

### Technical Evaluation Microbiology Department KSK SARF

| Sr.No. | Item   | Specifications   | Chemical House | AMS        | Compaq     | H.A SHAH   | Hospicare   | Mod Scientific | Muslim Medical | Muslim Trading | Pak Glorious | Rays Technology   | Scin Tec   | Shazup Int.   | Western Scientific |
|--------|--|--|----------------|------------|------------|------------|---|----------------|----------------|----------------|--------------|---|------------|---|--------------------|
| 1      | Gel Documentation System                           | Fully automatic<br>Workflow automated execution<br>2 user defined modes<br>Image area: 15x11.2 cm<br>Excitation source: Trans UV B<br>Detector Charged coupled device<br>Image resolution: 1392x1040<br>Upgradeable<br>CCD resolution: 1,360 x 1,024 (H x V)<br>Pixel density: 12-bit (4,096 gray levels)<br>Pixel size: 4.6 x 4.6 µm (H x V)<br>Dynamic range : 3 orders of magnitude | Qualified      | Qualified  | Not Quoted | not quoted | Not Qualified image resolution not according to bid criteria, no software added, no filter positioning,     | Not Quoted     | not quoted     | Not quoted     | Qualified    | Not Qualified, Low resolution camera not according to bid, no CCD resolution mentioned, low image resolution, excitation wavelength 302 only. | not quoted | not quoted  | not quoted         |
| 2      | Electrophoresis Cell & PowerPac Basic Power Supply | Gel size 25x15<br>PowerPac Basic power<br>Power supply with timer control and constant voltage and capability to pause and resume a run.Voltage 10-300 V<br>Current 4-400 mA<br>Power 75W (max.)<br>supply, 100-120/220-240V, includes power cord  |                | not quoted | not quoted | Qualified  | Not quoted  | Not Quoted     | not quoted     | Not quoted     | not quoted   | not quoted  | not quoted | not quoted  | not quoted         |
| 3      | Thermocycler                                       | 96x0.2 ml tube<br>Maximum ramp rate 4°C<br>Average ramp rate 2.5°C<br>Temperature Range: 4-100°C<br>Temperature accuracy: ±0.5°C well to well<br>Gradient accuracy: ±0.5°C<br>Row Uniformity: ±  | Qualified      | Qualified  | not quoted | Qualified  | not qualified, maximum temperature range, average ramp rate, temp accuracy, gradient accuracy not mentioned | Qualified      | not quoted     | Not quoted     | Qualified    | not quoted  | not quoted | Not Qualified, Gradient accuracy, Temperature uniformity are not as per the bid criteria. | not quoted         |

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|--------|--------------------------|--|----------------|------------|------------|------------|------------|----------------|----------------|----------------|--------------|-----------------|---------------------------------|-------------|--------------------|
| 4      | Anaerobic Chamber        | Capacity (Litres) 300<br>Capacity (Petri Dishes) 400 / 600<br>Port/Airlock Capacity 40 plates via airlock<br>Porthole System<br>Manual or Instant Access Ports<br>Gas Supplies ANO2/N2<br>Footswitch Wireless<br>Auto Sleeve Gassing Available<br>Internal Mains Socket Available<br>Spotlight / Inspection Lamp Available<br>Single Sample Entry Available<br>ANO2 Conditions Monitor Available<br>Refrigeration Not applicable<br>Data Logging Available<br>Airlock Cycle Time (seconds) 60<br>Extra Cable Glands Available<br>Microscope Contact us | not quoted     | not quoted | not quoted | not quoted | not quoted | Not Quoted     | not quoted     | Not quoted     | not quoted   | not quoted      | not quoted                      | not quoted  | not quoted         |
| 5      | Adjustable Micropipettes | 100-1000µl<br>0.1-2.0 µl<br>10-100 µl<br>0.5-10 µl<br>Fully autoclavable   | not quoted     | not quoted | not quoted | Qualified  | not quoted | Qualified      | not quoted     | Not quoted     | Qualified    | Qualified       | Not qualified, not autoclavable | not quoted  | not quoted         |
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|---|-------------------|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---|---|
| 6 | Hot Air Oven      | Adaptive Multifunctional Digital PID-microprocessor Controller with High-Definition TFT Color Displays<br>Temperature range 5°C above ambient up to +300°C<br>Single DISPLAY natural convection<br>adjustment of pre-heated fresh air admixture by air flap control in 10% steps for each segment<br>individually self-diagnostics for fault analysis<br>digital timer adjustable from 1 minute to 99 days, 23 hours<br>Multiple Overtemperature Protection with audible and visual alarm                          | not quoted | not quoted | not quoted | qualified  | Not quoted | Not Quoted | not quoted | Qualified  | not quoted | Qualified | not quoted | not quoted  | not quoted  |
| 7 | pH meter          | pH range -2 to 16  | not quoted | not quoted | not quoted | Qualified  | not quoted | Not Quoted | not quoted | Not quoted | not quoted | Qualified | not quoted | Not qualified, pH range not as per the requirement given in the bid | not quoted  |
| 8 | Shaking incubator | Size 56 L Orbital Shaking Incubator refrigerated front opening<br>noiseless with powerful induction motor, microprocessor temperature controlled with digital display, working temperature range: 10°C to 60°C, set accuracy + 0.1 °C<br>shaking speed 20 – 300 rpm, Interior : Stainless Steel shaking orbit 20mm, shaking setting & display digital, shaking timer 99hr and 59 minute, temperature setting & display digital, PID temperature controlled, interior chamber capacity to hold different flasks i.e | not quoted | not quoted | not quoted | not quoted | not quoted | Not Quoted | not quoted | Not quoted | not quoted | Qualified | Qualified  | not quoted  | not Qualified, incomplete specifications, roror speed, temperature range, flask holding capacity not mentioned. |

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|--------|---------------------------------|--|----------------|------------|-------------------------------------|--|------------|----------------|---|----------------|--------------|-----------------|-------------------------------------|--|--|
| 9      | Incubator                       | 56 L , Adaptive multifunctional Digital PID-Microprocessor controller with High-Definition TFT-Color Display<br><br>Temperature range 10°C above ambient up to +80°C<br>Resolution of display for set point values 0.1°C<br>Double doors (interior glass, exterior stainless steel)<br>Adjustment of pre-heated fresh air admixture by air flap control in 10% steps, digital timer adjustable from 1 minute to 99 days, 23 hours<br>adjustable electronic overtemperature monitor and | not quoted     | not quoted | not quoted                          | qualified  | not quoted | Not Quoted     | not quoted  | Qualified      | not quoted   | not quoted      | Not Qualified, Capacity 32 L quoted | not quoted   | Not Qualified, Capacity of Incubator is 170 litre , not according to the bid criteria, temperature range not mentioned |
| 10     | Biological Safety Cabinet       | Class II<br>6 feet wide work area with UV tube<br>99.99% HEPA filtered air<br>8" access opening<br>Clear acrylic side panels for high visibility<br>Formica work surface<br>Mini-helic pressure gauge indicates filter load<br>Portable<br>Durable<br>Pre-filters incoming air   | not quoted     | not quoted | Not qualified, class not mentioned. | not Qualified work area 4 feet instead of 6 feet mentioned in bid criteria | not quoted | Not Quoted     | Not Qualified, Class I instead of class II is quoted. | Not quoted     | Qualified    | Qualified       | Qualified                           | Not Qualified, class of the cabinet is not mentioned   | not Qualified, incomplete specifications, Hepa filter, work surface, not mentioned                                     |
| 11     | Automated ELISA reader with UPS | High speed 8 channel filter based absorbance, 96 well plate end point kinetic, linear scanning   | Qualified      | not quoted | qualified                           | Not qualified, end point kinetic linear scan not mentioned                 | not quoted | Not Quoted     | not quoted  | Not quoted     | not quoted   | Qualified       | not quoted                          | not qualified, no end point linear scanning capability | not quoted   |
| Sr.No. | Item                            | Specifications   | Chemical House | AMS        | Compaq                              | H.A SHAH   | Hospicare  | Mod Scientific | Muslim Medical  | Muslim Trading | Pak Glorious | Rays Technology | Scin Tec                            | Shazup Int.  | Western Scientific   |



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|----|---------------------------|--|------------|------------|--|------------|------------|------------|------------|------------|------------|---|--|------------|------------|
| 12 | Autoclave                 | 95 L capacity<br>Top loading<br>A fully programmable touch screen colour controller<br>Timed/pulsed free steaming<br>Hold warm/delayed start feature<br>Ultra quick swift door mechanism<br>An external pressure gauge<br>Cooling lock<br>Safety valve test and emergency stop button<br>Stainless steel baskets | not quoted | not quoted | not quoted   | not quoted | not quoted | Qualified  | not quoted | Not quoted | not quoted | Qualified   | Not Qualified, not fully programmable, no auto fill mode, no water softner, no Hold warm/delayed start feature | not quoted | not quoted |
| 13 | Water deionizer           | Water Purification System Capacity:5L/Hour , with tank   | not quoted | not quoted | Not qualified, deionizing water capacity is                          | Qualified  | not quoted | Not Quoted | not quoted | Not quoted | not quoted | Not qualified, flow rate 50litre/hour not according to the bid criteria | not quoted   | not quoted | not quoted |
| 14 | Water Distillation system | Cabinet Type all glass borosilicate glass with double coil condenser. Safe, trouble free operation with safety thermostatic cut out to prevent overheating. Level of   | not quoted | not quoted | Not qualified, deionizing water capacity is much more than mentioned | not quoted | not quoted | Not Quoted | not quoted | Not quoted | not quoted | Qualified   | Not Qualified, capacity not mentioned, no tank   | not quoted | not quoted |

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| S# | Item              | Specifications   |  | Qty Req. | Chemical House | H. A Shah & Sons                                     | Shazup Enterprises | Scien Tech | Rays Technologies  | Pakistan Hospital and Industrial  | Abdul Wahab & Sons | AMS Analytical System | Compaq Business Internat   | Global Marketing Services | Hospicare System | KAMST EC International | Lab Service | Latif Brothers | Mod Scientific Traders | Muslim Medical Services | Muslim Trading Agency | Pak Glorious Enterprise |
|----|-------------------|--|--|----------|----------------|--|--------------------|------------|--|---|--------------------|-----------------------|--|---------------------------|------------------|------------------------|-------------|----------------|------------------------|-------------------------|-----------------------|-------------------------|
| 1  | Microplate reader |  |  | 1        | Qualified      | Not Qualified only 3 filter provided instead of six. |                    |            | Not Qualified Filter wheel postionsare not mentioned. Filters are not according to specifications. | Not Qualified Filters are not according to Specifications and required OD was 0-3.5 quoted is 0-3 |                    |                       | Not Qualified Required Filter Wheel capacity= 8 but quoted 5 position filter wheel |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Wavelength   | 400–750                                      |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Photometri   | 0.0–3.5                                      |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Linearity  | ≤1.0% from 0.0–2.0 OD; ≤2.0% from 2.0–3.0 OD |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Accuracy   | ≤1.0% or 0.010 from 0.000–3.000 OD at 490 nm |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Precision  | 1.0% or 0.005 OD from                        |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Resolution   | 0.001  |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Filter wheel capacity  | 8  |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Installed filters  | 415, 450,                                    |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Plate shaking (3 Duration,   | Low, mid, 0–999                              |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Read time  | 6 sec at single                              |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Data output  | Onboard graphical thermal printer            |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Data storage   | Calender /clock                              |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Multilanguage support  | 4 languages, LCD                             |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Dimensions (W x D x H),  | 34.6 x 37.7 x                                |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Weight, kg   | 5.5 (12)                                     |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Intuitive user interface via onboard software with 64 preset or customized end-point and kinetic protocols | Yes  |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Integrated thermal   | Yes  |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |
|    |                   | Built-in shaker with variable  | yes  |          |                |  |                    |            |  |   |                    |                       |  |                           |                  |                        |             |                |                        |                         |                       |                         |

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|----|---------------------------------|---|---|--|-----------|---|--|--|--|--|--|-----------|--|--|--|---|--|--|---|--|
| 5  | Vacuum pump                     | HP: 1/6 Power: 220v AC 50/60 HZ   | 1 |  |           | Qualified   | Qualified  | Qualified  |  |  |  |           |  |  |  |   |  |  |   |  |
| 6  | Air Compresso                   | Moter rotation: 1400 RPM  | 1 |  |           |   |  |  |  |  |  |           |  |  |  |   |  |  |   |  |
| 7  | Top loading Digital Balance     | 0.01g to 600g   | 1 |  |           |   | Qualified  | Not qualified Required 0.01g to 600g quoted 0.05 to 600g   | Qualified                                    |  |  |           |  |  |  |   |  |  |   |  |
| 8  | Magnetic Stirrer with hot plate | Size 7" X 6", Digital display   | 2 |  | Qualified | Qualified   |  | Qualified  | Qualified                                    | Not Qualified we required Digital Display but not mentioned in |  |           |  |  |  |   | Qualified  |  | Qualified   |  |
| 9  | Microplate Washer               | 2 Fluids/ 1 waste, upto 60 programs stored  | 1 |  | Qualified | Qualified   |  |  | Qualified                                    |  |  | Qualified |  |  |  |   |  |  |   |  |
| 10 | Water Bath                      | 14L, Digital display  | 1 |  | Qualified | Qualified   | Qualified  | Qualified  |  |  |  |           |  |  |  |   | Qualified  |  | Qualified   |  |
| 11 | Shaker Water Bath               | Microprocessor controled (digital)<br>Capacity:22L<br>Accessories Included: Clamps to hold 12x100ml   | 1 |  |           |   | Not Qualified required 22L quoted less volume  |  | Qualified                                    |  |  |           |  |  |  |   |  |  |   |  |
| 12 | pH Meter                        | Bench Top   | 2 |  | Qualified | Qualified   | Qualified  | Qualified  |  | Qualified  |  |           |  |  |  |   |  |  |   |  |
| 13 | Micro centrifuge refrigerated   | Capacity: 24x1.5/2 ml tubes<br>Rotor: Aluminum(opt bowl design for quite operation)<br>Speed:15000 Rpm (50 rpm steps)<br>21,130 x g<br>Temprature range:- 0to +40 C<br>FastTemp function: quick pre-cooling of<br>Built-in condensation drain: to eliminate water accumulation in the rotor chamber | 1 |  | Qualified | Not qualified Opti-bowl design for quite operation. Built-in condensation drain. Noise level<48DB(A) are not according to specification | Not qualified Opti-bowl design for quite operation. Built-in condensatio n drain. Noise level<48DB(A) are not according to | Not qualified Opti-bowl design for quite operation. Built-in condensati on drain. Noise level<48DB(A) are not according to | Not Qualified required 15000RPM quoted 13300 |  |  |           |  |  |  | Not qualified Opti-bowl design for quite operation. Noise level<48DB (A) are not according to specficatio n | Not qualified Opti-bowl design for quite operatio n. Built-in condens ation drain. Noise level<48 DB(A) are not accordin |  | Not qualified Opti-bowl design for quite operation. Built-in condensat ion drain. Noise level<48D B(A) are not according to specficati on |  |










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|----|-----------------------------------|--|---|--|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 14 | Water Distillation System         | Cabinet Type all glass borosilicate glass with double coil condenser. Safe, trouble free operation with safety thermostatic cut out to prevent overheating. Level of water in boiler automatically controlable irrespective of variations, in main Pressure. Flow control valve. Fast output, 8 Liters/hr of distilled water with  | 1 |  |           |  | Not qualified Required cabinet type its simple one   | Qualified  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | Bench Top Refrigerated Centrifuge | The instrument must be capable of identifying the rotor type automatically. The rotational speed should be 14000 revolutions per minute or better. The refrigerant used should be CFC-Free with an ozone depletion optional(ODP) of zero. The instrument must have built in condensation drain to eliminate water accumulation & prevent corrosion. Must have “At set rpm” function which enables timer countdown to be started only when selected speed is achieved. Must have wide temperature range of 9°C- + 40°C, which is modifiable during the run operation. The centrifuge should must have dynamic compressor control technology for optimized cooling | 1 |  | Qualified |  | Not Qualified all required ranges for swing rotor Bucket not quoted . Temp range is not according to specification | Not Qualified Following features not mentioned Refrigerant used should be CFC Free refrigeration with ozone depletion of Zero. Bulit-in condensation drain to eliminate water accumulation & prevent corrosion. Dynamic compressor control | Not Qualified Following features not mentioned Refrigerant used should be CFC Free refrigeration with ozone depletion of Zero. Bulit-in condensation drain to eliminate water accumulation & prevent corrosion. Dynamic compressor control technology. |  |  |  |  |  |  |  |  |  |  |  |
| 16 | Water Deionizer                   | Water Purification System Capacity:5L/ Hour , with tank  | 1 |  | Qualified |  |  | Qualified  |  |  |  |  |  |  |  |  |  |  |  |  |










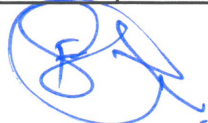
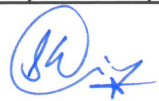


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|----|------------------------------------|--|---|--|-----------|--|--|---|--|--|--|--|--|--|--|-----------|---------------------------------------|-----------|-----------|
|    | Fluorescent Microscope with camera | Microscope stand LED, 6x HD, stand for transmitted light LED illumination, dovetail mount for attachable stage carriers, 24 mm focus lift, adjustable focus stop, integrated 12V DC 50W power unit, stabilized 100...240V AC/50...60Hz/110VA, nosepiece 6x bright/dark field, HD/FL reflected-light illumination, mechanical safety shutter and switchable diffusion disk, integrated luminous-field diaphragm and aperture stop dovetail mount for changeable reflector turrets and reflector slider, mount for filter slider 14x40 mm · LED illuminator for transmitted light.Reflector turret 4x man., changeable, for P&C modules. Interference wide-band filter green. Binocular phototube 30°/23 (100-0/0-100) | 1 |  |           |  | Not Qualified required dark field too quoted item without dark field | Qualified                                   |  |  |  | Not Qualified required dark field too quoted item without dark field |  |  |  | Qualified |                                       |           |           |
| 18 | Binocular Microscope               | with 10x, 25x, 40x, 100x objectives with complete set of lenses  | 1 |  |           | Qualified  | Not Qualified Objective 20/25 is not quoted                          | Not Qualified Objective 20/25 is not quoted |  |  |  | Not Qualified 25/20 X objective not quoted                           |  |  |  | Qualified |                                       |           |           |
| 19 | Biological Safety Cabinet          | Class-II All. 4 feet wide work area with Uv tube, 99.99% HEPA filtered air. 8" access opening. Clear acrylic side panels for high  | 2 |  | Qualified | Not Qualified required 4 feet quoted is less then required | Qualified  | Qualified                                   | Qualified  |  |  | Not qualified requied 4 feet working area                            |  |  |  |           | Not Qualified required 4' quoted 3.7' | Qualified | Qualified |
| 20 | Laminar Flow Cabinet               | Vertical Flow Clean Air, 99.99% HEPA filtered air, 8" access opening, Clear acrylic side panels for high visibility, Formica   | 1 |  |           | Qualified  | Qualified  | Qualified                                   | Not Qualified hepa Filtere is not mentioned      |  |  |  |  |  |  |           | Qualified                             | Qualified |           |
| 21 | Vortex-Genie Mixer                 | Vortex-Genie 220V . Multiple Sample Head Starter Set . Large Sample Head, for beakers and Flask . Replacement pop-off Cup head for vortex . Rubber cover for 3 in  | 3 |  | Qualified |  |  | Qualified                                   | Not Qualified sample head for plate , beaker and |  |  |  |  |  |  |           |                                       |           | Qualified |








|    |                            |  |   |  |   |   |                           |  |                           |  |  |  |  |  |  |  |  |  |  |           |
|----|----------------------------|--|---|--|---|---|---------------------------|--|---------------------------|--|--|--|--|--|--|--|--|--|--|-----------|
| 22 | CO2 Incubator              | Digital microprocessor controlled with dry heat decontamination cycle, that maintains 180C° for 120minutes. Incubator Chamber Capacity: 160 Liters or more. CO2 Range 0-20% CO2 Sensor   | 1 |  | Qualified                                   | Qualified   | Qualified                 | Qualified                              | Qualified                 |  |  |  |  |  |  |  |  |  |  |           |
| 23 | Hot air Oven               | Digital microprocessor controlled. standard version drying oven, natural air convection, chamber capacity: 112 Liters, powder coated sheet housing (grey colour with graphite front panel), stainless steel interior, solid door, temperature range: 5°C above ambient | 1 |  |   | Not Qualified required Temperature range was 5 to 300 quoted ia 10 to 300 | Qualified                 | Qualified                              |                           |  |  |  |  |  |  |  |  |  | Not Qualified Capacity not mention ed. Features Not mention ed |           |
| 24 | Freezer - 20 C             | Freezer -20C with UPS Digital display, microprocessor controlled, Temperature range: -10 to -40C, Insulated inner doors, Castors and door key lock, Heated door frame indication, Integrated memory, Capacity: 600 Liters or above,                                    | 1 |  | Qualified                                   |   |                           | Not Qualified required 600L quoted 482 |                           |  |  |  |  |  |  |  | Qualified  |  | Qualified required -40 to -85 but quoted                       |           |
| 25 | Refrigerator ( frost free) | Refrigerator with UPS Upright double door microprocessor controller with digital display. Approx. 72 hours battery backup for alarms, loggings and temperature display in case of power cut. Prepared for connection of 2  | 3 |  | Not Qualified ( required 1300L quoted 700L) |   | Not                       | Qualified                              | Not                       |  |  |  |  |  |  |  | Not Qualified Required wih UPS provided with out UPS | Not Qualified Required wih UPS provided with out UPS |  |           |
| 26 | Freezer - 80 c             | Ultra Low Temperature Freezer with UPS Digital display, microprocessor controlled, Temperature range: -40 to -85C, Insulated inner doors, Castors and door key lock, Heated door frame,  | 1 |  | Not Qualified ( required 550L quoted 535L)  |   | Qualified but without UPS | Not Qualified required 550L quoted 519 | Qualified but without UPS |  |  |  |  |  |  |  | Qualified but without UPS                            | Qualified with UPS                                   |  | Qualified |
| 27 | Microwave Oven             | Medium Size, 42L   | 2 |  |   |   |                           |  |                           |  |  |  |  |  |  |  |  |  |  |           |





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|----|------------------------------|--|--------|-----------|---|-----------|------------------------------|-----------|------------------------------|---|---|--|--|--|--|--|--|--|--|-----------|
| 28 | Criterion Blotter with power | . Capacity to blot 2 criterion gels, or 4 Mini-PROTEAN 3 or ready gel precast gels.<br>-Closely spaced   | 1      | Qualified |   |           |                              |           |                              |   |   |  |  |  |  |  |  |  |  |           |
| 29 | Short Spin                   | For eppendorf and PCR tubes  | 3      |           |   |           | Qualified                    | Qualified | Qualified                    |   |   |  |  |  |  |  |  |  |  | Qualified |
| 30 | Pipettes                     | Fully Autoclaveable, Ranges 0.1-10ul, 1-10ul, 10-100ul, 100-1000ul, Multichannel   | 4 each |           | Qualified   | Qualified | Not Qualified required Fully | Qualified | Not Qualified required fully |   |   |  |  |  |  |  |  |  |  | Qualified |
| 31 | Ultrasonic Washer            | Ultrasonic cleaner with cover 2.4 L  | 1      |           |   |           |                              | Qualified |                              | Not Qualified Size provided 2 L required 2.4L |   |  |  |  |  |  |  |  |  |           |
| 32 | PCR (Real Time)              | <ul style="list-style-type: none"> <li>• Peltier based Heating and cooling.</li> <li>• The system should be 96 well block and 384 well upon up gradation.</li> <li>• System must perform self test at startaup.</li> <li>• Sample Volume: 1-50uL.</li> <li>• Operating thermal range: 0-100 °C.</li> <li>• Should not require periodic calibration</li> <li>• Thermal accuracy:±0.2 of programmed target at 90°C.</li> <li>• Thermal Uniformity:±0.4 well-to-well within 10 sec of arrival at 90°C.</li> <li>• Optical Excitation Filters: 6 Filtered LEDs.</li> <li>• Optical Detection Filters: 6 filtered photodiodes.</li> <li>• Wavelength Range: 450-730 nm.</li> <li>• The system should be controlled via PC as well as operate stand alone</li> </ul> | 1      | Qualified | Not Qualified required 6 emission filter quoted 4 |           |                              |           |                              |   | Not Qualified not according to Specification RAMP rate and upgradation option for 384 well and wavelength range |  |  |  |  |  |  |  |  |           |










|    |           |  |   |  |   |   |           |   |           |  |  |  |  |  |  |   |                                      |  |   |  |
|----|-----------|--|---|--|---|---|-----------|---|-----------|--|--|--|--|--|--|---|--------------------------------------|--|---|--|
| 33 | Nanodrop  | Monochromatic-based optical system for free selection of wavelengths from 200 nm to 1000 nm<br><ul style="list-style-type: none"> <li>Compatible with 96- and 384-well microplates with and without lids or cuvettes</li> <li>Reads <math>\mu</math>Drop Plate for micro-volume DNA/RNA and protein analysis</li> <li>Performs onboard shaking and incubation for temperature-critical or cell-based assays</li> </ul><br>Light source Xenon flash lamp<br>Wavelength range 200–1000 nm with 1 nm steps<br>Read-out range Up to 2 AU | 1 |  | Qualified   | Not Qualified<br>384 well plate required but not quoted |           | Not Qualified<br>384 well plate required but not quoted                 | Qualified |  |  |  |  |  | Not Qualified<br>96 well, 384 well and Cuvettes quoted only cuvettes | Not Qualified<br>required 96 well, 384 well and Cuvettes quoted only cuvettes |                                      |  |   |  |
| 34 | Incubator | Heating system direct heat type (dry wall)<br>natural convection<br>Inner chamber stainless steel interior<br>Inner door interior glass door<br>Door mounted control panel<br>Standard<br>Temperature range +5°C above ambient to +70°C<br>factory set on +37°C<br>Temperature sensor PT100 class A<br>Temperature setting increments 0.1 °C   | 1 |  | Qualified   |   | Qualified | Not qualified<br>required temp range was 5 to 70 but coated is 10 to 85 | Qualified |  |  |  |  |  |  |   |                                      |  | Not Qualified<br>features not provided . Only temp range according to specification |  |
| 35 | Fume Hood | Superstructure<br>Constructed from 1 /2" (13 mm) Stress Relieved, All Seam Welded<br>Polypropylene • All   | 1 |  | Not Qualified<br>working area is less then quoted |   | Qualified | Qualified   |           |  |  |  |  |  |  |   | Not Qualified<br>required non Ducted |  |   |  |

$N_2$   $\text{Fe}$   $\text{Sh}$   $\text{Si}$



|    |               |   |   |  |           |  |           |           |           |  |  |  |  |  |  |  |  |           |  |  |                                       |
|----|---------------|---|---|--|-----------|--|-----------|-----------|-----------|--|--|--|--|--|--|--|--|-----------|--|--|---------------------------------------|
| 36 | PCR Station   | External Width 32" Depth 24" Internal Width 31" Depth 23" Dimensions Features UVText™ microprocessor controller No installation required - plugs directly into a standard 110V or 220V electrical outlet ISO 5 vertical laminar flow air No ductwork required UV shelf with built-in pipettor holder Seamless plastic design -no joints or gaps in construction Lab event timer | 1 |  |           |  | Qualified |           |           |  |  |  |  |  |  |  |  |           |  |  | Not Qualified required 32' quoted 24' |
| 37 | Heating Block | Dry Bath Temperature range Ambient +5°C to 150°C Temperature display resolution 0.1°C, 4-digit LED Temperature uniformity ±0.2°C at 37°C Temperature accuracy ±0.3°C Block chamber Stainless steel Single block unit Holds 1 standard heating block Dimensions (W x D x H) 20.0 x 29.5 x 8.5 cm (7.9 x 11.6 x 3.3 in) Weight 2.2 kg (4.9 lb) Footprint 20.0 x 29.5              | 1 |  | Qualified |  | Qualified | Qualified | Qualified |  |  |  |  |  |  |  |  | Qualified |  |  | Qualified                             |

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