



Tender Ref. No. CARS/ST/P-354/OTM/2024

Date: 05-05-2024

### Invitation for Tender (National)

Sealed Tenders are hereby invited from reputed Supply, Installation, Testing and Commissioning of Equipment for different laboratory at CARS, University of Dhaka.

1.	Ministry/Division	Ministry of Education		
2.	Agency	University of Dhaka		
3.	Procuring Entity Name	Centre for Advanced Research in Sciences (CARS), University of Dhaka.		
4.	Procuring Entity Code	354		
5.	Procuring Entity District	Dhaka		
6.	Invitation for	Supply, Installation, Testing and Commissioning of Equipment for different laboratory		
7.	Invitation TenderRef No.	CARS/ST/P-354/OTM/2024		
8.	Date :	05-05-2024		
<b>KEY INFORMATION</b>				
9.	Procurement Method	Open Tendering Method		
<b>FUNDING INFORMATION</b>				
10.	Budget and Source of Funds	Revenue Budget (RB)		
11.	Development Partner (if applicable)	N/A		
<b>PARTICULAR INFORMATION</b>				
12.	Project/Programme Code (if applicable)	Not used		
13.	Project/Programme Name (if applicable)	Not Applicable		
14.	Tender Package No.	Single		
15.	Tender Package Name	Supply, Installation, Testing and Commissioning of Equipment for different laboratory		
16.	Tender Publication Date	05-05-2024		
17.	Tender Last Selling Date	<b>27-05-2024 Up to office hours</b>		
18.	Tender Closing Date and Time	<b>Date :</b>		<b>Time:</b>
		<b>28-05-2024</b>		<b>10:30 am</b>
19.	Tender Opening Date and Time	<b>28-05-2024</b>		<b>11:00 am</b>
20.	<b>Name &amp; Address of the Office(s)</b>	<b>Address(s)</b>		
	-Selling Tender Document (Principal)	(i) Centre for Advanced Research in Sciences (CARS), University of Dhaka.		
	-Receiving Tender Document	(i) Centre for Advanced Research in Sciences (CARS), University of Dhaka.		
	-Opening Tender Document	Centre for Advanced Research in Sciences (CARS), University of Dhaka.		
21.	Place/Date/Time of Pre-Tender Meeting	<b>Name/Address</b>	<b>Date:</b>	<b>Time</b>
<b>INFORMATION FOR TENDERER</b>				
22.	<b>Eligibility of Tenderer</b>	(i) Up to date Trade License (ii) Up to date VAT Registration Certificate (iii) Up to date Income Tax Clearance Certificate (iv) Experience Certificate in similar works of comparable value in a single tender in last five years as mentioned in TDS (v) Bank solvency Certificate (vi) Manufacturer Authorization letter for applicable Equipment. <b>(vii) Applicant must be owner of the firm or Representative of the firm will be authorized by the owner of the Firm signature with name and seal of the owner.</b>		



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		viii) Country of origin and made in country will be same. If differ then explain clearly with black and white. (ix) Catalogue of the Equipment. (x) <b>Warranty:</b> One (1) years, Installation and training must be provided by the supplier (free of cost).		
23.	Brief Description of Goods	Supply, Installation, Testing and Commissioning of Equipment for different laboratory		
24.	Brief Description of Related Services	Supply, Installation, Testing and Commissioning of Equipment for different laboratory		
25.	Tender Document Price TK. 4,000.00	The Price of Tender Schedule as mentioned is to be deposited in <b>University of Dhaka, A/C No. 36000392, Janata Bank, T.S.C branch, Dhaka University.</b> Tender schedule and terms and conditions may be collected on submission of the deposit receipt from the above mentioned offices on all working days except on the date fixed for submitting the tender.		
26.	<b>Identification/Name of Goods</b>	<b>Location</b>	<b>Tender Security Amount in Taka</b>	<b>Completion Time</b>
	<b>Equipment</b>	<b>CARS, DU.</b>	<b>Equipment</b> 55,000/-	<b>90 days from the date of issuance a Purchase order (Supply of Goods)</b>
<b>PROCURING ENTITY DETAILS</b>				
27.	Name of Official Inviting Tender	Professor Dr. Ishtiaque M. Syed		
28.	Designation of Official Inviting Tender	Director		
29.	Address of Official Inviting Tender	Centre for Advanced Research in Sciences (CARS), University of Dhaka.		
30.	Contact details of Official Inviting Tender	9661900/Ext. 4616/ 4636		
31.	The procuring entity reserves the right to accept or reject any or all tenders without assigning any reason whatsoever. The procuring authority also reserves the right to omit, increase or decrease the quantities of Equipment from the Tender. The suppliers must abide by the decision of the University authority. Tender form, schedule of requirements of supply, tender notice and terms and conditions etc. will form the integral part of the tender. The suppliers should write the <b>name of the item and the name of the firm on the envelope clearly.</b> Vat, Income Tax and other Taxes, if any, imposed by the Govt. will be deducted from their bills as per Govt. rules.			

SD/-

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Director  
Centre for Advanced Research in Sciences (CARS)  
University of Dhaka

## Section 6. Schedule of Requirements

*This Section provides the List of Goods and Delivery Schedule and List of Related Services and Completion Schedule and must be carefully prepared by a Procuring Entity for each object of procurement.*

Invitation for Tender No :

Date :

Tender Package No :

### A. List of Goods & Related services and Delivery Schedule

Item No.	Description of Item	Unit of Measurement	Quantity	Point of Delivery	Delivery Period Required
1	2	3	4	5	6

### Equipment

Sl. No.	Product Specification	Pack size	Qty.
1	<p><b>Scientific Refrigerator</b> <b>Features :</b> Temperature Range: (2~8) °C * Adjustable Shelves: The shelves are adjustable to any height and satisfy different requirements. * Air Cooling, Auto defrost: Better cabinet temperature uniformity, Auto defrost USB Interface: Data of temperature history can be downloaded via the built-in USB port and optional printer design * High-accuracy Temperature Control: Accurate Temperature, Safe Storage High accurate controller and high sensitivity sensor, keep the temperature within 2~8°C. * Intelligent Alarm: Human Technology, Safe Service. Three alarm types keep storage safe. * Lockable Design: Door With Lock, Safety Control. Door with lock or accommodate a padlock, safeguard the storage. * Condensation Free Design: Door without condensation under ambient temp. 32°C and 80% humidity. Electrical heating glass door,</p>	No's	1

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	<p>condensation free under humidity 75%.</p> <p><b>Technical Data:</b></p> <ul style="list-style-type: none"> <li>* Type: Scientific Refrigerator</li> <li>* Cabinet Type: Upright</li> <li>* Climate Class: N</li> <li>* Cooling Type: Forced air cooling</li> <li>* Defrost Mode: Auto</li> <li>* Refrigerant: CFC-Free</li> <li>* Noise Level (dB): maximum 41</li> <li>* Temperature Range(°C): 2~8</li> <li>* Controller: Microprocessor</li> <li>* Display: LED</li> <li>* Power Supply(V/Hz): 220-240/50</li> <li>* Power(W); 380</li> <li>* Electrical Current(A): 2.4</li> <li>* Capacity(L/Cu. Ft): minimum 410 L</li> <li>* Interior Dimensions(W*D*H) mm: Approximately 530*590*1380</li> <li>* Exterior Dimensions(W*D*H) mm: approximately 665*710*1965</li> </ul> <p>Functions</p> <ul style="list-style-type: none"> <li>* High/Low Temperature</li> <li>* Remote Alarm</li> <li>* Power Failure</li> <li>* Sensor Error</li> <li>* Low Battery</li> <li>* Door Ajar</li> </ul> <p><b>Accessories</b></p> <ul style="list-style-type: none"> <li>* Caster</li> <li>* Foot</li> <li>* Test Hole</li> <li>* Shelves/Inner Doors:6</li> <li>* USB Interface</li> </ul> <p>Certification: CE certificate .</p> <p>Warranty : One year from the date of Installation</p> <p>Sales Support : 04 ( Four ) years free after sales support after the warranty Period</p> <p>Installation &amp; training:</p> <p>Supplier must provide all necessary accessories to run the instrument/device functional at free of cost. The bidder must satisfactorily complete installation &amp; commissioning of the equipment/device at client Lab &amp; ensure training to the scientists/officer at the laboratory site.</p>		
2	<p><b>Incubator</b></p> <ol style="list-style-type: none"> <li>1. The shell is made of high-quality cold-rolled steel plate, and the surface is treated by electrostatic spraying process.</li> <li>2. The working room is made of high-quality mirror-finished stainless steel, and the four corners are in arc transitions. The surface is treated by anti-corrosion process. The spacing of the partitions is adjustable. The quick detachable structure of the bottom heating cover is convenient for cleaning.</li> <li>3. The PID microcomputer intelligent temperature controller has functions such as precise timing of temperature control, over-temperature alarm, precise temperature control, and convenient reading.</li> </ol>	No's	1

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	<p>4. The box door with new structure has good heat insulation effect. There is a double-layer tempered glass observation window with a large viewing angle in the middle, equipped with a lock-type elastic adjustment door lock, and a high-temperature resistant silicone sealing strip to ensure good tightness and prevent heat loss.</p> <p>5. The heating power has two gears, which can meet the needs of users at high and low temperature.</p> <p><b>SPECIFICATIONS:</b> Voltage(V): 220V/50HZ Temperature variation (°C): R+5-80°C Temperature fluctuation (°C): ±0.5°C Temperature resolution (°C): 0.1°C Accuracy of temperature distribution (°C): ±1.0°C power(kw): minimum 0.25 Interior dimensions: (W×D×H) (mm): around 350×350×350 Exterior dimensions (W×D×H) (mm): around 500×550×735 Timing range: 1-9999min</p>		
3	<p><b>Hot air Oven</b> <b>Features:</b> * LCD liquid crystal temperature display, with temperature deviation calibration function. * The unique air duct design ensures the uniformity and stability of the temperature in the working room. * Over temperature alarm and automatic fault detection alarm function. * Independent fan switch, decide whether to open convection according to heating needs. * SUS 304 high quality chamber. * Optional Foot Master casters are available for more convenient movement.</p> <p><b>Technical Parameters:</b> Capacity: minimum 45L Temp. Range: RT+10°C~300°C Temp. Precision: 0.1°C Temp. Uniformity: ≤Max Temp.±2.5% Circulation Mode: Back heating, forced convection Timing Range: 0~9999min/h Shelves NO. (pc): minimum two(2) Display: LCD Power Supply: 220V±10% 50/60Hz or 110V±10% Internal Size(mm): around 370*340*358 External Size(mm): around 596*635*510</p>	No's	1
4	<p><b>Dehumidifier</b> <b>FEATURES:</b> • Dehumidifier Volume minimum 30 Letters. • 0.5W Standby. • Water Full Indicator. • Self-Diagnosis and Healthy Filter. • External Drain Connector. • Real Time Display of Ambient Humidity. • Water Flow Protector and Filter Cleaner Remainder.</p>	No's	1

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	<p><b>Specifications:</b> Power Supply: 220v/50Hz Dehumidifier Volume: minimum 30 Letter Input Power Consumption: around 450W Rated Current (A): around 1.7 Air Flow (M3/Hr): around 170 (CFM) Water Tank Volume: minimum 4.8L</p>		
5	<p><b>pH meter</b> <b>Main Features</b> 1. minimum 5 inch LCD screen with wide 150° viewing angle, beautiful and compact design. 2. Compact bench cradle with rotary electrode holder to save space in laboratory. 3. Small size and portable make it easy to carry and remove in laboratory and outdoors. 4. Extendibility: different electrodes can be installed to test pH, conductivity and dissolved oxygen. 5. Auto recognition of different electrodes after electrode is connected. 6. 3.5 mm jack input for electrodes makes it very easy for electrode connection. 7. Two USB one SD card interfaces for power and data transfer. 8. Can store 300 pieces of data including readings, date and time. 9. Rechargeable and long lasting battery. Auto shut off if there is no operation in ten minutes.</p> <p><b>Technical Parameters:</b> pH Measurement range: (-2.00 ~ 19.99)pH Resolution: 0.1/0.01 pH Accuracy: ±0.02 pH Input current: ≤2×10<sup>-12</sup> A Input impedance: ≥1×10<sup>12</sup> Ω Stability: ±0.01 pH/3h Temp compensation: ±0.01 pH/3h, (0 ~ 100)°C (auto or manual ) mV: Measurement range(mV/ORP/EH): -1999.9mV ~ 0 ~ 1999.9mV Resolution: 1mV Accuracy: ±0.1% FS Range: 0°C ~ 100°C Resolution: 0.1°C Accuracy: 5~ 60°C:±0.4°C, Others: ±0.8°C Calibration: 1, 2, 3 point Data storage: minimum 300 sets Power: DC 5V/1A Communication interfaces: USB Dimensions: around 190*130*10mm Temperature: (5 ~ 35)°C Humidity : ≤85% IP grade: IP54</p>	No's	1
	<p><b>Vortex Machine</b> <b>Features:</b></p>		

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6	<p>Variable speed of 0 to 3,000rpm for gentle shaking to rapid mixing of samples Touch or continuous operation mode Includes a standard top head for mixing a single test tube or other small vessel up to 30mm in diameter Electronic speed control maintains constant speed even during changes in load Steel base with specially designed vacuum suction feet provides stability and dampens vibration Robust aluminum-cast construction</p> <p><b>Specifications:</b> Speed Range: 0-3000 rpm Mixing motion: Orbital Orbital diameter: minimum 4 mm Motor type: Shaded pole motor Run Type: Touch operation / Continuous Permissible ambient temperature: 5 – 40°C Noise Level: 80% RH</p>	No's	1
7	<p><b>Single-channel Precision Pipette</b> * Volume range: 0.5 – 10µl * Accuracy (&lt; ± %):1.50 * Precision (&lt; %):1.50</p>	No's	1
8	<p><b>Single-channel Precision Pipette</b> * Volume range: 10 – 100µl * Accuracy (&lt; ± %):1.00 * Precision (&lt; %):0.40</p>	No's	1
9	<p><b>Single-channel Precision Pipette</b> * Volume range: 100 – 1000µl * Accuracy (&lt; ± %):0.70 * Precision (&lt; %):0.25</p>	No's	1
10	<p><b>Mini Centrifuge Machine 6500RPM</b> <b>Product's Feature:</b> * Mini Centrifuges are ideal for quick spin downs and microfiltration * Each unit has an ON/OFF switch allowing the user to stop the motion of the rotor before opening the centrifuge lid.</p> <p><b>Product's Specifications:</b> * RPM: minimum 6500rpm/2260xg * Capacity: 0.5ml,1.5ml, 2.0ml Centrifuge Tube, 0.2 ml PCR Tube and 0.2ml PCR Tube -8 Strips * Noise: ≤ 50 db * ON/Off Switch * Durable Lid Hinge * Power: 110-240V</p> <p><b>Supplied with:</b> * Rotor-I: 1.5ml/2.0 ml Micro centrifuge Tube * Rotor-II: 8x0.2ml PCR Tube-8 Strips or 32x0.2ml PCR Tube * Adaptor: 8x0.5ml Micro Centrifuge Tube and 8x0.2ml PCR Tube</p>	No's	1
11	<p><b>UV Ozone Cleaner</b> <b>Features:</b> <b>High Intensity UV Lamp</b> Housing a series of high intensity, low pressure synthetic quartz mercury vapour discharge lamps. By utilizing the emission at 185 nm and 254 nm, ozone is generated. The high intensity output gives results quickly and facilitates a large cleaning area.</p>	No's	1

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<p><b>Large Cleaning Area</b> The tray must accommodate wafers up to 153 mm in diameter and 12mm in thickness for a wide array of samples, including:</p> <ul style="list-style-type: none"> <li>➤ Microscope</li> <li>➤ Diced substrates</li> <li>➤ Petri dishes</li> <li>➤ AFM tips</li> </ul> <p><b>Simple to Use Interface</b> The bright LCD display and tactile keypad provide a simple interface. The integrated software continuously monitors the temperature inside the system and gives readings for the tray, UV lamp, and electronics. This makes it easy to make sure that delicate samples do not overheat.</p> <p><b>Designed with Safety in Mind</b> system should adhere to BS EN 61010-1:2010 standards alongside EMC, Low Voltage, and RoHS CE directives. Smart safety features should integrate safety interlock which keeps the lamp off while the tray is open. Plus, a thermal cutoff should be triggered if the temperature detected by any of the internal sensors is too high.</p> <p><b>Technical Specifications:</b> UV Intensity      15 mW·cm<sup>-2</sup> at 185 nm UV Emission      185 nm and 254 nm LED Lamp Lifetime     &gt;2000 hours Cleaning Area     minimum 153 mm diameter Safety Features    Temperature regulation, thermal cutoff, and drawer interlock</p> <p><b>UV Light Specifications</b> <b>Lamp Specifications</b> Lamp Type: Low pressure mercury discharge lamp Lamp Dimensions: ~150 mm x 15 mm (length x diameter) Number of Lamps: 4 Discharge Peaks: 185 nm and 254 nm Lamp Lifetime     T80 lifetime 2000 hours</p> <p><b>Sample Irradiance Specification</b> Sample UV Intensity: 15 mW·cm<sup>-2</sup> at 185 nm Cleaning Area: 153 mm (6 inch) diameter Exposure Time: 1 second to 60 minute; digitally controlled</p> <p><b>Dimensions and Weight</b> Dimensions: ~210 mm x 310 mm x 228 mm (W x D x H) Tray Illumination Area: ~153 mm (6 inch) diameter circle Maximum Sample Height: ~12 mm Weight: ~5.45 kg</p> <p><b>Materials and Finish Case</b> Material: ~1.5 mm mild steel Finish: Textured black powder coating</p> <p><b>Drawer Tray</b> Material 1.5 mm stainless steel Finish #4 brushed finish</p> <p><b>User Interface Display</b> Type: 24 bit colour TFT LCD display Resolution: ~480 x 272 px Size : ~4.3"</p> <p><b>Interface</b> Description Tactile buttons</p>		
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	<p><b>Safety Features</b> <b>Equipment Safety Features</b> Drawer Interlock: Hardware interlock sensor Temperature Regulation: Active lamp cooling - 53 CFM axial fan Thermal Cutoff: Onboard temperature sensors for software cutoff <b>Power Supply Input</b> Voltage Range 110 V - 240 V Fuse 1 A</p>		
12	<p><b>Ceramic Muffle Furnace 1200°C</b> <b>Description:</b> Muffle furnace, with features of heating fast, light weight, large capacity, energy saving and safety, Using ceramic fiber inner chamber, has good insulation effect and high temperature control precision, It is widely used in the pharmaceutical industry, analytical chemistry industry, coal quality analysis, building materials industry, etc. <b>Features:</b> 1. Adopt vacuum forming technology, one-step molding inner chamber, prevent heating devices from polluted by volatile matter; 2. Using high quality wire coil as heater, special anti-corrosion treatment for the wire surface; 3. Upward door open design, the hot air will go upside behind the door when it opening, this can offer better protection for users ; 4. Over temperature alarm; 5. Double layer casing design, make the furnace has better insulation performance and the surface temperature lower. <b>Technical Specifications:</b> <b>Heating mode:</b> three side heating wire <b>Performance</b> Temp. Range: 300°C-1200°C Temp. Resolution: 1°C Temp. Fluctuation: ±1°C Heating up time: maximum 30min <b>Structure</b> Chamber material: Ceramic fiber Heating device: nickel-chromium alloy wire Shell material: spraying cold rolled steel <b>Controller</b> Temp. Control: use microcomputer PID control of heating Program mode: 40 sections programmable control runs(optional) Timer: 0~9999min Sensor: K Safety device: over-temperature alarm <b>Dimensions (W*D*Hmm)</b> Working size: around 200*300*120 Exterior size: around 480*500*490 Working capacity: minimum 7L <b>Power:</b> AC220V <b>Optional device:</b> observation window/vent; chimney; gate turn-off switch</p>	No's	1
13	<p><b>Precision Balance (3 Digit)</b> <b>Technical Specifications:</b> <b>Metrological parameters</b> Maximum capacity [Max]: 750g Minimum load: 20mg Readability [d]: 0.001g Tare range: -750g</p>	No's	2

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	<p>Verification scale interval [e]: 0.01g Repeatability (Max): 0.0015g Repeatability (5% Max): 0.0005g Linearity: <math>\pm 0.003g</math> Stabilization time: 2s Adjustment: internal (automatic) <b>Physical parameters</b> OIML Class: II Levelling system: manual Display: LCD Weighing pan dimensions: around 128x128mm Protection class: IP 43 <b>Electrical parameters</b> Power supply: 100 — 240 V AC 50 / 60 Hz Communication interface: 2xRS232, USB-A, USB-B <b>Environmental conditions</b> Operating temperature: +10 — +40°C <b>Documentation should be included with the system:</b></p> <ul style="list-style-type: none"> <li>➤ IQ &amp; OQ Documents</li> <li>➤ Calibration certificate</li> <li>➤ Calibration Tag</li> </ul>		
14	<p><b>Magnetic Hot plate Stirrer Digital with Sensor and Stand</b> <b>Features:</b></p> <ul style="list-style-type: none"> <li>➤ Max. heating temperature is 380°C</li> <li>➤ High resolution LCD displays actual temperature and speed</li> <li>➤ Brushless DC motor is maintenance free</li> <li>➤ Aluminum cover with ceramic work plate, allows for immediate heat transfer</li> <li>➤ External temperature control is possible with temperature sensor PT1000</li> <li>➤ Digital temperature control with max. temperature at 380°C</li> <li>➤ Digital speed control with max. speed up to 1500rpm</li> <li>➤ Max. stirring quantity of H<sub>2</sub>O at 5L</li> </ul> <p><b>Technical Specifications:</b> Dimension of work plate [W x D]: minimum 140x140mm Work plate material: Aluminum cover with ceramic coating Motor type: Brushless DC motor Motor rating input: ~ 2.4W Motor rating output: ~ 1.8W Power: minimum 510W Heating output: minimum 500W Voltage: 100-120/200-240V 50/60Hz Stirring positions: 1 Max. stirring quantity, [H<sub>2</sub>O]: 5L Max. magnetic bar[length]: 50mm Speed range: 200-1500rpm Speed display: LCD Temperature display: LCD Heating temperature range: Room Temp. 380°C, increment 5°C Control accuracy of work sensor: <math>\pm 20rpm</math> Over temperature protection: 420°C Temperature display accuracy: <math>\pm 1^\circ C</math> External temperature sensor: PT1000 (accuracy <math>\pm 0.5</math>) Protection class: IP21 Dimension [W x D x H]: around 215x360x112mm</p>	No's	2



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Permissible ambient temperature and humidity: 5-40°C, 80%		
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**Warranty:** 12 Months from the date of installation for the all equipment.

**Country of Origin:** USA/UK/EU/Japan/Australia/Canada/Singapore/Equivalent.

## Section 7. Technical Specifications.

The Goods and Related Services shall comply with following Technical Specifications:

Item No	Name of Item or Related Service	Technical Specification and Standards
»	CARS	Supplier

### Equipment

Sl. No.	Product Specification
1	<p><b>Scientific Refrigerator</b> <b>Features :</b></p> <ul style="list-style-type: none"> <li>Temperature Range: (2~8) °C</li> <li>* Adjustable Shelves: The shelves are adjustable to any height and satisfy different requirements.</li> <li>* Air Cooling, Auto defrost: Better cabinet temperature uniformity, Auto defrost</li> <li>USB Interface: Data of temperature history can be downloaded via the built-in USB port and optional printer design</li> <li>* High-accuracy Temperature Control: Accurate Temperature, Safe Storage High accurate controller and high sensitivity sensor, keep the temperature within 2~8°C.</li> <li>* Intelligent Alarm: Human Technology, Safe Service. Three alarm types keep storage safe.</li> <li>* Lockable Design: Door With Lock, Safety Control. Door with lock or accommodate a padlock, safeguard the storage.</li> <li>* Condensation Free Design: Door without condensation under ambient temp. 32°C and 80% humidity. Electrical heating glass door, condensation free under humidity 75%.</li> </ul> <p><b>Technical Data:</b></p>

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	<ul style="list-style-type: none"> <li>* Type: Scientific Refrigerator</li> <li>* Cabinet Type: Upright</li> <li>* Climate Class: N</li> <li>* Cooling Type: Forced air cooling</li> <li>* Defrost Mode: Auto</li> <li>* Refrigerant: CFC-Free</li> <li>* Noise Level (dB): maximum 41</li> <li>* Temperature Range(°C): 2~8</li> <li>* Controller: Microprocessor</li> <li>* Display: LED</li> <li>* Power Supply(V/Hz): 220-240/50</li> <li>* Power(W); 380</li> <li>* Electrical Current(A): 2.4</li> <li>* Capacity(L/Cu. Ft): minimum 410 L</li> <li>* Interior Dimensions(W*D*H) mm: Approximately 530*590*1380</li> <li>* Exterior Dimensions(W*D*H) mm: approximately 665*710*1965</li> </ul> <p>Functions</p> <ul style="list-style-type: none"> <li>* High/Low Temperature</li> <li>* Remote Alarm</li> <li>* Power Failure</li> <li>* Sensor Error</li> <li>* Low Battery</li> <li>* Door Ajar</li> </ul> <p><b>Accessories</b></p> <ul style="list-style-type: none"> <li>* Caster</li> <li>* Foot</li> <li>* Test Hole</li> <li>* Shelves/Inner Doors:6</li> <li>* USB Interface</li> </ul> <p>Certification: CE certificate .</p> <p>Warranty : One year from the date of Installation</p> <p>Sales Support : 04 ( Four ) years free after sales support after the warranty Period</p> <p>Installation &amp; training:</p> <p>Supplier must provide all necessary accessories to run the instrument/device functional at free of cost. The bidder must satisfactorily complete installation &amp; commissioning of the equipment/device at client Lab &amp; ensure training to the scientists/officer at the laboratory site.</p>
<p>2</p>	<p><b>Incubator</b></p> <ol style="list-style-type: none"> <li>1. The shell is made of high-quality cold-rolled steel plate, and the surface is treated by electrostatic spraying process.</li> <li>2. The working room is made of high-quality mirror-finished stainless steel, and the four corners are in arc transitions. The surface is treated by anti-corrosion process. The spacing of the partitions is adjustable. The quick detachable structure of the bottom heating cover is convenient for cleaning.</li> <li>3. The PID microcomputer intelligent temperature controller has functions such as precise timing of temperature control, over-temperature alarm, precise temperature control, and convenient reading.</li> <li>4. The box door with new structure has good heat insulation effect. There is a double-layer tempered glass observation window with a large viewing angle in the middle, equipped with a lock-type elastic adjustment door lock, and a high-temperature resistant silicone sealing strip to ensure good tightness and prevent heat loss.</li> <li>5. The heating power has two gears, which can meet the needs of users at high and low temperature.</li> </ol> <p><b>SPECIFICATIONS:</b></p> <p>Voltage(V): 220V/50HZ</p> <p>Temperature variation (°C): R+5-80°C</p>

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	<p>Temperature fluctuation (°C): <math>\pm 0.5^{\circ}\text{C}</math>  Temperature resolution (°C): <math>0.1^{\circ}\text{C}</math>  Accuracy of temperature distribution (°C): <math>\pm 1.0^{\circ}\text{C}</math>  power(kw): minimum 0.25  Interior dimensions: (W×D×H) (mm): around 350×350×350  Exterior dimensions (W×D×H) (mm): around 500×550×735  Timing range: 1-9999min</p>
3	<p><b>Hot air Oven</b>  <b>Features:</b>  * LCD liquid crystal temperature display, with temperature deviation calibration function.  * The unique air duct design ensures the uniformity and stability of the temperature in the working room.  * Over temperature alarm and automatic fault detection alarm function.  * Independent fan switch, decide whether to open convection according to heating needs.  * SUS 304 high quality chamber.  * Optional Foot Master casters are available for more convenient movement.  <b>Technical Parameters:</b>  Capacity: minimum 45L  Temp. Range: <math>\text{RT}+10^{\circ}\text{C}\sim 300^{\circ}\text{C}</math>  Temp. Precision: <math>0.1^{\circ}\text{C}</math>  Temp. Uniformity: <math>\leq \text{Max Temp.} \pm 2.5\%</math>  Circulation Mode: Back heating, forced convection  Timing Range: <math>0\sim 9999\text{min/h}</math>  Shelves NO. (pc): minimum two(2)  Display: LCD  Power Supply: <math>220\text{V} \pm 10\%</math> 50/60Hz or <math>110\text{V} \pm 10\%</math>  Internal Size(mm): around 370*340*358  External Size(mm): around 596*635*510</p>
4	<p><b>Dehumidifier</b>  <b>FEATURES:</b>  • Dehumidifier Volume minimum 30 Letters.  • 0.5W Standby.  • Water Full Indicator.  • Self-Diagnosis and Healthy Filter.  • External Drain Connector.  • Real Time Display of Ambient Humidity.  • Water Flow Protector and Filter Cleaner Remainder.  <b>Specifications:</b>  Power Supply: 220v/50Hz  Dehumidifier Volume: minimum 30 Letter  Input Power Consumption: around 450W  Rated Current (A): around 1.7  Air Flow (M3/Hr): around 170 (CFM)  Water Tank Volume: minimum 4.8L</p>
5	<p><b>pH meter</b>  <b>Main Features</b></p>

Office of the Director

	<ol style="list-style-type: none"><li>1. minimum 5 inch LCD screen with wide 150° viewing angle, beautiful and compact design.</li><li>2. Compact bench cradle with rotary electrode holder to save space in laboratory.</li><li>3. Small size and portable make it easy to carry and remove in laboratory and outdoors.</li><li>4. Extendibility: different electrodes can be installed to test pH, conductivity and dissolved oxygen.</li><li>5. Auto recognition of different electrodes after electrode is connected.</li><li>6. 3.5 mm jack input for electrodes makes it very easy for electrode connection.</li><li>7. Two USB one SD card interfaces for power and data transfer.</li><li>8. Can store 300 pieces of data including readings, date and time.</li><li>9. Rechargeable and long lasting battery. Auto shut off if there is no operation in ten minutes.</li></ol> <p><b>Technical Parameters:</b> pH Measurement range: (-2.00 ~ 19.99)pH Resolution: 0.1/0.01 pH Accuracy: ±0.02 pH Input current: ≤2×10<sup>-12</sup> A Input impedance: ≥1×10<sup>12</sup> Ω Stability: ±0.01 pH/3h Temp compensation: ±0.01 pH/3h, (0 ~ 100)°C (auto or manual ) mV: Measurement range(mV/ORP/EH): -1999.9mV ~ 0 ~ 1999.9mV Resolution: 1mV Accuracy: ±0.1% FS Range: 0°C ~ 100°C Resolution: 0.1°C Accuracy: 5~ 60°C:±0.4°C, Others: ±0.8°C Calibration: 1, 2, 3 point Data storage: minimum 300 sets Power: DC 5V/1A Communication interfaces: USB Dimensions: around 190*130*10mm Temperature: (5 ~ 35)°C Humidity : ≤85% IP grade: IP54</p>
6	<p><b>Vortex Machine</b></p> <p><b>Features:</b> Variable speed of 0 to 3,000rpm for gentle shaking to rapid mixing of samples Touch or continuous operation mode Includes a standard top head for mixing a single test tube or other small vessel up to 30mm in diameter Electronic speed control maintains constant speed even during changes in load Steel base with specially designed vacuum suction feet provides stability and dampens vibration Robust aluminum-cast construction</p> <p><b>Specifications:</b> Speed Range: 0-3000 rpm</p>

Office of the Director

	<p>Mixing motion: Orbital Orbital diameter: minimum 4 mm Motor type: Shaded pole motor Run Type: Touch operation / Continuous Permissible ambient temperature: 5 – 40°C Noise Level: 80% RH</p>
7	<p><b>Single-channel Precision Pipette</b> * Volume range: 0.5 – 10µl * Accuracy (&lt; ± %):1.50 * Precision (&lt; %):1.50</p>
8	<p><b>Single-channel Precision Pipette</b> * Volume range: 10 – 100µl * Accuracy (&lt; ± %):1.00 * Precision (&lt; %):0.40</p>
9	<p><b>Single-channel Precision Pipette</b> * Volume range: 100 – 1000µl * Accuracy (&lt; ± %):0.70 * Precision (&lt; %):0.25</p>
10	<p><b>Mini Centrifuge Machine 6500RPM</b> <b>Product's Feature:</b> * Mini Centrifuges are ideal for quick spin downs and microfiltration * Each unit has an ON/OFF switch allowing the user to stop the motion of the rotor before opening the centrifuge lid. <b>Product's Specifications:</b> * RPM: minimum 6500rpm/2260xg * Capacity: 0.5ml,1.5ml, 2.0ml Centrifuge Tube, 0.2 ml PCR Tube and 0.2ml PCR Tube -8 Strips * Noise: ≤ 50 db * ON/Off Switch * Durable Lid Hinge * Power: 110-240V <b>Supplied with:</b> * Rotor-I: 1.5ml/2.0 ml Micro centrifuge Tube * Rotor-II: 8x0.2ml PCR Tube-8 Strips or 32x0.2ml PCR Tube * Adaptor: 8x0.5ml Micro Centrifuge Tube and 8x0.2ml PCR Tube</p>
11	<p><b>UV Ozone Cleaner</b> <b>Features:</b> <b>High Intensity UV Lamp</b> Housing a series of high intensity, low pressure synthetic quartz mercury vapour discharge lamps. By utilizing the emission at 185 nm and 254 nm, ozone is generated. The high intensity output gives results quickly and facilitates a large cleaning area. <b>Large Cleaning Area</b> The tray must accommodate wafers up to 153 mm in diameter and 12mm in thickness for a wide array of samples, including: ➤ Microscope ➤ Diced substrates ➤ Petri dishes ➤ AFM tips <b>Simple to Use Interface</b> The bright LCD display and tactile keypad provide a simple interface. The integrated software continuously monitors the temperature inside the system and gives readings for the tray, UV lamp,</p>

Office of the Director

	<p>and electronics. This makes it easy to make sure that delicate samples do not overheat.</p> <p><b>Designed with Safety in Mind</b> system should adheres to BS EN 61010-1:2010 standards alongside EMC, Low Voltage, and RoHS CE directives. Smart safety features should integrate safety interlock which keeps the lamp off while the tray is open. Plus, a thermal cutoff should triggered if the temperature detected by any of the internal sensors is too high.</p> <p><b>Technical Specifications:</b>          UV Intensity      15 mW·cm<sup>-2</sup> at 185 nm          UV Emission      185 nm and 254 nm LED          Lamp Lifetime     &gt;2000 hours          Cleaning Area     minimum 153 mm diameter          Safety Features    Temperature regulation, thermal cutoff, and drawer interlock</p> <p><b>UV Light Specifications</b>  <b>Lamp Specifications</b>          Lamp Type: Low pressure mercury discharge lamp          Lamp Dimensions: ~150 mm x 15 mm (length x diameter)          Number of Lamps: 4          Discharge Peaks: 185 nm and 254 nm          Lamp Lifetime     T80 lifetime 2000 hours</p> <p><b>Sample Irradiance Specification</b>          Sample UV Intensity: 15 mW·cm<sup>-2</sup> at 185 nm          Cleaning Area: 153 mm (6 inch) diameter          Exposure Time: 1 second to 60 minute; digitally controlled</p> <p><b>Dimensions and Weight</b>          Dimensions: ~210 mm x 310 mm x 228 mm (W x D x H)          Tray Illumination Area: ~153 mm (6 inch) diameter circle          Maximum Sample Height:~12 mm          Weight: ~5.45 kg</p> <p><b>Materials and Finish Case</b>          Material:~1.5 mm mild steel          Finish: Textured black powder coating</p> <p><b>Drawer Tray</b>          Material 1.5 mm stainless steel          Finish #4 brushed finish</p> <p><b>User Interface Display</b>          Type: 24 bit colour TFT LCD display          Resolution:~480 x 272 px          Size : ~4.3"</p> <p><b>Interface</b>          Description      Tactile buttons</p> <p><b>Safety Features</b>  <b>Equipment Safety Features</b>          Drawer Interlock: Hardware interlock sensor          Temperature Regulation: Active lamp cooling - 53 CFM axial fan          Thermal Cutoff: Onboard temperature sensors for software cutoff</p> <p><b>Power Supply Input</b>          Voltage Range    110 V - 240 V          Fuse                1 A</p>
12	<p><b>Ceramic Muffle Furnace 1200°C</b>  <b>Description:</b>          Muffle furnace, with features of heating fast, light weight, large capacity, energy saving and safety, Using ceramic fiber inner chamber, has good insulation effect and high temperature control precision, It is widely used in the pharmaceutical industry, analytical chemistry industry, coal quality analysis, building materials industry, etc.</p>



**Office of the Director**

	<p><b>Features:</b></p> <ol style="list-style-type: none"> <li>1. Adopt vacuum forming technology, one-step molding inner chamber, prevent heating devices from polluted by volatile matter;</li> <li>2. Using high quality wire coil as heater, special anti-corrosion treatment for the wire surface;</li> <li>3. Upward door open design, the hot air will go upside behind the door when it opening, this can offer better protection for users ;</li> <li>4. Over temperature alarm;</li> <li>5. Double layer casing design, make the furnace has better insulation performance and the surface temperature lower.</li> </ol> <p><b>Technical Specifications:</b></p> <p><b>Heating mode:</b> three side heating wire</p> <p><b>Performance</b></p> <p>Temp. Range: 300°C-1200°C Temp. Resolution: 1°C Temp. Fluctuation: ±1°C Heating up time: maximum 30min</p> <p><b>Structure</b></p> <p>Chamber material: Ceramic fiber Heating device: nickel-chromium alloy wire Shell material: spraying cold rolled steel</p> <p><b>Controller</b></p> <p>Temp. Control: use microcomputer PID control of heating Program mode: 40 sections programmable control runs(optional) Timer: 0~9999min Sensor: K Safety device: over-temperature alarm</p> <p><b>Dimensions (W*D*Hmm)</b></p> <p>Working size: around 200*300*120 Exterior size: around 480*500*490 Working capacity: minimum 7L</p> <p><b>Power:</b> AC220V</p> <p><b>Optional device:</b> observation window/vent; chimney; gate turn-off switch</p>
13	<p><b>Precision Balance (3 Digit)</b></p> <p><b>Technical Specifications:</b></p> <p><b>Metrological parameters</b></p> <p>Maximum capacity [Max]: 750g Minimum load: 20mg Readability [d]: 0.001g Tare range: -750g Verification scale interval [e]: 0.01g Repeatability (Max): 0.0015g Repeatability (5% Max): 0.0005g Linearity: ±0.003g Stabilization time: 2s Adjustment: internal (automatic)</p> <p><b>Physical parameters</b></p> <p>OIML Class: II Levelling system: manual Display: LCD Weighing pan dimensions: around 128×128mm Protection class: IP 43</p> <p><b>Electrical parameters</b></p> <p>Power supply: 100 — 240 V AC 50 / 60 Hz Communication interface: 2×RS232, USB-A, USB-B</p> <p><b>Environmental conditions</b></p>

Office of the Director

	<p>Operating temperature: +10 — +40°C <b>Documentation should be included with the system:</b></p> <ul style="list-style-type: none"> <li>➤ IQ &amp; OQ Documents</li> <li>➤ Calibration certificate</li> <li>➤ Calibration Tag</li> </ul>
14	<p><b>Magnetic Hot plate Stirrer Digital with Sensor and Stand</b> <b>Features:</b></p> <ul style="list-style-type: none"> <li>➤ Max. heating temperature is 380°C</li> <li>➤ High resolution LCD displays actual temperature and speed</li> <li>➤ Brushless DC motor is maintenance free</li> <li>➤ Aluminum cover with ceramic work plate, allows for immediate heat transfer</li> <li>➤ External temperature control is possible with temperature sensor PT1000</li> <li>➤ Digital temperature control with max. temperature at 380°C</li> <li>➤ Digital speed control with max. speed up to 1500rpm</li> <li>➤ Max. stirring quantity of H2O at 5L</li> </ul> <p><b>Technical Specifications:</b> Dimension of work plate [W x D]: minimum 140x140mm Work plate material: Aluminum cover with ceramic coating Motor type: Brushless DC motor Motor rating input: ~ 2.4W Motor rating output: ~ 1.8W Power: minimum 510W Heating output: minimum 500W Voltage: 100-120/200-240V 50/60Hz Stirring positions: 1 Max. stirring quantity, [H2O]: 5L Max. magnetic bar[length]: 50mm Speed range: 200-1500rpm Speed display: LCD Temperature display: LCD Heating temperature range: Room Temp. 380°C, increment 5°C Control accuracy of work sensor: ±20rpm Over temperature protection: 420°C Temperature display accuracy: ±1°C External temperature sensor: PT1000 (accuracy ±0.5) Protection class: IP21 Dimension [W x D x H]: around 215x360x112mm Permissible ambient temperature and humidity: 5-40°C, 80%</p>

**Warranty:** 12 Months from the date of installation for the all equipment.

**Country of Origin:** USA/UK/EU/Japan/Australia/Canada/Singapore/Equivalent.