



Human Genetics


| Item # | Item | BOQs | Quantity | AMS | Chemical House | Compaq business international | GMS | HA SHAH | Hospicare system | Lab service | Latif brothers | Medi Laser | MOD scientific traders | Muslim medical services | Muslim trading agency | Pak gloriouse enterprise | Pakistan hospital | RAYStechnologies | ScienTec | Shazup enterprises | Vantage technologies | Western scientific |
|--|-------------------------------|---|----------|---|--|-------------------------------|------------|---|------------------|-------------|----------------|------------|------------------------|-------------------------|-----------------------|---|-------------------|------------------|------------|---|----------------------|--------------------|
| Human Genetics and Molecular Biology equipment | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Real time PCR | interface • With 6 excitations (450–680 nm) and 6 emissions (500–730 nm) filter sets for multiplexing, must have at least 5 decoupled channels/20 filter combinations with white led or better for maximum dye versatility and flexibility, multiplexing capability of up to 6 targets • Dye compatibility: Fam/Sybr Green, Vic/Joe/Hex/Tet, Aby/Ned/Tamra/Cy3, Jun, Rox/Texas Red, Mustang Purple, Cy5/Liz™, Cy5.5 • Able to support Taqman® probes and the Sybr® green DNA binding dye chemistry in the same run. • Block ramp temperature at least 6.5 °c/sec for 0.2 ml block, temperature uniformity and accuracy of at least 0.4°C and 0.25°C, respectively, sensitive enough to detect differences as small as 1.5-fold in target quantities in singleplex reactions. • The instrument should be able to perform stand & fast thermal cycling on the same module without any hardware modification, must have a heated lid assembly and features to assist with 21 CFR part 11 compliance with no additional charges. • Software: • The instrument should be provided with complimentary software that is both instrument and cloud based and should have basic modules for absolute and relative quantification in gene expression analysis and genotyping analysis module for both Taqman and HRM based genotyping analysis. • It should be able to allow both Taqman® and | 1 | Not-qualified. no compatibility with some dyes, no support for TaqMan & SYBR in the same run, no fast thermocycling option, no cloud based software, no information provided for some BOQ points. | Not-qualified. No 5 decoupled channels with 20filter combinations, no 6 target multiplexing, no compatibility with some dyes, not able to run TaqMan & SYBR in the same run, no cloud based software, no information provided for some BOQ points. | Not quoted | Not quoted | Qualified | 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 | Not quoted |
| 2 | Thermal cycler (conventional) | • 96 well, touch screen with gradient PCR option and a gradient range of 30-100°C and temperature differential range of 1-25°C. • The System capacity should be 1x96 well plate or 96x0.2 ml tubes or 0.2 ml tube strips, Max. block ramp rate 3-4 degrees/sec, Max sample ramp rate:3.35 degree/sec, Each pair of heating/ cooling elements and metal block(s) must be insulated, The instrument must have a safety feature above 50° C, temperature accuracy should be ±0.5°C of the programed target or better (35°C to 99.9°C), temperature uniformity should be ±0.5 °C well-to-well, standard 0.2 ml format sample block, adjustable heated lid with software to view the real time PCR steps. | 4 | Qualified | Not quoted | Not quoted | Qualified | Not Qualified, sample ramp rate not quoted, no information about insulated heating/cooling element. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not Qualified, sample ramp rate not quoted, no information about insulated heating/cooling element. | Not quoted | Not quoted | Not quoted | Not Qualified, sample ramp rate not quoted, no information about insulated heating/cooling element. | Not quoted | Not quoted |


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| 5 | Liquid nitrogen inventory system | 200-400 L capacity , vacuum insulation, vial & straw storage, option with data logger, auto fill, digital temp display, SS transfer hose, standard and mini storage racks, cryo gloves, liq level measuring stick, refill Liq. Nitrogen cylinder, Cryogenic transfer vessels (2lit, 4-5 lit) | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Not-qualified. No 200-400 L capacity, No autofill, no digital temp display, no SS transfer, no cryo gloves, no measuring stick, no refill cylinder, no cryogeneic transfer vessel. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not-qualified. No 200-400 L capacity, No autofill, no digital temp display, no SS transfer, no refill cylinder. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 6 | Freezer -20°C | Stainless steel 34 CU Ft. capacity, digital temp control, CE Certifications, -12 to -25 C temp range, 1400 Liters capacity, Double door, auto defrost, should include casters, integrated controller, should have high & low temp alarms. | 2 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not Qualified, capacity not fullfilled, no information provided for some BOQ points. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | |
| 7 | Analytical balance | Electronic Analytical Balance with digital microprocessor control, automatic internal calibration, with overload protection, easy settings and stable results. Should be provided in following 2 capacities (1 each) 1) Capacity 80 g (sensitivity 0.01 mg) 2) Capacity 220 g (sensitivity 0.1 mg) | 2 | 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 | Qualified (Single bidder) | Not quoted | Not quoted | Not quoted | Not quoted | |
| 8 | Vertical Slab Gel Electrophoresis unit with all accessories | 16 x16 cm gels, platinum electrodes, multi-purpose. Able to accommodate up to 4 gels simultaneously. With central cooling core for smooth electrophoresis. Choice of glass plates, spacers, and sandwich clamps to cast 2 gel lengths, 16 or 20 cm. Should be supplied with appropriate gel caster, glass plates, spacers (1/1.5 mm), coombs, sandwich clamps and alignment cards. | 1 | Not quoted | Qualified | Not quoted | Not quoted | Not qualified, gel size is not accordingly | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified, gel size is not accordingly | Not quoted | Not quoted | Not quoted | Not quoted | |
| 9 | Horizontal gel electrophoresis units with all accessories | UV-transparent gel trays, single mold construction, color coded electrodes to ensure correct positioning, easy to remove with simplifying cleaning, clear plastic construction for easy sample visualization. Should be provided in following 3 sizes (1 each) with all accessories (including gel trays, coombs, gel caster); 1) Agarose gel electrophoresis system with 7x10 cm gel tray, 8 and 15 well coombs, sample throughput 8-30 2) Agarose gel electrophoresis system with 15x15 cm gel tray, 15 and 20 well coombs, sample throughput 1-120 3) Agarose gel electrophoresis system with 25x10 cm gel tray, 26 and 51 well coombs (compatible with multi-channel pipets), sample throughput 24-96 | 3 | Not quoted | Qualified | Not quoted | Not quoted | Not qualified, gel sizes are not accordingly | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified, gel sizes are not accordingly | Not quoted | Not quoted | Not quoted | Not quoted | |

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| 10 | Universal power supply for electrophoresis units | 220/240, universal power supply, Output: 500 V (fully adjustable in 1V steps), 2.5A (fully adjustable in 0.001A steps), 500 W (fully adjustable in 1W steps), 4 pairs of output terminals. Safety features including No-load detection, sudden load change detection, ground leak detection, overload/short circuit protection, overvoltage detection, input line protection, auto power-up after power failure. | 2 | Not quoted | Qualified | Not quoted | Not quoted | Not qualified, 2 pairs of output terminal, safety features not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified, constant voltage, constant current, safety features not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 11 | CO ₂ incubators double, water jacketed | Manufacturing Country: USA and EU Only Capacity 170 liters or better. The temperature range +4° to 50° C. with range of 0.2-20 % CO2 range, temperature stability should be +.1 @ 37° C Six sided direct heating technology, should be No Need of HEPA filter. fan less chamber, infrared based temperature sensors. The instrument chamber should be made from single sheet (seamless chamber) 72 hr data/chart logger for temperature and CO2 level with alarm settings. Should be provided with accessories (CO2 cylinder and CO2 regulator) | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not Qualified, HEPA filter required, Fan is present | Not quoted | Not Qualified, 5 sides only, HEPA filter required, Fan is present, No infrared sensor, No seamless chamber | Not Qualified, HEPA filter required, Fan is present, No infrared sensor, No seamless chamber | Not Qualified, 5 sides only, HEPA filter required, Fan is present, No seamless chamber | Not Qualified, 160 liter capacity, 5 sides only, HEPA filter required, Fan is present, No seamless chamber | Not quoted | Not quoted |
| 12 | Water purification system with Cartridge kit | Type 1 and Type 2 water output, 10 Liters tank, Conductivity μS/cm 0.067-0.1, Resistance MΩ x cm 15 – 10, water output performance: 6L/hr, Feed water supply: tap water. Should produce purified water that is suitable for media preparation, make up water for buffers and media, rinsing of laboratory glass, preparation of reagents and samples, feed water for autoclaves and ultrapure water filtration system. Ready to use with all accessories (including RO/pretreatment cartridge, sterile 0.2μm filter, pressure regulator). Origin: USA, Europe | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Qualified | Not quoted | Not quoted | Not quoted | Not quoted |
| 13 | Ultrapure water purification unit with UV/UF system | Tissue Culture Grade ultrapure water output, complete system for RO and distilled water/ultra low organic, type1 water with spare replaceable cartridges. Equipped with UV and UF system. Feed water supply: pre-treated water 6 Liters or better internal tank with vent filter, Conductivity μS/cm 0.055, Resistance MΩ x cm 18.2, RO flow rate: 3L/hr, Total Organic Carbon: 1 to 5ppb, Endotoxin Concentration: 0.001 EU/mL, Bacterial Content <0.01 CFU/mL, Particles >0.2μM/mL <1, Feed water Pressure 1-6 Bar, Bacterial retention :99%. Typical applications for ultrapure water should include life sciences, cell and tissue cultures, molecular biology and microbiology. Ready to use with all accessories (including Internal storage tank with vent filter, RO/pretreatment cartridge, ultrapure polisher cartridge, sterile 0.2μm filter, pressure regulator, UV lamp and UF filter and wall bracket). Origin: USA, Europe | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not-qualified. Bacterial count not <0.1 CFU/mL, feed-water pressure not 1-6 Bar, no information provided by bacterial retention <99%.. | Not quoted | Not quoted | Not quoted | Not quoted |
| 14 | Water distillation unit complete | 220 V, capacity 8L/h | 1 | 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 | Not quoted | Qualified | Qualified | Not quoted | Not quoted | Not quoted |

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| 15 | Speed Vac | Speed 1400 rpm, integrated diaphragm vacuum pump, capacity should be 300 ml, 70x1.5 ml, 2xMTP/PCR & 6x15/50 ml, 4 heating levels for optimized drying, should have desiccator mode. | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not-qualified. No information provided for speed range, 4 heating levels and dessicator mode. | Not-qualified. Not quoted with falcon tube and PCR plate rotors. No information provided for 4 heating levels and dessicator mode. | Not quoted | Not quoted | Not quoted | Not quoted |
| 16 | Bench top general purpose laboratory centrifuge | Capacity 100mlx4, Max Speed: 100-4400 Rpm, Max RCF: 3000xg, Automatic imbalance detection: Yes, Acceleration time:25sec, Deceleration time:25sec, Soft brake function, low Noise level< 45 Db(A), Key lock to prevent unintentional adjustments, Set Rpm Function: Able to start timer countdown only when selectable speed is achieved by using a “at set rpm” function, Stainless steel rotor chamber. Accessories: Should be supplied with swing bucket rotor with 3 ml, 15 ml & 50 ml tube adaptors and rotary knobs. | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Not quoted | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Not quoted | Not quoted | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Qualified | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Not quoted | Not quoted | Not qualified, Noise level is not less than 45Db, No soft brake function, no information provided for some BOQ points. | Not quoted |
| 17 | Autoclave | Capacity 50 liters, high tech. microprocessor controller fully automated, should have at least 3 sterilization modes for drying and warming of solids, semi-solids and liquids, Safe lock, electronic, designed parameters for temperature and time, provided with visible and audible signals, built in diagnostic functions, low temperature sensor, safety features including over pressure safety valve, over temperature protection system, dry scorch protection system, self-induction pressure interlocking device over current and short circuit protection, stainless steel interior, 220 volts, , CE compatible. | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not-qualified. No electronic safelock, no information provided for high-tech microprocessor controller, visible and audible signals, built-in diagnostic functions, safety features and CE compatibility. | Not quoted | Not quoted | Not quoted | Not-qualified. No information provided for high-tech microprocessor controller, full automation, 3 sterilization modes, electronic safelock, visible and audible signals, built-in diagnostic functions, safety features and CE compatibility. | Not-qualified. No information provided for 3 sterilization modes, electronic safelock, visible and audible signals, built-in diagnostic functions, safety features and CE compatibility. | Not quoted | Not quoted | |
| 18 | Ice Flakes machine | Product type: Ice flakes, Capacity 350 pounds, ice flakes/ 24 hours, 220 Volts, with adjustable legs, steady flow of ice, low energy and water consumption. Bin capacity at least 40 Kg, more user friendly (slanted window for ice flakes collection), Air cooled condenser, water line with a shut off valve, floor drain, the front side serviceable. Made of durable and rust-free rotocast plastic. Origin US/EU. | 1 | 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 | Qualified (Single bidder) | Not quoted | Not quoted | Not quoted | Not quoted | |

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| 19 | Incubation Oven | Capacity Minimum 50 liters or above. Temperature range should be ambient +10°C to 100°C. Stainless steel chamber, Calibrated digital PID controller, Independent overheat thermostat, Inner glass door, Digital timer, Programmable control. ESCO/Binder/Memmert/equalent. | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified, Temperature ranges not fulfilled, no information provided for some BOQ points. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Qualified |
| 20 | Inverted microscope with camera | <ul style="list-style-type: none">• Fluorescence and transmitted light (brightfield & phase contrast) microscope (manual stand)• High quality objectives (at least 5-positions), should include 2x/4x, 20x, 40x and 100x (for IF slides).• High quality CCD camera 1280 x 960 pixels, options of colour/monochrome, at least 1.3 Megapixels, Captured images: 16-bit, publication quality images.• Light source optimal for both transmitted light and fluorescence imaging.• At least 4 fluorescence filter positions (with choice of selecting suitable fluorescence filters according to application requirement from a range of fluorescence filters available)• Mechanical X/Y scanning stage, interchangeable stage should be able to accommodate most vessel types and sizes, including flasks, Petri dishes, multi-well plates, and slides.• Software capable of image analysis, design, counting, multichannel overlay in co-localization fluorescence imaging and more basic applications.• Applications should include routine and demanding fluorescence imaging applications (immunohistochemistry (IHC) and Immunofluorescence (IF) analysis of cells and tissue sections), routine cell and tissue culture, cell confluence determination, cell counting and more.• Should be provided as complete system with all accessories including LCD display. | 1 | Not quoted | Not quoted | Qualified | Qualified | Qualified | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified. No 4 fluorescent filter positions (only DAPI & GFP available), no information provided for camera, lightsource, image analysis software functions including auto cell counting and multi-channel overlay. Old model quoted. | Qualified | Not-qualified. No fluorescent mode, no 5 position objectives, no details provided for captured image quality, light source, interchangeable stage, image analysis software functions including auto cell counting and multi-channel overlay. | Not quoted | Not quoted | Not quoted | | |
| 21 | Orbital shaking bench incubator | Orbital shaking incubator having microprocessor control with Digital Display for Speed, Temperature, and Time. Orbit: 1.9 cm, Speed range: 15 – 500 rpm with 1 rpm increments, Platform size should be at least 32x28 cm or better, Timer 0.01 – 99.9 h with continuous or timed operation modes, Motor type: Solid State, DC Brushless motor and with Multi step programming. Should be Nonvolatile with automatic power failure restart. Drive type: Triple-eccentric counter balance. Certification: should meet UL, CSA and CE standards. Applications should include bacterial or cell cultures. ACCESSORIES: <ul style="list-style-type: none">• Universal platform.• Flask clamps:• 10 ml (qty 10)• 25 ml (qty 5)• 50 ml (qty 5)• 125 ml (qty 2)• 500 ml (qty 2)• 10 ml, 25 ml, 50 ,125 ,250, 500 ml flasks• 1,2 & 3 liter flasks Origin: USA/Europe | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Not-qualified. No temp. control available as it is an open air system, not quoted with required flasks, no information provided about auto power failure start. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Qualified |

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| | pH meter | PH mode -2 to 19.999, 3 point auto calibration, provided with stand (benchtop) PH MV conductivity, TDS salinity, resistivity and temperature measurements, automated temperature compensations, user friendly, digital display, automated buffer recognition, , with plastic coated electrode with stand., Accuracy + 0.002, 220 Volts. | 1 | | | | | | | | | | | | | | | | | | | |
| 22 | | | | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Qualified | Not quoted | Not quoted | Not quoted |
| | Pipette dispenser | Electronic LED Digital Single Channel Pipettor, Capable of pipetting, multi dispensing, series dispensing and mixing. Volume Range: 0.5-10ul and 5-100 ul Dispenser should must have dial based multiple settings like Aspirate & dispenser, save favorite settings, sequential dispensing, automatic dispensing. Number of dispensings:100 or better, with step counter, sleep mode, 3 mode of operations, compatible with general use pipette tips, operating lever tip ejection and residual stroke lock. | 2 | | | | | Not Qualified, Not compatible with general use of pipette tips. | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Qualified | Qualified | Not quoted | Not quoted | Not quoted |
| 23 | | | | Not quoted | Not quoted | Not quoted | Not quoted | | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Qualified | Qualified | Not quoted | Not quoted | Not quoted |
| | Non refrigerated table top microfuge | Capacity: 12x1.5/2 ml tubes Speed : 13400 Rpm (100 Rpm steps),12000xg Rotor : Aluminium (Metal rotor bowl) Acceleration and deceleration time < 13 sec Noise Level <49 Db(A) Timer: 15 s to 30 min Separate short-spin key for quick centrifugation. Operational Ventilation flow: Yes Automatic Lid opening at the end of run. Origin USA/Europe. | 2 | | | | | | Not qualified, Noise level is not less than 49Db, no information provided for some BOQ points. | Not quoted | Not quoted | Not quoted | Not qualified, Noise level is not less than 49Db, Short spin key is not quoted, no information provided for some BOQ points. | Not quoted | Not quoted | Not qualified, Noise level is not less than 49Db, No short spin key, no information provided for some BOQ points. | Not qualified, Noise level is not less than 49Db, No short spin key, no information provided for some BOQ points. | Not qualified, Noise level is not less than 49Db, No short spin key, no information provided for some BOQ points. | Not qualified, Noise level is not less than 49Db, no information provided for some BOQ points. | Not quoted | Not quoted | Not qualified, Noise level is not less than 49Db, no information provided for some BOQ points. |
| 24 | | | | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | points. | Not quoted | Not quoted | points. | Not quoted | Not quoted | points. | points. | points. | points. | Not quoted | Not quoted | points. |
| | Biological Safety Cabinet | Class II BSC, for Biosafety level I-III. Stainless Steel, 4 ft or better cabinet Width, microprocessor controlled display, auto front window, manual adjustable height stand, Factory installed LED and UV Light, 1 set of armrests, equipped with high efficiency HEPA filter or better (ALPA filter), 99.995% MPPS, should have service fixtures (including electrical and water). | 1 | | | | | | | | | | Not-qualified. no information provided for cabinet width, microprocessor control display, auto front window, adjustable height stand, factory installed LED & UV and service fixtures. | Not-qualified. Cabinet width not 4 ft, no information provided for stainless steel working area and service fixtures. | | | | | | | | |
| 25 | | | | Not quoted | Not quoted | Qualified | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not-qualified. Cabinet width not 4 ft, no information provided for service fixtures. | Not-qualified. adjustable height stand, factory installed LED & UV and service fixtures. | Not quoted | Not quoted | Qualified | Qualified | Qualified | Not-qualified. Cabinet width not 4 ft, no information provided for stainless steel working area and service fixtures. | Not quoted | Qualified |
| 26 | X-ray film viewing machine | | 1 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 27 | Glassware washer | Adjustable temp, min water consumption,220 v, dryer enabled | 1 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 28 | Vacuum pump | oil free & double stage | 2 | 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 | Not quoted | Qualified | Qualified | Not quoted | Not quoted | Not quoted |

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| 29 | Next generation sequencer | from Library preparation to sequencing analysis. Throughput should be 2-130 M reads (0.3-50 GB of data output). The system should be flexible to support wide range of NGS needs ranging from microbial genome sequencing, targeted panel sequencing to WES applications. The System should be able to perform the analysis of the DNA & RNA samples with sample volume upto 1 ng with higher sensitivity & should work for FFPE DNA or RNA samples with the maximum volume for sample required 10ng. The instrument run time should be <3.5 hours from sequencing to BAM file & reporting can be done on the same day. There should not be more than 3-5 pipetting steps in library preparation & template designing & 30-minutes total setup time for library & template prep. There should be no centrifugation involved from Library prep to sequencing. There should be no requirement of Gases/water throughout the procedure. The system should be able to process single or multiple samples without wastage of | 1 | | | | | | qualified. No fully auto library prep., no option for WES, sequencing run times considerably longer than specified, pipetting steps and setup time greater than specified, centrifugations, gas and water supply | | | | | | | | | | | qualified. semi-auto library prep., no option for WES, sequencing run times considerably longer than specified, No information provided for gas and water supply requirements, support of single | |
| 30 | Refrigerated table top microfuge | Capacity: 24x1.5/2 ml tubes, Rotor: Aluminum (opt bowl design for quite operation) , Speed : 15000 Rpm (50 rpm steps) 21,130 x g Temprature range: -10 to +40 C FastTemp function: quick pre-cooling of the centrifuge, e.g. from ~ 21 °C to 4 °C in only 8 minutes, low Noise Level <48 Db(A) or better Built-in condensation drain: to eliminate water accumulation in the rotor chamber. Soft Key: option, should be able to start timer countdown only when selectable speed is achieved, Must follow safety standards, Quick Lid locking, Separate short-spin, Dynamic Compressor Control technology (DCC) for optimized cooling. | 1 | | | | | | Not qualified, No rotor opti-bowel design is fullfilled, Noise level is not less than 48Db, No built in condensation drain, No short spin key, no information provided for some BOQ points. | | | | | | | | | | Not qualified, No built in condensation drainNo opti-bowel design, Noise level is not less than 48Db, No short spin key, no information provided for some BOQ points. | | Not qualified, No built in condensation drainNo opti-bowel design, Noise level is not less than 49Db, No short spin key, no information provided for some BOQ points. |
| 31 | Karyotyping system complete with microscope | For karyotyping, FISH analysis and comparative genomic hybridization. With complete software, microscopy system and camera. | 1 | | | | | | | | | | | | | | | | | | |

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| 32 | Dry blot transfer system | For Western Blotting using Nitrocellulose or PVDF Membrane; Compatible with Radioactive, Chromogenic, Chemiluminescent, Fluorescent, and Chemifluorescent Detection, should be able to accommodate mini (7.5 x 8.4 cm) or midi (8.5 x 13.5 cm) (W x L) size gels, should enable fast (30 min.) immunodetection. Should be provided as complete system including blot holders, two independent blot holder frames, 2 antibody collection trays, vacuum tubing, rolling pad and blot-roller, 2 wetting trays and a quick start guide. MERCK SNAP I.D system or equalent. | 1 | Not quoted | Qualified | 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 Qualified, no information on gel size. use flex cards | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 33 | Refrigerated centrifuge | bucket rotors of upto 5000 rpm, 10000 rpm & 14,000 rpm for 15 & 50 ml, eppendorf (1.5 ml) & PCR plate configuration. The centrifuge Must be able to accommodate mix loading of 15, 50, 250 ml,750ml & PCR plates on the same rotor, capable of identifying the rotor type automatically, 14000 RPM, CFC-Free refrigerant, built in condensation drain, wide temperature range of -9°C- + 40°C, modifiable during the run operation, must have dynamic compressor control, “fast cool“ function to maintain constant 4 °C at maximum speed, lowest attainable temperature is 0 °C. Must have a standby cooling., The noise level should be less than 54 Db(A) with fixed angle rotor, The instrument Must follow safety standards set by IEC 1010-2-020, certified aerosol-tight rotor lids, 10 acceleration and 10 deceleration ramp. Additional accessories: • 48X1.5/ML ROTOR • 6x15/50 ml rotor (12,000 rpm) • Swing Bucket rotor upto 750 ml tubes (39,000 rpm) • Adaptors for 15 ml | 1 | Not quoted | Not quoted | Not quoted | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not qualified. Adaptors for 15 ml & 50 ml capacity is low, Noise level is not less than 54Db,No Built in condensati on drain, no information provided for some BOQ points. | Qualified | Not quoted | Not quoted | Not quoted | Not qualifiedA daptors for 15 ml &50 ml capacity is low, Noise level is not less than 54Db,No Built in condensati on drain, no information provided for some BOQ points. | |

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| General laboratory items | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Touch-o-Matic burner, mixed gas | Hand rest lockdown option, air regulator, ID Tubing | 2 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 35 | Desiccator | Nalgene 246 mm, 4/case, cabinet type, 18x12x12" | 1 | 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 | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 36 | Desiccator plates | Nalgene, plates 230 mm 6/case | 1 | 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 | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 37 | CO ₂ Regulators | For Co2 Incubator | 2 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 38 | Pipette Jars with cover, Nalgene case | 16.5 x 51.4cm size, 6/ case, Pipette jars with cover, Nalgene case. | 2 | 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 | Not quoted | Qualified | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |











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| 56 | Cell Counting chambers | Cell Counting Neubauer Chamber with manual cell counter | 2 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 57 | Babarach Fyrite gas analyzer | CO2 gas, range: 0 to 7 or above. To measure carbon dioxide for biological incubator monitoring. humidity sensor 0-100 %, built-in gas moisture removal, separate pump key, humidity probes. | 1 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 58 | Hydraulic Jack | Hand Pallet, Capacity : 5000kg, Fork Length : 1150mm, Fork Width : 540mm, Lifting Height : 200mm | 1 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| Furniture | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | Lab cabinets with shelves | As per sample picture. | 20 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 60 | Instrument Table | For placing equipment, according to specifications. Wooden frame and MDF. | 9 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| Electronics | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | Microwave oven | Capacity 40 liters with clear visibility front door. | 4 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 62 | UPS | 6 KVA, should not be refurbished. | 3+1 = 4 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |
| 63 | Refrigerator | General purpose, 16 cFt. Locally available. | 1 | 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 | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted | Not quoted |

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