(TECHNICAL SPECIFICATIONS)

BID NO: PBM 2023-17 DATE:

REQUIRED SPECIFICATIONS	OFFERED SPECIFICATIONS (Please write down detailed offered specifications)	REFERENCES (Include supporting documents) (Attach brochure / technical data/ website, etc.)
LOT 1 – Cold Storage		
1. Damaged/defective equipment due to manufacturing or transportation conditions upon checking during delivery should be replaced by the supplier within 3 months.		
2. Suppliers must submit brochures as reference for specifications.		
1. Ultra Low Freezer (1 unit)		
Specifications:		
Type : Ultra-Low Freezer; Upright		
Capacity: at least 816L		
Temperature Range : -50 °C to -86 °C		
Insulation : Vacuum Insulation Panels (VIP) + Water-Blown Polyurethane Foam (SNAP-compliant)		
Interior : Stainless steel		
Electrical: 208-230 V		
Number of Shelves : 3		
Capacity Shelf : 111 kg		
Rack Capacity : 12		
Certifications/Compliance : cULus, ENERGYSTAR		
Display : Touch-Screen LCD		
Defrost : Manual		

Note to Bidders:

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Dimensions (Exterior) : 37.6 x 39.6 x 78 in. (DxWxH)	
Monitoring Options: Alarm, Recorder	
Amperage : 4/10 A	
Plug Type : NEMA 6-15	
Vial Capacity : 60,000 x 2 mL	
Compressor : V-Drive Compressor	
Refrigerant : R290 (1st stage), R170 + R290 mix (2nd stage)	
With CO2 back up (with refillable tank cylinder)	
With safety lock/safe alarms	
Includes 6 sliding drawer racks and 320 pcs cryoboxes, cryo gloves (2 sets)	
Inclusions:	
AVR; 3KVA UPS	
1 set of filter	
At least 1 year warranty on parts and services	
1 set Dry Ice Maker	
Specifications:	
Benchtop, CO2 Cylinder	
External Dimensions : 390 x 515 x 640 mm (WxDxH)	
Structure and Insulation : Stainless steel inside and outside	
Type of ice : flakes	
Production kg/24h (up to) : 23	
Bin capacity (kg) : 8	
Refrigerant : R134a CFC free	
Compliance : 2014/30/CE, 2014/35/CE and following modifications	
At least 1 year warranty on parts and services	
Note to Bidders: The terms of payment shall be as follows: <i>upon</i> <i>complete delivery of all items/services</i> .	Signature of Representative Name of Representative Position Company Address Telephone/Fax/Email

	AVR, 3KVA UPS	
	Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
2.	- 20 Freezer (2 units)	
	Specifications:	
	Should reach -20°C, between -15°C to -25°C	
	Capacity: at least 659L	
	With CO2 back up (with refillable tank cylinder)	
	Data logs	
	Upright	
	Safety lock/ safe alarms	
	Manual defrost	
	Non frosted	
	Includes 6 sliding drawer racks and 320 pcs cryoboxes	
	Plug Type : NEMA 6-15	
	Certifications/Compliance : CE /cUL	
	Dimensions (Exterior) : 38.9 x 28.0 x 78.5 in. (LxWxH)	
	Display : Microprocessor	
	Refrigerant : R290	
	Shelves : 4	
	Single Solid door style	
	Inclusions: AVR; 3KVA UPS; at least 1 year warranty on parts and services	

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Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
3. Refrigerator (2 units)	
Specifications:	
Digital Monitor Display on the top of the ref	
Temperature range(°C) : 2 - 8°C	
With key lock	
Capacity: 316L-1500L	
Temperature controller: Microprocessor	
Single glass door, with movable wheels	
Inclusions: AVR; 3KVA UPS; at least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
Lot 2 - Centrifuge	
1. Damaged/defective equipment due to manufacturing or transportation conditions upon checking during delivery should be replaced by the supplier within 3 months.	
2. Suppliers must submit brochures as reference for specifications.	
1. Biocontainment Microfuge (1 unit)	
Specifications:	
Platform : Microfuge	
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Capacity : 36 x 1.5mL/2 mL tubes (max)	
Detachable rotor 1.5mL and 2mL microcentrifuge tube with bio- containment lid	
Autoclavable rotor	
Fixed angle aluminum rotor with aerosol-tight lid	
BIOC	
With rpm and x g options	
Max speed : 15,000 rpm; Max g-force: 20627 x g	
Speed control : <u>+</u> 50 rpm of set speed	
Timed Run : To 99 min, 59 sec in one second increments or continuous	
Max Capacity Volume Range : - 48 ml	
Inclusions:	
Compatible 3kVA UPS and AVR functions	
Microcentrifuge tubes with attached flat caps, 1.5 mL, clear, 500 tubes	
At least 1 year warranty on parts and services (PM; Calibration)	
Tool Kit	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
2. Refrigerated Centrifuge (1 unit)	
Specifications:	

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Detachable rotor adaptor of 1.5mL, 2 mL, 5 mL, 15 mL, 50 mL, and 100 mL	

Swing Bucket Rotor : 4,700 rpm; 4255 x g	
Compatible with conical and round tubes	
Fixed-angle Rotor : 18000 rpm; 29756 x g	
Refrigeration : Yes, CFC Free	
Maximum Capacity : 4 x 400 mL	
Run Time : Timed (Up to 9 hrs, 59 mins), Hold, Pulse (short run)	
Drive : Brush-less induction	
Acceleration/Deceleration Profiles : 10/10	
Operating Temperature : +2°C to +40°C	
Set Temperature Range : -20°C to +40°C	
Dimensions, lid closed : 46.0 x 70.7 x 37.0 cm (WxDxH)	
Asynchronous 3-phase direct drive with detachable rotors (1.5 mL, 2 mL, 15 mL, 50 mL, 100 mL, 200 mL)	
Inclusions:	
3KVA UPS and AVR	
Rotor S6096 Microplate rotor	
At least 1 year warranty on parts and services	

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Heat Block with shaker	
Specifications:	
Heat Block Adaptor: 0.2 mL, 1.5 mL block, 2 mL, and 15 mL	
Digital	
Temperature Range : Ambient +5°C to 150°C	
Temperature Accuracy : <u>+</u> 0.2°C	
Timer (temp.) : 99 hour 59 min	
Heating Method : Cartridge Heater	
Capacity : 2 Block	
Material : Heating plate and sample block : Aluminum; Inside : Stainless Steel	
Dimensions : 238 x 230 x 170 mm (WxDxH)	
Wattage : 600W	
Frequency : 50/60 Hz	
Tool Kit	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
3. Minifuge/Quickspin (6 units)	
Specifications:	
Speed : 7200 rpm	

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RCF : 2350 g	
NGF . 2350 g	
Dimension : 150 mm x 100 mm	
Detachable rotors for 0.2 mL tube, 1.5 mL tube, and 2 mL tube	
Eight position microtube rotor	
Inclusion:	
4 x 8 (0.2 mL) PCR tube strip rotor	
8 x 1.5/2.0 mL microtube rotor	
At least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
Lot 3 - Biocontainment, Sterilization, and Small Equipment	
1. Damaged/defective equipment due to manufacturing or transportation conditions upon checking during delivery should be replaced by the supplier within 3 months.	
2. Suppliers must submit brochures as reference for specifications.	
1. Biosafety Cabinet Class II Type A2 (2 units)	
Specifications:	
Class II Type A2	
Exhaust air filter and efficiency : ULPA filter with 99.9995% efficiency	
LCD Digital Display	

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Air quality : ISO 14644-1, Class 3, worldwide	
Nominal inflow & down-flow velocity: 0.53m/sec and 0.35m/sec	
UV Sterilization	
Working area : 1.5m - 2.0m x 1.5m - 2.0m	
External Size : 1300 x 750 x 2250 mm	
Foot rest; Foot switch for window height adjustments	
With lock	
With 2 waterproof socket inside	
Certifications/compliance : EN12469; certified by TUV Nord; NSF49-USA	
Inclusions:	
At least 1 year warranty on parts and services	
Mobile floor stand	
UV lamp	
Electrical outlets;waterproof sockets	
3kVA UPS and AVR	
One laboratory stool	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
2. PCR Hood (2 units)	

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Specifications:	
LCD Display	
External Size : 800 x 700 x 1770 mm	
Work Surface Height : 750 mm	
Material : Main body - cold-rolled steel with anti-bacterial powder coating; Work table - 304 stainless steel	
Front and Side Windows : Motorized; 5 mm toughened glass, anti-UV	
Max Opening : 300 mm	
Pre-Filter : Polyester fiber, washable	
HEPA Filter : 99.999% efficiency at 0.3um	
Airflow Velocity : 0.3-0.5m/s, speed adjustable	
UV Lamp: 20Wx2; emission of 253.7 nanometre with UV timer	
Illumination: ≧350lx	
Inclusions:	
3 kVA UPS, AVR	
UV lamp, fluorescent lamp	
Base stand	
Stainless steel shelf with IV bar and universal caster with leveling feet	
2 Waterproof socket	

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One lab stool	
At least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
3. Sonicator (1 unit)	
Specifications:	
Processes 0.2 to 1000 mL	
500 watts	
Programmable from 1 second to 10 hours	
Pulse mode (1 second to 59 seconds)	
Energy display	
Applications include : nanoparticle dispersion, mixing and homogenization	
Includes : generator, converter, ½ in diameter probe, power cable, wrench set	
220/230 V, 20kHz (Ultrasonic Frequency)	
Dimensions : 15 x 18 x 9 in	
Inclusions:	
At least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
4. Vortex Mixer (4 units)	

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Specifications:	
Speed range : variable 1000-3000 rpm (shaking to vortexing)	
Orbit : 3.7 mm	
Control : 3 positions slider - (top) intermittent, (middle) off, (bottom) continuous	
Weight: 3.93 kg	
Dimensions : 171 x 190 x 197 mm (WxDxH) (with mixing head in place)	
SGS-US-C, CE, CB Scheme, RoHS 2, PSE, and WEE compliant	
With horizontal head for 4 x 15 mL, for 2 x 50 mL, for 12 x 1.5/2.0 mL, plate rotor	
Operating Modes : Touch or Continuous	
Inclusions:	
At least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
5. Heat Block (1 unit)	
Specifications:	
HeatBlock Adaptor: 0.2 mL, 1.5 mL block, 2 mL	
Digital	
Certifications/Compliance : CE, cULus, RoHS	
Controller Type : PID	

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Material : Powder-coated steel	
No. of places : 2 blocks	
Relative Humidity : <80%	
Temperature Range : Ambient +5°C to 130°C	
Type : Dry Bath/Block	
Fuse: 250V 5A	
Heat up Time : < 20 mins 30°C to 130°C	
Temperature Accuracy : $\leq \pm 0.5^{\circ}C$	
Temperature Uniformity : $\leq \pm 1^{\circ}C$	
Timer : 0 to 99:59 min or continuous	
Dimension : 12.5 x 7.9 x 3.9 in (LxWxH)	
Voltage : 100/120 V	
Frequency : 50/60 Hz	
Inclusions:	
At least 1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
6. Drying Oven (1 unit)	
Specifications:	

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Temperature Range : 5°C to 250°C	
Temperature Sensor : Fe-Const	
Control System : Programmable Microprocessor	
Temperature Set and Display Sensitivity : 1°C	
Temperature Variation at 150°C : <u>+</u> 2°C	
Temperature Fluctuation : <u>+</u> 1°C	
Programmable Alarm Limits : <u>+</u> 2°C/10°C	
Timer : 1 minute - 99,9 hours + hold position	
Delayed Start Timer : 1 minute - 99,9 hours	
Selectable Recording Frequency on Memory Stick : 1 -999 minutes	
Useful volume : 55 L	
Number of shelves (standard/max) : 2/7	
Internal Material : Stainless Steel	
External Material : Epoxy - Polyester Powder Coated Steel	
Internal Dimension : 410 x 370 x 360 mm (WxDxH)	
External Dimension : 645 x 565 x 710 mm ((WxDxH)	
Power Supply : 230 V, 50/60 Hz	
CE certified	

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Inclusion :	
1 year warranty on parts and services	
Certificate of Conformance, Manual, and Certificate of Calibration upon installation	
7. Autoclave (1 unit)	
Specifications:	
Operating temperature range : Sterilizing (105-135ºC); Heating (45-104ºC); Warming (45-95ºC)	
Maximum operating pressure : 0.263MPa	
Temperature Display : Digital	
Pressure Gauge Display : Analog	
Pressure Gauge Display Range : 0 - 0.4 MPa	
Heat Source : 2.0 kW electric heater	
Safety device : water level sensor, current leakage breaker, lid interlock, overheat prevention, over-pressure prevention, open temperature sensor detection, safety valve	
Time Display : Digital	
Setting Range : Sterilizing/Heating : 0:01-9:59/1-99 hours/1- 999 minutes/0:01-9:59,10-99 hours (selectable); Warming : 1- 99 hours	
Chamber dimensions: 325x733 mm	
Chamber capacity: internal volume of the chamber : 58L	
Chamber Material : SUS304	

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Type : Homogenizer	
For Use With (Application) : DNA/RNA extraction, tissue homogenization, protein purification	
Weight : 24 kg	
Simultaneously homogenize up to 24 x 2 mL or 0.5 mL tubes	
Front-loading tube holder position	
No cool-down required between runs (non-stop processing)	
Disposable tubes to ensure no threat of cross-contamination	
No sample degradation due to quick processing	
Smaller footprint to maximize bench space	
Run Time : 1 to 99 seconds	
Performance Range : 0.8 m/s to 6 m/s in increments of 1.5 m/s	
Number of Cycles : 1 - 9	
CE Compliant	
Inclusions:	
Ceramic beads (6 packs), AVR, 3 kVA UPS	
1 operation manual, 1 clear folder, 1 screw (for attaching the clear folder)	
At least 1 year warranty on parts and services	

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Lot 4 - Liquid Handling System	
1. Damaged/defective equipment due to manufacturing or transportation conditions upon checking during delivery should be replaced by the supplier within 3 months.	
2. Suppliers must submit brochures as reference for specifications.	
1. Pipet Aide (1 unit)	
Specifications:	
Suitable for 0.5 mL to 100 mL pipettes	
Ergonomically shaped handle	
Sensitive valves for precise work with low volume pipettes	
Protected by filter and safety valve	
Autoclavable nosepiece and pipette holder	
Filter : Hydrophobic PTFE 0.2uM	
Pipette Types : Glass or Plastic 0.5-100mL	
Inclusion:	
Charging Stand	
At least 1 year warranty on parts and services	
1 operation manual, Certificate of Conformance, Certificate of Calibration	
2. Micropipettor (4 sets)	
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Specifications:	
Manual pipette	
3 sets of 1uL-10uL, 10uL-100uL, 100uL-1000uL single chan	inel
1 set of 1uL-10uL,10uL- 100uL, 30uL- 300uL 8- channel	
For 1uL-10uLSingle Channel and 8-channel Increments : 0.02µL Color coding : Purple/ Pink	
For 10uL-100uLSingle Channel and 30uL-300uL 8 channel Increments : 0.2µL Color coding : Yellow	
For 100uL-1000uLSingle Channel Increments : 1 μL Color coding : Blue	
Ergonomically shaped handle	
Sensitive valves for precise work with low volume pipettes	
Protected by filter and safety valve	
Autoclavable nosepiece and pipette holder	
Filter : Hydrophobic PTFE 0.2uM	
Compatible with China and US Made tips	
Inclusion:	
4 Pipette Stand	
At least 1 year warranty on parts and services	
Operation manual, Certificate of Conformance, Certificate of Calibration	
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In compliance with Republic Act No. 9184, Section 18, and the 2016 Revised Implementing Rules and Regulations, Section 18, brand names are used because of compatibility with existing platforms or equipment which will maintain performance, functionality and useful life.

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