

The Maldives National University

Faculty of Health Sciences

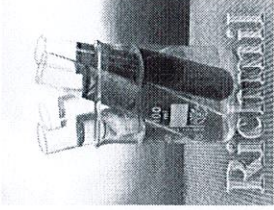
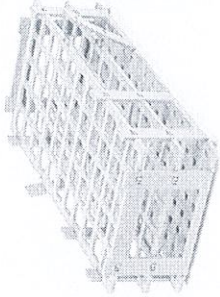
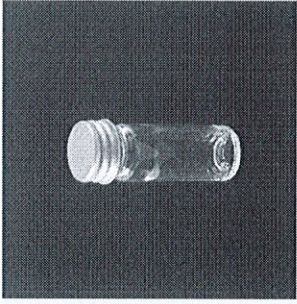
Department of Biomedical Sciences

Medical Lab Ware and equipment required for 2022

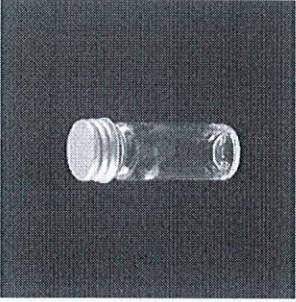
### 1.1 MEDICAL LAB WARE

Item no:	Item	Description	Required quantity	
1	Microscope objectives for Philip Harris Microscopes (x 40, high power) MOTIC 40/ 0.65 NA :160/0.17	To be used with Philip harris microscope	10 no's	
2	Microscope objectives for Philip Harris Microscopes (x 100, oil immersion) PLAN 100/1.25, NA: 160/0.17	To be used with Philip harris microscope	10 no's	



3	<p><b>Test tube (Rimless)</b> 2cm W X 12cm L</p>	<p>Glass test tubes</p>	<p><b>200 Nos</b></p>	
4	<p><b>Test tube racks</b> (4 X 10 Format)</p>	<p>Racks snap together for easy assembly. Sturdy construction, stackable, with alphanumeric positions for clear sample identification. Operating range - 20°C to 90°C. Autoclavable at 121°C Hold max 20mm W test tubes</p>	<p><b>10 Racks</b></p>	
5	<p><b>Universal Bottles, 50ml</b></p>	<p>50 ml, glass with aluminium screw cap and rubber seal. Spare caps available.</p>	<p><b>100 Bottles</b></p>	



6	Universal Bottles, 25ml	25 ml, glass with aluminium screw cap and rubber seal. Spare caps available.	100 Bottles	
7	Multiple inoculator or multipoint inoculator (for inoculation into media)	A multipoint inoculator is designed for inoculating agar plates with a maximum of twenty-four strains of bacteria or yeasts simultaneously.	2 No's	




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## 1.2 MEDICAL LABORATORY EQUIPMENT

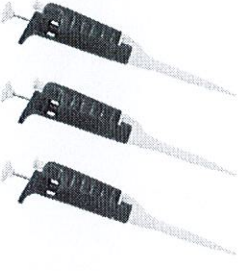
No	Item	Specification	Quantity Required
1	<p><b>Pharmaceutical Refrigerator</b>  <b>Twin Door</b>  <b>(4°C and -20°C)</b>  <b>500 Liters.</b></p>	<p>Application</p> <ul style="list-style-type: none"> <li>• Laboratory refrigerator for storage of PCR lab reagents.</li> <li>• Double-door, freestanding design, with approximate capacity of 1200-1500 Liters</li> <li>• The refrigerator should have the following features: <ul style="list-style-type: none"> <li>• 6-8 adjustable shelves.</li> <li>• Illuminated interior.</li> <li>• Automatic condensate evaporator.</li> <li>• Temperature should be variable between -30° C to +6° C or better</li> </ul> </li> <li>• Integrated temperature monitoring system</li> <li>• The monitor shall display chamber temperature to the tenth degree centigrade.</li> <li>• The refrigerator shall have a seven-day temperature chart recorder.</li> <li>• The laboratory refrigerator shall have a security locking system</li> <li>• The refrigerator should have an adjustable high/low temperature alarm.</li> <li>• The refrigerator should have an audible and visual alarm to alert staff to power loss and temperature deviation</li> <li>• The refrigerator will have a method to manually test alarms.</li> <li>• Audible alarm should not be defeatable, but rather temporarily silenced. A corresponding visual indicator should be ON during temporary alarm silencing period.</li> </ul>	<p style="text-align: center;"><b>1 No's</b></p>



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		<ul style="list-style-type: none"> <li>• The refrigerator shall have provision for contacts to interface with the Building Management System (BMS)</li> <li>• To incorporate four casters, at least two of which should be lockable.</li> <li>• The refrigerator shall have a magnetic door gasket for positive seal.</li> <li>• Refrigeration System.</li> <li>• Hermetically sealed, air-cooled compressor.</li> <li>• Non-CFC refrigerant.</li> <li>• Forced air circulation maintains chamber uniformity of <math>\pm 1^{\circ}\text{C}</math> and provides quick recovery.</li> <li>• Interior fans shut down when door is opened.</li> <li>• Automatic condensate evaporation system</li> </ul> <p>Power Supply</p> <ul style="list-style-type: none"> <li>• Power input to be 220-240VAC, 50Hz fitted 13Amp plug.</li> </ul> <p>Standards, Safety and Training</p> <ul style="list-style-type: none"> <li>• Should be FDA approved /CE marked</li> <li>• Comprehensive training for lab staff and support services till familiarity with the system.</li> <li>• Manufacturer should have ISO certification for quality standards.</li> <li>• The unit and the accessories must be supplied with one year of warranty starting from the date of installation.</li> </ul> <p>Manufacturer standard biomedical technical training must be given to MoH Biomedical Engineers</p> <p>Documentation</p> <ul style="list-style-type: none"> <li>• User/Technical/Maintenance manuals to be supplied in English.</li> <li>• List of important spare parts and accessories with their part numbers</li> </ul>		
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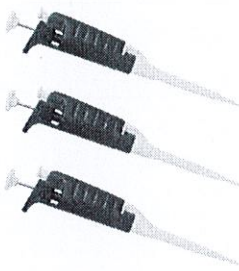

2	Fully automated 5-part differential hematology analyzer	<p><b>Operational and Technical Specification attached in appendix. Please include the spec in the bid announcement.</b></p> <p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered):</li> </ul> <p><b>Standards, Safety</b></p> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul>	1 No's	
3			5 No's	

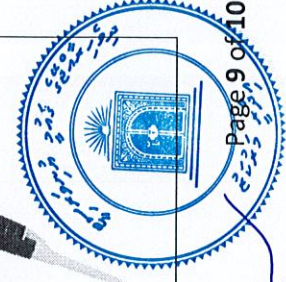


4	<p><b>Micropipette, 0.5 µl - 10 µl</b></p>	<p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered):</li> </ul> <p><b>Standards, Safety</b></p> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul>	<p><b>5 Nos</b></p>	
5	<p><b>Micropipette, 5 µl - 50 µl</b></p>	<p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> </ul>	<p><b>5 Nos</b></p>	

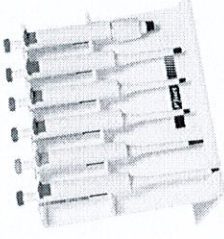

		<ul style="list-style-type: none"> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered): <b>Standards, Safety</b> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul> </li> </ul>		
6	<p><b>Micropipette, 10 µl- 100 µl</b></p>	<p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered): <b>Standards, Safety</b> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul> </li> </ul>	<p><b>5 Nos</b></p>	



7	<p><b>Micropipette, 20 µl - 200 µl</b></p>	<p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered):</li> </ul> <p><b>Standards, Safety</b></p> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul>	<p><b>5 Nos</b></p>	
8	<p><b>Micropipette, 100 µl - 1000 µl</b></p>	<p>All pipettes shall have the following specs:</p> <ul style="list-style-type: none"> <li>• Incorporated ejector mechanism</li> <li>• Smooth running piston</li> <li>• Sterilizable (without the need for recalibration)</li> <li>• Simple calibration procedure (calibration tool to be included)</li> <li>• Each unit shall have its individual calibration (conformity) certificate</li> <li>• Ergonomic hand grip design with finger rest</li> </ul>	<p><b>5 Nos</b></p>	



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		<ul style="list-style-type: none"> <li>• Rotary selector knob with clear volume display window</li> <li>• Clear marking of volume range and color coding</li> <li>• Safety label with plastic cover</li> <li>• Blowout step to prevent capillary action in the tip for micro volumes (0.2 µl - 40 µl)</li> <li>• The offer shall include a set of one single channel micropipettes for each of the volume ranges specified below (manufacturer variations are accepted as long as the whole range is covered): <b>Standards, Safety</b> <ul style="list-style-type: none"> <li>• Should be FDA approved/ CE marked</li> <li>• Calibration certificate must be submitted</li> </ul> </li> </ul>		
9	<b>Pipette Stand</b>	<ul style="list-style-type: none"> <li>• Fully autoclavable, six position stands</li> </ul>	<b>6 stands</b>	
10	<b>Inoculation loops with handle Calibrated loops, with 10µl</b>	<ul style="list-style-type: none"> <li>• 3 Inch long, 25-gauge nichrome wire with a loop at one end and the other end mounted in an 8-inch-long aluminum handle.</li> <li>• Loops are fixed to aluminum handle.</li> </ul>	<b>10 Nos</b>	

Prepared by:

