnibus Sworn Statement
- b) Performance Securing Declaration (if applicable)
- c) Price Schedule for Goods Offered
- d) Bid Form
- e) Bid Securing Declaration

These forms can be accessed from the GPPB website: <https://www.gppb.gov.ph/downloadables.php>. Documents that are not in its updated/latest format shall be a ground for disqualification of the bidder.

II. Preparation of Electronic Bid (for bidders who prefer electronic bid submission)

- 1. **Scan per document** into Portable Document Format (PDF) and should be printable.
- 2. Properly label all scanned documents for prompt identification. Filename of documents, whichever are applicable to the bidder, should be as follows:

Document	Filename (in PDF form)
1. PhilGEPS Certificate of Registration (Platinum)	PhilGEPS
2. Statement of On-Going Government & Private Contracts	Statement of On-Going Contracts
3. Statement of Bidder's Single Largest Completed Contract	SLCC
4. Statement of at least two (2) similar completed contracts	Statement of Completed Contracts
5. Bid Security	Bid Security
6. Technical Specifications	Technical Specifications
7. SCHEDULE of Requirements/ 8. Production and delivery schedule	Schedule of Requirements
9. Manpower Requirements	Manpower Requirements
10. After Sales service/parts	After Sales
11. Omnibus Sworn Statement	Omnibus Sworn Statement
12. Audited Financial Statements	Audited Financial Statements
13. Net Financial Contracting Capacity	NFCC
14. Committed Line of Credit	CLC
15. Bid Form	Bid Form
16. Price Schedule	Price Schedule



3. Create two (2) folders that are password-protected. The first folder should contain all requirements under Technical Component checklist as presented under Section VIII.

The second folder should contain all requirements under Financial Component checklist.

4. Compress the two (2) folders and name as follows: a) first folder: **Technical Documents**, b) second folder: **Financial Documents**.
5. Email the 2 compressed folders to Ms. Jessamine C. Ecleo at jessamine.ecleo@vsu.edu.ph before the deadline.

III. Changes in the Bidding Documents

Original											
<p>Section I. Invitation to Bid</p> <p>5. A complete set of Bidding Documents may be acquired by interested Bidders on 08 November – 29 November 2022 until 9:30 AM from the given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of Fifteen Thousand Pesos (Php 15,000.00). The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person, by facsimile, or through electronic means.</p>	<p><i>(Amendment)</i></p> <p>5. A complete set of Bidding Documents may be acquired by interested Bidders on 08 November – 29 November 2022 until 9:30 AM from the given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB. The amount of applicable fee will depend on the total ABC quoted as shown below.</p> <table border="1" data-bbox="869 1288 1481 1496"> <thead> <tr> <th>Total ABC Quoted</th> <th>Applicable Fee</th> </tr> </thead> <tbody> <tr> <td>1,000,000.00 and below</td> <td>1,000.00</td> </tr> <tr> <td>1,000,001.00 to 5,000,000.00</td> <td>5,000.00</td> </tr> <tr> <td>5,000,001.00 to 10,000,000.00</td> <td>10,000.00</td> </tr> <tr> <td>Above 10,000,000.00</td> <td>15,000.00</td> </tr> </tbody> </table> <p>The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person, by facsimile, or through electronic means.</p> <p>The Bidders may deposit the payment for the bidding documents to the Visayas State University Landbank Account with the following details:</p> <p>Account Name: Visayas State University Fund 164 Account Number: <u>3572-1000-13</u></p> <p>Then send the deposit slip to jessamine.ecleo@vsu.edu.ph</p>	Total ABC Quoted	Applicable Fee	1,000,000.00 and below	1,000.00	1,000,001.00 to 5,000,000.00	5,000.00	5,000,001.00 to 10,000,000.00	10,000.00	Above 10,000,000.00	15,000.00
Total ABC Quoted	Applicable Fee										
1,000,000.00 and below	1,000.00										
1,000,001.00 to 5,000,000.00	5,000.00										
5,000,001.00 to 10,000,000.00	10,000.00										
Above 10,000,000.00	15,000.00										



<p>Section II. Instructions to Bidders</p> <p>15. Sealing and Marking of Bids</p>	<p><i>(Additional Instructions)</i></p> <p>Bidders are requested to submit three (3) copies of its bid – 1 Original, Copy 1, and Copy 2.</p> <p>For filing purposes, the bidders are urged to use Red envelopes for its Technical and Financial Component envelopes, including the Mother (outer) Envelope.</p>
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IV. Revised List of Goods and Technical Specifications

- Some Specifications were added (in red font) and/or deleted (in blue font)
- Some Quantities and Unit Prices (ABC) were changed

Item No.	Description	Unit	Qty	ABC/Unit (Pesos)	Total ABC (Pesos)
1	Acetone, (CH₃)₂CO Analytical reagent grade, at least 99.5% , 2.5L/bottle	btls	1	3,000.00	3,000.00
2	Anemometer, Rotating Vane and Thermistor, Data logging, Digital ■Measurement Units: ◀Velocity: m/s, km/h, ft/min, knots, mile/hr ◀Temperature: °C or °F ◀Resolution: 0.1°C (0.1°F) / 0.01m/s ■Memory Card: SD memory card ◀Data Output: ◀RS232: With optional cable/software ◀USB: With optional cable/software ◀Operating Temperature: 0 to 50°C (32 to 122°F) ◀Power: heavy-duty batteries, or 9V power adaptor (optional)	set	1	35,000.00	35,000.00
3	Basic Bench pH meters with replaceable electrode and buffer ■Accuracy temperature: ±0.3°C ■Accuracy pH: ±0.1 ■Electrical requirements: AC/DC 9 V adapter (220 VAC, 60 Hz) ■Resolution (mV): 0.1 mV (±199.9 mV); 1 mV beyond ±200 mV ■Temp probe calibration: offset in 0.1°C increments; offset range ±5°C ■Range pH: 0 to 14 ■Accuracy mV: ±0.2 mV (±199.9 mV), ±2 mV beyond ±200 mV ■Calibration points: 1 to 5 points with automatic buffer recognition (ABR) ■Include 13-620-AE6 3-in-1 single junction gel pH/ATC electrode ■Memory: 100 datasets ■Resolution temperature: 0.1°C ■Temperature compensation: automatic or manual (0 to 100°C) ■Temperature range metric: 0.0 to 100.0 °C	unit	1	60,000.00	60,000.00



	☑Range mV: ±1999 mV				
	☑Resolution pH: 0.01				
	☑Power source: 220 - 240 50/60 Hz				
	☑Warranty: 2-year meter warranty; 6-month electrode warranty				
4	Beaker, Glass, 250mL	pc	6	400.00	2,400.00
	☑Low Form Beaker				
	☑Borosilicate Glass				
	☑Transparent Beaker				
	☑Thickened With Spout				
5	Biological Safety Cabinet Class IIA	pc	1	700,000.00	700,000.00
	☑Nominal Size : 5 feet				
	☑Type: Class II, Type A2				
	☑Filtration Efficiency ULPA:≥99.9995% , @0.12µm				
	☑Internal Dimensions (W x D x H) mm 1604*630*630				
	☑External Dimensions (W x D x H) mm 1800*795*2050				
	☑Airflow Pattern (downflow / exhaust): 70% / 30%				
	☑Blower:DC EBM Blower				
	☑Noise(dB): ≤60				
	☑Downflow: ULPA Filter				
	☑Exhaust: ULPA Filter				
	☑Main Body: Electro-galvanized steel with Akzo-Nobel white oven-baked powder coating				
	☑Sash Glass Thickness: 6mm				
	☑Sash Working Opening: 200mm				
	☑Sash Maximum Opening: 460mm				
	☑Sash Maximum Opening: 460mm				
	☑Full Access for Glass Cleaning: Yes				
	☑Illumination (Lx): ≥1100				
	☑Net Weight(kg): 400				
	☑Gross Weight: 450				
	☑LED Brightness Lamp: 36W*1 pc				
	☑UV Lamp: 40W*1 pc				
	☑Receptacle (pieces/Power/Current) : 2 pcs/500W/3A				
	☑Water Valve : 1 pc				
	☑Gas Valve Stand: 1 pc				
	☑Adjustable Feet: 4, as standard				
	☑Casters: 4, as standard				
	☑Compatible UPS atleast 3kva				
	☑Compatible AVR atleast 3kva				
	☑One chair				
	☑Onsite installation				
	☑At least 1 year warranty				
	☑2 cycle of preventive maintenance.				
6	Bleach, liquid, 99.9% antibac, 1 gallon	gallon	28	450.00	12,600.00
7	Buffer Solution pH 4, 500 mL	btl	1	2,500.00	2,500.00
8	Buffer solution, pH 7, 1000 ml.	btl	2	1,000.00	2,000.00
9	Canada Balsam, for microscopy, 100ml	btl	1	1,800.00	1,800.00



10	Chromic Acid	kl	1	1,500.00	1,500.00
	flakes, Technical Grade				
11	CO2 Incubator	pc	1	750,000.00	750,000.00
	<ul style="list-style-type: none"> ☐Description: Advanced large capacity for high-value cells and high throughput labs ☐Capacity: at least 255 L (9.0 cu. ft.) ☐Chamber type: Direct heat ☐Door swing: Right hinged ☐Exterior material: Brushed 304 L stainless steel ☐Choose interior: 304 Stainless steel › ☐100% copper › ☐Sterilization: (180°) ☐IP Rating : IP54 rated ☐In-chamber HEPA filtration : ISO Class 5 interior conditions ☐Active particle control system: ISO Class 5 GMP grade A/B external conditions ☐Airflow technology: THRIVE ☐CO2 sensors: IR180Si ☐O2 control: at least 5-90% ☐Humidity: Covered integrated reservoir with easy draining ☐User interface: iCAN touch screen ☐Documentation Package: Included ☐Data Output: at least 4-20mA standard ☐Compatible UPS at least 3kva ☐Compatible AVR at least 3kva ☐At least one CO2 Tank (empty) ☐Compatible Table for the equipment ☐Onsite installation ☐At least 1 year warranty ☐2 cycles of preventive maintenance including filter and other accessories. 				
12	Coplin Jar with cover	pcs	12	750.00	9,000.00
	<ul style="list-style-type: none"> ☐Specification ◀Internal Width (in)1 11/64 ◀Internal Height (in)2 61/64 ◀Internal Depth (in)1 11/64 ◀Internal Width (cm)3 ◀Internal Height (cm)7.5 ◀Internal Depth (cm)3 ◀Description Glass Coplin Staining Jar with glass cover 				
14	Digital thermometer with thermocouple	pc	1	12,000.00	12,000.00
	hermometer Advanced (Highly accurate thermometer (+/-0.3% rdg. +1 C) accepts any type K or J thermocouple probes.				
15	Disposable Hair Cap	packs	2	220.00	440.00
	Material: non-woven fabric				
	Color: Blue				
	Strong quality elastic band to ensure a good and comfortable fit				
	100 pcs per pack				
16	Filter Paper	box	10	2,000.00	20,000.00
	☐Filter Paper No.1				



	☐Qualitative Circles 125mm (12.5cm)				
	☐Qty/box: 100 pieces per box				
	☐Porosity: Medium				
	☐Flow Rate: Medium				
17	Glacial Acetic Acid	btl	1	3,500.00	3,500.00
	☐Analytical Reagent grade 2.5L per bottle				
18	Glass Slides	box	12	150.00	1,800.00
	☐Glass Slide				
	☐72 pcs/box				
	☐Clear Glass 25.4x76.2mm (1"x3"), 1.2mm Thick				
19	Glycerine	liter	6	300.00	1,800.00
	Glycerine Technical Grade				
	1L/bot.				
20	High Precision Stainless Steel Digital Vernier Caliper	pc	2	2,500.00	5,000.00
	6 inches; 0.01-0.025 mm accuracy				
21	Hydroponic Waterproof pH/EC/TDS/Temperature Portable Meter	pc	1	18,000.00	18,000.00
	☐pH Range: 0.00 to 14.00 pH				
	☐pH Resolution: 0.01 pH				
	☐pH Accuracy: ±0.1 pH				
	☐pH Calibration: automatic, at one or two points using standard buffers (pH 4.01, 7.01,10.01); one point calibration using quick calibration solution				
	☐pH Temperature Compensation: automatic				
	☐EC Range: 0.00 to 6.00 mS/cm				
	☐EC Resolution: 0.01 mS/cm				
	☐EC Accuracy: ±2% F.S.				
	☐EC Calibration: automatic, one-point at 1.41 mS/cm or 5.00 mS/cm; one point calibration using quick calibration solution				
	☐TDS Range: 0 to 3000 ppm (500 CF); 0 to 3999 ppm (700 CF)				
	☐TDS Resolution: 10 ppm (mg/L)				
	☐TDS Accuracy: ±2% F.S.				
	☐TDS Calibration: done through conductivity				
	☐EC/TDS Temperature Compensation: EC/TDS				
	☐EC to TDS Conversion Factor: 0.5 (500 ppm) or 0.7 (700 ppm)				
	☐Cell Type: amperometric two pole				
	☐Temperature Range: 0.0 to 60.0°C / 32.0 to 140.0°F				
	☐Temperature Resolution: 0.1°C / 0.1°F				
	☐Temperature Accuracy: ±0.5°C /±1°F				
	☐Automatic Shut-Off: auto-off after 8 minutes of non-use				
	☐Battery Type/Life: 1.5V (4) / approx. 100 hours of continuous use				
	☐Environment: 0 to 50°C (32 to 122°F); RH max 100%				
	☐Dimensions: 163 x 40 x 26 mm (6.4 x 1.6 x 1.0")				
	☐Weight: 100 g (3.5 oz.)				
22	Laboratory Weighing Boats	pack	1	1,000.00	1,000.00
	Plastic, 100 mL				
	at least 100 pcs. pack				



23	Latex Disposable Gloves Powder Free (Medium), 100 pcs. or 50 pairs per box	boxes	2	600.00	1,200.00
24	Methanol or Methyl alcohol HPLC Grade 2.5L per bottle	btl	10	1,950.00	19,500.00
25	NCM ELISA Kit for Sweetpotato virus indexing	kit	1	25,000.00	25,000.00
	<ul style="list-style-type: none"> ☑Included kit components ◀Precoated 96-well plate ◀Pretitrated capture antibody ◀Pretitrated detection antibody ◀Recombinant protein standard (in additional well strips) ◀Stop solution ◀Substrate solution ◀Assay buffer (sample diluent) ◀Wash buffer ◀Lysis buffer 				
26	Nitric acid, HNO₃ Concentrated, Analytical reagent grade, 2.5L/bottle	btls	1	3,600.00	3,600.00
27	pH Meter pen type <ul style="list-style-type: none"> ☑0.1 pH resolution ☑water-resistant/proof 	pcs	1	2,500.00	2,500.00
28	Reagent Bottle 500mL <ul style="list-style-type: none"> ☑Amber colored bottle with HDPE orange screw cap, 500mL 	pcs	3	500.00	1,500.00
29	Reagent Bottle <ul style="list-style-type: none"> ☑With Stopper/Screw Cap ☑Material: Glass/Borosilicate Glass ☑Color: Clear/Transparent Flask ☑Capacity: 2000mL ☑Graduation: 1800mL 	pc	3	1,500.00	4,500.00
30	Reagent Bottles <ul style="list-style-type: none"> ☑Amber Glass Wide Mouth Bottle Chemical Reagent Storage Bottles ☑500 mL capacity ☑Features: <ul style="list-style-type: none"> —Glass body for chemical, thermal expansion, shock, and heat resistance. —Amber glass bottles are perfect for storing materials which are sensitive to degradation from light. —Wide mouth, cylindrical shape body for a wide variety of applications that require solution containment. —Ground glass stopper seals the bottle to secure contents and help prevent spills and evaporation. —Useful for storing both liquids and powders, widely used in chemistry and biology application 	pcs	3	750.00	2,250.00
31	Real Time PCR Thermal cycler- temp range atleast(4-100C) accuracy ±0.2 C of programmed target; gradient range (30-100C); Optical detection sensitivity (detects 1 copy of target sequence in human genomic DNA);	pc	1	3,490,000.00	3,490,000.00



	Dynamic range- 10 orders of magnitude;				
	operating systems compatible to windows 8-10 or MacOS				
	Compatible UPS atleast 3kva				
	Compatible AVR atleast 3kva				
	Onsite installation				
	Atleast 1 year warranty				
	1 cycle of preventive maintenance				
	with certification that parts and services should be available 5 years after sales.				
	ADDITIONAL:				
	Fixed 96-well sample block (reduced-mass)				
	Sample size: 96-wells				
	Thermal uniformity: ± 0.3 well-to-well after 10 sec of arrival at target				
	Retractable Lid				
	Sample volume: 1 μ L – 50 μ L				
	Heating and cooling method: Peltier				
	Capable of Stand-alone operation through flexible connectivity options of wireless network (Wifi), Ethernet and USB				
	Automated lid that opens, closes and can apply sealing force to reaction wells				
	System can connect to cloud platform for remote monitoring, experiment set up, and Cq analysis				
	Can Save at least 1000 run files				
	6-filtered LEDs and 6 filtered photodiodes				
	Optics shuttle individually illuminates and detects fluorescence from each well				
	One channel dedicated for FRET analysis				
	Multiplex analysis: up to 5 targets per well				
	Wavelength Range: 450 nm – 730 nm				
	Scan Time: All channels: 12 sec, Single-channel fast scan: 3 sec				
	Fixed optical path, directly over each well, eliminates the need to normalize for positional bias				
	No need for ROX normalization				
	Factory calibrated for common fluorophores for both white and clear well plates which do not require recalibration				
	Operating System: Windows 10 compatible				
	Data analysis modes: gene expression analysis by relative quantity (Δ Cq) or normalized expression ($\Delta\Delta$ Cq); multiple- file gene expression analysis for comparison of an unlimited number of Cq values; allelic discrimination; end-point analysis;				
	Data analysis options: include bar chart, box and whisker plot, dot plot, clustergram, scatter plot, and volcano plot; statistics include t-tests and analysis of variance (ANOVA)				
	Capable of generating customized temperature protocol based on enzymetype, PCR product length, and primer annealing temperature				



	With reference gene selection tool				
	Create customized and publication ready-graphs				
	Image export: Export images at any pixel size and at a resolution up to 600 dpi; save images as .bmp, .jpg, or .png files				
	Data export: Save, copy, and print all graphs and spreadsheets from right-click menu; export specified data in multiple formats; copy and paste into Microsoft Excel, Word, or PowerPoint file; print directly or save as PDFs customizable reports containing run settings, data graphs, and spreadsheets; export to RDML				
	License for qbasePLUS software				
	Automatic software updates				
	Control up to 4 instruments with one PC running the software				
	Inclusions: Starter Kits and consumables (25 pieces- 96 well PCR plates, 100 pieces adhesive seals and 200 reactions (2ml) Universal SYBR Green Supermix)				
32	Laboratory Refrigerator 4 degrees-double door	unit	1	500,000.00	500,000.00
	☐Temperature Range: 2°C to 10°C				
	☐Capacity (English): at least 45 cu. ft.				
	☐Electrical Requirements: at least 115 V 60 Hz				
	☐Plug Type: NEMA 5-15 P				
	☐Dimensions (D x W x H) Interior: 27 x 49 x 61.75 in. (686 x 1245 x 1569 mm)				
	☐Shipping Weight (Metric): at least 255 kg				
	☐Interior: Painted White Steel				
	☐Capacity (Metric) Shelf: at least 45 kg/full shelf, 22.5 kg/half shelf				
	☐Warranty: 2 years parts and labor, plus 3 year compressor warranty				
	☐Temperature (Setpoint): 5°C				
	☐Ports: 1 Rear access port and 2 side access ports				
	☐Door Style: Glass				
	☐Shelves: 8 Full, 2 Half				
	☐Certifications/Compliance: cULus, ENERGY STAR				
	☐Capacity (Metric): at least 1274 L				
	☐Amperage: at least 5 A				
	☐Dimensions (L x W x H) Exterior: at least 32 x 52.7 x 81 in. (813 x 1339 x 813 mm)				
	☐Shipping Weight (English): at least 561 lb.				
	☐Refrigerant: R290				
	☐Capacity (English) Shelf: at least 100 lb./full shelf; 50 lb./half shelf				
	☐Access Security: Key Lock				
	☐Color: White				
	☐Model: CPLA-delete				
	☐Control Type: Microprocessor				
	☐No. of Doors: 2				
	☐Compatible UPS at least 3kva				
	☐Compatible AVR at least 3kva				
	☐Onsite installation				
	☐At least 1 year warranty				
	☐2 cycle of preventive maintenance				



33	Safranin O Solution	btl	1	1,800.00	1,800.00
	☐250ml;				
34	Stirring Rod	pieces	3	100.00	300.00
	☐big size, =/> 10 inches long, fire polished ends with no policeman				
35	Sulfuric Acid	btl	1	1,750.00	1,750.00
	☐Analytical Grade (98%)				
	☐2.5 Liters				
	☐specific gravity 1.84				
36	Tachometer, Non-contact, LCD	pc	1	10,000.00	10,000.00
	5 digits LCD display				
	Accuracy ±(0.05%+1 digits)				
	RPM test range 2 to 99,999RPM				
	Count range 1 to 99,999 REV				
	Resolution 0.1 RPM (2 to 999.9 RPM)				
	Sampling time 0.5 sec. (over 120 RPM)				
	Detecting distance 50mm to 500 mm				
	Power consumption Approx 45mA				
	Power Supply 9V Battery or 6V Exterior DC				
	Operation temp 0 o C to50o C				
	CALIBRATED (with calibration certificate)				
37	Temperature-Humidity Data Logger	piece	4	2,000.00	8,000.00
	☐Portable and hand-held				
	☐16000 data recording capacity.				
	☐Adjustable record interval: 10s~24hour				
	☐Multi-function LCD				
	☐Internal NTC temperature thermal sensor with optional external sensor				
	☐Data export in PDF/EXCEL via data management software				
	☐Selectable °F/°C temperature unit				
	☐Size: approx. 84 (L) x 44(W) x 20 (H) mm				
	☐Good quality				
	☐Durable				
38	Ultra-Low Freezer	unit	1	1,500,000.00	1,500,000.00
	☐Temperature Range: -50°C to -86°C				
	☐Certifications/Compliance CE, ENERGYSTAR				
	☐Capacity (English): at least 28.8 cu. ft.				
	☐Capacity (Metric): at least 816 L				
	☐Vial Capacity: at least 60,000 x 2 mL				
	☐Electrical Requirements: at least 220 V 60 Hz				
	☐Voltage: 230 V				
	☐Frequency: 60 Hz				
	☐Amperage: 4/10 A				
	☐Plug Type: European				
	☐Dimensions (D x W x H) Interior:28.3 x 34.4 x 51.2 in. (71.9 x 87.3 x 130.1 cm)				
	☐Weight (English): 679 lb.				
	☐Weight (Metric):308 kg				
	☐Shipping Weight (English): 765 lb.				
	☐Shipping Weight (Metric): at least 347 kg				
	☐Display:Touch-Screen LCD				



	<ul style="list-style-type: none"> ☐Refrigerant: R290 (1st stage), R170 + R290 mix (2nd stage) ☐Capacity (English): Shelf 245 lb. ☐Capacity (Metric) Shelf:at least 111 kg ☐Smart View Compatibility Smart-View Compatible ☐Depth (English) Interior:at least 28.3 in. ☐Depth (Metric) Interior: at least 71.9 cm ☐Height (English) Exterior: at least 78 in. ☐Height (English) Interior:at least 51.2 in. ☐Height (Metric) Exterior:at least 198.1 cm ☐Height (Metric) Interior:at least 130.1 cm ☐Width (English) Interior at least 34.4 in. ☐Width (Metric) Interior at least 87.3 cm ☐DefrostManual ☐Width (English) Exteriorat least 39.6 in. ☐Width (Metric) Exterior at least 100.6 cm ☐Connectivity: DeviceLink™ (Networks: WPA2-PSK, WPA-PSK, WEP, WPA2-EAP-PEAP, WPA-EAP-PEAP) ☐Dimensions (DxWxH) Exterior: at least 37.6 x 39.6 x 78 in. (95.5 x 100.6 x 198.1 cm) ☐Depth (English) Exterior: at least 37.6 in. ☐Type: Ultra-Low Freezer, Upright ☐Depth (Metric) Exterior: at least 95.5 cm ☐Green FeaturesEnergy efficient ☐Holds: at least 2 in. Boxes (600) ☐Compressor: V-Drive Compressor ☐Insulation: Vacuum Insulation Panels (VIP) + Water-Blown Polyurethane Foam (SNAP-compliant) ☐MaterialPolyurethane Foam (Insulation), Stainless Steel (Interior) ☐Monitoring Options Alarm, Recorder ☐Rack Capacity: at least 24 ☐Shelves: at least 3 ☐Style Upright ☐Unit Size Each ☐Compatible UPS atleast 3kva ☐Compatible AVR atleast 3kva ☐Onsite installation ☐Atleast 1-year warranty ☐2 cycle of preventive maintenance 				
39	Utility Gloves, Rubber, Large, Non-Sterile	pair	6	140.00	840.00
40	60X Plan Fluorite Oil Immersion Objective with Iris, 1.25-0.65 NA, 0.12 mm WD, Michelson Interferome	lot	1	725,000.00	725,000.00
	1. 60x Oil Immersion Objective Lens -				
	☐Description:				
	- 60X Plan Fluorite				
	- Oil Immersion Objective with Iris,				
	- 1.25-0.65 NA				
	- 0.12 mm WD				
	2.Michelson Interferometry				
	-Designed for Educational, Demonstration, and Classroom Use				
	-Complete Photonics Kit Includes All Hardware Except Variable Power Supply for the Thermal Expansion Experiment (12 VDC, 2 A)				
	-Extensive Manual and Teaching Materials Provided				



	-Easy to Assemble and Use				
	-Choose from Educational Kits Containing Imperial or Metric Components				
	3. Optical Tables- 1 pc				
	Specifications:				
	-Matte Black Anodized Finish Reduces Unwanted Reflections				
	-Grid of Through-Tapped 1/4"-20 (M6) Mounting Holes				
	-Metric Aluminum Breadboard				
	-Dimensions: 750 mm x 750 mm x 12. 7 mm				
	4. LG4- Laser Safety Glasses- 1 pc.				
	Specifications:				
	-Dark blue lenses				
	-12% Visible Light Transmission				
	-Universal Style				
	-Optical Density (190- 400 nm= 5+, 625-850 nm= 4+, 662-835 nm=5+, 633= 5+)				
	-LB Rating (625- 670 nm= I LB4, 625- 830 nm= DR LB4, >670- 800 nm= I LB5)				
	5. LG6 Laser Safety Glasses- 1 pc				
	Specifications:				
	-Clear lenses				
	-93% Visible Light Transmission				
	-Universal Style				
	-Optical Density (190- 398 nm= 7+, 9000-11000 nm= 7+)				
	-LB Rating (190- 315 nm= DLB7, 9000-11000 nm=DILB3)				
	6. LG1 Laser Safety Glasses- 2 pcs. each				
	Specifications:				
	-Light green lenses				
	-59% Visible Light Transmission				
	-Universal Style				
	7. LG10 Laser Safety Glasses- 1 pc				
	Specifications:				
	-Amber lenses				
	-35% Visible Light Transmission				
	-Universal Style				
41	Analytical Balance	unit	1	225,000.00	225,000.00
	210g x 0.0001g (with Internal Calibration)				
	3.5" pan				
	Maximum Capacity= 210 g				
	Readability=0.0001 g				
	220 V				
42	Arduino Starter pack and sensors	lot	1	90,000.00	90,000.00
	9 units of Arduino Starter Pack which Includes:				
	• Arduino Projects Book (170 pages) x1				
	• Arduino UNO board rev.3 x1				
	• USB cable x1				
	• Breadboard x1				
	• Easy-to-assemble wooden base x1				
	• 9v battery snap x1				
	• Solid core jumper wires x1				
	• Stranded jumper wires x2				
	• Photoresistor [VT90N2 LDR] x6				
	• Potentiometer 10kilohm x3				
	• Pushbuttons x10				



• Temperature sensor [TMP36] x1				
• Tilt sensor x1				
• alphanumeric LCD (16x2 characters) x1				
• LED (bright white) x1				
• LED (RGB) x1				
• LEDs (red) x8				
• LEDs (green) x8				
• LEDs (yellow) x8				
• LEDs (blue) x3				
• Small DC motor 6/9V x1				
• Small servo motor x1				
• Piezo capsule [PKM17EPP-4001-B0] x1				
• H-bridge motor driver [L293D] x1				
• Optocouplers [4N35] x2				
• Transistor [BC547] x5				
• Mosfet transistors [IRF520] x2				
• Capacitors 100nF x5				
• Capacitors 100uF x3				
• Capacitor 100pF x5				
• Diodes [1N4007] x5				
• Transparent gels (red, green, blue) x3				
• Male pins strip (40x1) x1				
• Resistors 220 ohm x20				
• Resistors 560 ohm x5				
• Resistors 1 kilohm x5				
• Resistors 4.7 kilohm x5				
• Resistors 10 kilohm				
• Resistors 1 megohm x5				
• Resistors 10 megohm x5				
9 units of 37 in 1 Sensor Kit For Arduino includes:				
• KY-001 Temperature sensor module				
• KY-002 Vibration switch module				
• KY-003 Hall magnetic sensor module				
• KY-004 Key switch module				
• KY-005 Infrared emission sensor module				
• KY-006 Small passive buzzer module				
• KY-008 Laser sensor module				
• KY-009 3-color full-color LED SMD modules				
• KY-010 Optical broken module				
• KY-011 2-color LED module				
• KY-012 Active buzzer module				
• KY-013 Temperature sensor module				
• KY-015 Temperature and humidity sensor module				
• KY-016 3-color LED module				
• KY-017 Mercury open optical module				
• KY-018 Photo resistor module				
• KY-019 5V relay module				
• KY-020 Tilt switch module				
• KY-021 Mini magnetic reed modules				
• KY-022 Infrared sensor receiver module				
• KY-023 XY-axis joystick module				
• KY-024 Linear magnetic Hall sensors				
• KY-025 Reed module				
• KY-026 Flame sensor module				
• KY-027 Magic light cup module				
• KY-028 Temperature sensor module				
• KY-029 Yin Yi 2-color LED module 3MM				
• KY-031 Knock Sensor module				
• KY-032 Obstacle avoidance sensor module				



	• KY-033 Hunt sensor module				
	• KY-034 Automatic flashing colorful LED module				
	• KY-035 Class Bihor magnetic sensor				
	• KY-036 Metal touch sensor module				
	• KY-037 Sensitive microphone sensor module				
	• KY-038 Microphone sound sensor module				
	• KY-039 Detect the heartbeat module				
	• KY-040 Rotary encoder module				
43	Electrostatic Charge Experiment (EX-5532)	unit	1	215,768.00	215,768.00
	Student experiment measuring charge of objects through direct contact and induction. This complete solution is designed for use with PASCO Capstone Software. WHAT'S INCLUDED				
	• 1x Basic Electrometer				
	• 1x Charge Producers and Proof Plane				
	• 1x Faraday Ice Pail				
	• 1x Conductive Spheres				
	• 1x Conductive Shapes				
	• 1x Electrostatics Voltage Source				
44	Faraday's Law of Induction Experiment (EX-5541A)	unit	1	173,675.00	173,675.00
	The complete solution for examining the principles of magnetic flux and conservation of energy.				
	What's Included				
	1xInduction Wand (EM-8099)				
	1xLarge Rod Base (ME-8735)				
	2x45 cm Stainless Steel Rod (ME-8736)				
	1xMulti-Clamp (ME-9507)				
	1xVoltage Sensor (unshrouded) (UI-5100)				
	1xPASPORT 2-Axis Magnetic Field Sensor (PS-2162)				
	1xPASPORT Rotary Motion Sensor (PS-2120A)				
	1xVariable Gap Magnet (EM-8618)				
45	Inverted Fluorescence Microscope with camera	unit	1	931,784.00	931,784.00
	• LWD Plan Fluarex 10x and plan phase fluarex 20x/40x objectives				
	• 4-position filter block				
	• Mechanical stage				
	• Includes a USB camera (30 frames per second) and specialized microscopy software for PC, Mac, and Linux				
	• Life Science applications				
	• Observation of tissue cultures, living cells				
	• Brightfield, phase contrast, and fluorescence				
	• Long working distance IOS plan achromatic objectives				
	• Revolving quintuple nosepiece				
	• 5 W LED transmitted illumination				
	• 100 W mercury vapor lamp for fluorescence				
	• with Plan LWD 60x/0.75 IOS Fluarex objective, corrected for 1.2mm. Working distance 1.7mm				
46	Kirchhoff's Rules Experiment (EX-5538)	unit	1	60,663.00	60,663.00
	The complete solution for examining AC and DC circuits to validate Kirchhoff's Laws.				
	WHAT'S INCLUDED				
	1x Resistor Capacitor Inductor Network				
	3x Voltage Sensor (unshrouded)				



	2x Current Probe				
	8x Banana Plug Cord Sets, 30 cm Length				
47	Micropipette single- channel adjustable volumes (Autoclavable) + Desktop or table top autoclave ster	lot	1	130,000.00	130,000.00
	6.1. Micropipette single- channel adjustable volumes (autoclavable)				
	1. 1 pc (0.1- 2.5 uL)				
	2. 1 pc (0.5 – 10 ul)				
	3. 1 pc (2- 20 ul)				
	4. 1 pc (10- 100 ul)				
	5. 1 pc (20- 200 ul)				
	6. 1 pc (100- 1000 ul)				
	6.2. Desktop or table top autoclave sterilizer- PhP 50,000.00				
	Specifications:				
	Power supply: AC 220V/50Hz				
	24 L stainless steel				
	Time setting: 1--99 Minutes				
	Temperature setting: Rt +5~126°C				
	Working pressure: Along with temperature change				
	Descriptions:				
	easy operation, safe and reliable				
	The sealing ring is made of silicon rubber.				
	Two safety valves, self-adjustment function. It is well sealed and effectively prevents steam leakage.				
	Over temperature & over pressure auto-protection.				
	Power switch, user can control the operation easily.				
	Immersion type electric heating pipe, thermal efficiency is high, stainless steel material tube.				
	Steam-water inner circulation system: No steam discharge and the environment for sterilizing will be clean and dry.				
	Double groove pressure gauge, could clearly indicate, convenient observation, reliable performance.				
	When at lower water level, or at the end of heat preservation time, have buzzer alarm, timing control type will automatically stop heating .				
48	Millikan Oil Drop Apparatus and Accessories	lot	1	648,895.00	648,895.00
	1. 1 SET AP-8210A				
	Specifications:				
	[1] Clear droplet observation				
	[2] Low droplet drift, essential for success with Millikan's classic experiment				
	[3] Thermistor Connectors: Attach an ohmmeter to monitor chamber temperature. A thermistor is embedded in the bottom plate of the chamber.				
	[4] 3 Chamber Level Positions: Ionization ON, Ionization OFF, and Spray (allowing air to be displaced when oil droplets are inserted).				
	[5] Droplet Viewing Chamber: Unique design minimizes droplet drift due to heat from droplet illumination and outside air currents.				
	[6] Viewing Scope: 30X, bright-field, erectimage microscope with focusing ring.				
	[7] Reticle Focus: Separate reticle focus and precision etching provide sharp, easy-to-view grid				



	lines with 0.5 mm major and 0.1 mm minor divisions.				
	[8] Plate Voltage Connectors: Connect a power supply to charge the plates inside the chamber.				
	[9] Plate Charging Switch: Allows the operator to charge the plates to either polarity or ground the plates. The switch box is separate to minimize vibration				
	[10] Bright LED Lamp: Combined with a convex lens and heat reflecting mirror, the droplet illumination system delivers maximum light and minimal heat to the droplet area.				
	[11] Lamp Adjustment Screws: Position the lamp to be focused precisely on the area where the droplets are viewed.				
	[12] Bubble Level: Bull's-eye level makes sure apparatus is level.				
	[13] Rod Stand Mounts and Screws: Designed to mount on PASCO's Large Rod Stand. Allows the apparatus to be reduced to eye level.				
	[14] Thermistor Resistance Table: A convenient table provided for quick conversion of resistance values to Celsius.				
	[15] Focusing Wire: When placed in the chamber, the focusing wire allows the lamp to be aligned so the light illuminates the center of the chamber, and allows the eyepiece to be focused on the center of the chamber.				
	[16] Minimum Electric Field Distortion: A 0.5 mm diameter droplet entry hole in the top capacitor plate has a negligible effect on the electric field.				
	[17] Ionization Source: The Thorium-232 alpha source can be activated by the switch on the side of the chamber. The source allows the charge on the oil droplets to be changed.				
	[18] Droplet Hole Cover: Prevents additional droplets from entering the chamber once the experiment has started.				
	[19] Polished Surfaces: Polished surfaces on the plate spacer minimize absorption of light (and heat) through the chamber walls.				
	[20] Electrical Connection: Electrical connection to the top plate.				
	[21] Easy Cleaning: The condenser system easily disassembles for cleaning and inspection.				
	[22] Maximum Plate Voltage: 500 VDC				
	[23] Light Source: Cool LED				
	[24] Reticle Line Separation: 0.5 mm major divisions; 0.1 mm minor divisions				
	[25] Plate Spacing: 7.62 mm				
	[26] Plate Diameter: 60 mm				
	2. SE-9786A Basic Digital Multimeter				
	3. SF-9585A High Voltage Power				
	4. SE-9750				
	Banana Plug Cord-Red (5 Pack)				
	5. SE-9751				
	Banana Plug Cord-Black (5 Pack)				
49	Oscilloscope and Function Generator	lot	1	200,000.00	200,000.00
	2 units of Oscilloscope				
	· Bandwidth: 70MHz or higher				



	· Sampling Rate (Max.): at least 1GSa/s				
	· Channels: at least 2				
	· Memory Depth (Max.): 2Mpts				
	· Trigger Types: at least Edge, Pulse				
	· I/O: at least USB Device, LAN,				
	· Probe (Std): at least 2 pcs passive probe				
	· Display: at least 5 inch TFT LCD				
	2 units of Function Generator				
	· At least Sine, Square, Triangular waveforms				
	· At least 0.1 Hz resolution of Sine, Square, and Triangular waveforms				
	· At least 20 MSa/s sampling rate				
	· USB device interface for remote control and waveform editing				
	· Maximum Frequency Range Sinewave: 25 Mhz or higher				
	· Minimum Frequency Range Sinewave: at least 0.1Hz				
50	Temperature Controller	set	1	320,000.00	320,000.00
	Specifications				
	Temperature Control System for Recording Chamber (heat only); one channel DC 12V /2.5 A, two thermometers.				
	Including:				
	One H-OBJ Microscope Object Mantle Heater. Connects directly to HOT-1. For connection to npi temperature controllers the adapter cable OBJ-DIN is required				
	One H-OBJ-DIN DIN cable for H-OBJ, HCS or HEATINGPAD for connecting to npi controller (TC4-CABLE)				
51	Two channel programmable syringe pump + High vacuum pump, bell jar, and vacuum pump kit accessories	lot	1	250,000.00	250,000.00
	Two channel programmable syringe pump- PhP 100,000.00-delete				
	Descriptions:				
	Holds 2 Syringes up to 60 mL each, can be different sizes				
	Both syringes operate in sync. Independent syringe operation, including "Push-Pull", available with the Dual Pump System.				
	Infusion rates from 1.436 µL/hr (1 mL syringe) to 7515 mL/hr (60 mL syringe)				
	Easy-to-use keypad interface				
	One-click program upload from "Pumping Program Generator" spreadsheet				
	Space Saving Chassis: Foot print size of only 5 3/4" x 8 3/4"				
	Won't take up unnecessary space on your laboratory or production bench				
	High vacuum pump, bell jar, and vacuum pump kit accessories				
	Description:				
	LAV-3/G 3cfm vacuum pump				
	1 EA Acrylic Pump Plate				
	1 EA 6"x11" Glass BellJar				
	5' High Vacuum Tubing				
	2 Hose Clamps				



	1 Quart High Vacuum Pump Oil				
	3 EA Balloons				
	1 EA Petri Dish				
52	UV-Vis Spectrometer with fiber optic cable	unit	1	409,215.00	409,215.00
	Specifications:				
	[1] Spectral scans from 180 to 1050 nm				
	[2] Intuitive, software-based operation				
	[3] Built-in tools for routine analyses				
	[4] One-click light and dark calibrations				
	[5] Clear marking to indicate proper cuvette positioning				
	[6] Dimensions 19.5 x 24.5 x 7.0 cm				
	[7] Light Source:Deuterium (UV) Tungsten (Vis)				
	[8] Detector: 2048 CMOS linear (0.3nm reporting interval)				
	[9] Wavelength Range 180 – 1050 nm				
	[10] Grating:500 lines/mm				
	[11] Signal to noise 2000:1				
	[12] Optical Resolution 1.5 nm				
	[13] Wavelength Accuracy 1.0 nm				
	[14] Photometric Accuracy ±5%				
	[15] Photometric Range (best accuracy) 0.1 –1.0 (reports full range 0.0 to 3.0)				
	[16] Typical scan time (depends on integration) 4 ms – 10 s				
	[17] Connectivity: USB only				
	[18] Power consumption 2.5 A startup 350 mA continuous				
	[19] Power Supply: 100 - 240 VAC to 24VDC @2.5A				
	[20] Warranty 5 year limited on hardware, 1 year on lamps				
	Fiber Optic Cable Specifications:				
	[1] Length: 0.50 m				
	[2] Diameter: 0.200 mm				
	[3] Optically Transparent Range 180 to 2500 nm				
	[4] Structure: Single in single out cable				
	[5] Material: Fluorine doped quartz				
	[6] Coating: Acrylic				
	[7] Outer Sheath: Tefzel®				
	[8] Transmission efficiency: Single core 85% (632.8 nm)				
	[9] Output shape: Round				
	[10] Connector: SMA				
	[11] Bending Radius: 300 mm (short-term) 600 mm (long-term)				
	[12] Operating Temperature: –40°C to +100°C				
	[13] Redirecting Cuvette Mirror: Front surfaced optical mirror				
				TOTAL:	11,596,080.00

DILBERTO O. FERRAREN
BAC Chairman