Specification for Laboratory Department

1. Autoclave

S.N.	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Technical Specification**			
1.1	Autoclave used to sterilize laboratory equipment & accessories in the laboratory			
1.2	Pressure range upto 30psi			
1.3	Made of stainless steel			
1.4	Capacity: Approx. 20 Ltr			
1.5	It should have safety valve, steam release valve and vacuum release valve.			
2	**Accessories**			
2.1	Accessories:			
	Aluminium bucket: 01 of suitable size.			
	Gasket: 3 (1 inside with machine and 2 no.(extra))			
	SS Autoclave Drum			
	All standard accessories, consumables, and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
3	**Standards and Safety Requirement**			
3.1	ISO certified.			
3.2	CE certified			
4	**Installation and Commissioning & User Training**			
4.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
4.2	Must provide user training (including how to use and maintain the equipment)			
5	**Warranty & Maintenance Service During Warranty Period**			
5.1	Comprehensive warranty of 1 year			
6	**Authorization**			
6.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
7	**Documentation**			
7.1	User Manual in English			
7.2	Service Manual in English			
7.3	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

2. Centrifuge (8 tube)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Centrifuge – Benchtop			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Centrifuges are required in the Laboratory to separate various components of Blood and any other liquid sample for analysis			
2	**Operational Requirements**			
2.1	Clinical electrical centrifuge to be used at blood transfusion centres for routine centrifuging tests. The units must be fitted with resiliently mounted motor for vibration free performance – preferably built in 5 speed regulator.			
2.2	**System Configuration**			
3	Centrifuge – Desktop 8 tubes 10-15 ml			
3.1	**Technical Specifications**			
4	Microprocessor controlled, swing out rotor with buckets.			
4.1	Facilities, adaptors and accessories for 8 tubes of 10-15 ml			
4.2	Speed 1000-5000 RPM; Max. RCF 1600 g			
4.3	Quiet operation and low vibration			
4.4	Speed and imbalance regulator plus lid lock			
4.5	Power switch ON/OFF, and timer control knob			
4.6	Suitable to work on 220-240 Volts, single phase 50-60 Hz AC supply; minimum of 3 meters mains cable with earth provision (three pin plug fitted)			
5	**Accessories, spares and consumables**			
5.1	**Accessories:**			
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Must comply with IEC 61010-2-020: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges.			
8	**Installation and Commissioning & User Training**			
8.1	Must supply preassembled unit, ready to use			
8.2	User Training, not applicable			

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

3. Refrigerator

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Laboratory Refrigerator			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Refrigerator with freezing compartment maintains two distinct temperature zones. The refrigerator zone is for chilling above zero and freezer zone is for sub-zero temperatures.			
2	**Operational Requirements**			
2.1	Refrigerator is required to operate at temperatures from +2 ^{0}C to +8 ^{0}C and Freezer to operate between -10 ^{0}C to – 20 ^{0}C.			
2.2	Floor standing model, preferably double door with lock and handle supplied with two keys.			
3	**System Configuration**			
3.1	The system consists of: • Refrigerator with freezing compartment CFC free • Floor standing model • Digital display • Adjustable shelves/drawers • Alarm system • Voltage corrector/stabilizer • Temperature data logger			
4	**Technical Specifications**			
4.1	Gross Volume: approx. 2000 litres.			
4.2	Corrosion resistant construction, preferably stainless steel.			
4.3	Type: Compression Cycled, CFC-Free Refrigerant (both for refrigeration and insulation), R134A, cooling coil of copper.			
4.4	Compressor: Power saver compressor.			
4.5	It shall have adjustments for uneven bases. The adjustments shall be easy to use like rotating a screw on the legs of the base.			
4.6	Spill proof adjustable shelves/drawers. Bidder to specify the number of shelves/drawers to be offered.			
4.7	It shall have microprocessor based control system with digital display.			
4.8	Individual display for temperature inside the freezer and the refrigerator.			
4.9	Alarm for Low/High temperature inside freezer and the fridge.			
4.10	Frost free system.			
4.11	Internal illumination.			
4.12	Alarm: Door locks/door open alarm, low/high temperature inside freezer and refrigerator.			
5	**Accessories, spares and consumables**			
5.1	External digital thermometer to view the internal temperature of compartment			
5.2	All standard accessories/consumables/parts required for the			

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	proper operation of the above item shall be included in the offer. Bidders shall specify, in a separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specifications Form.			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220-240VAC, 50Hz fitted with appropriate plug type D round 3 pins. The power cable must be minimum 3 metres long.			
6.3	Shall provide Voltage corrector/stabilizer of appropriate ratings.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC: 2007 **AND**			
7.2	CE or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

4. Fully Automated Chemistry Analyser

SN	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Fully Automated Bio-Chemistry Analyser			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	For analysis of serum, plasma, urine, cerebrospinal fluid (CSF), hemolysate and whole blood.			
2	**Operational Requirements**			
2.1	Must be open system and fully computerized with random access, selective multi-batch type, providing maximum flexibility in programming			
2.2	Must be capable of undertaking 100 tests/hr involving fixed time, end point and kinetic chemistry			
3	**System Configuration**			
3.1	Fully Automated Bio-Chemistry Analyser with integrated printer and computer with complete accessories			
4	**Technical Specifications**			
4.1	Optical Requirement: • Wavelength Range: 340 to 670nm • Absorbance: 0.000 to 3.000A • Measurement: Monochromatic & Bio chromatic options. • Source of light: Halogen lamp (10W/6V or 20W/12V)			
4.2	Reagent Handling System : • Pre and Post dilution: Automatic • Sample volume : 3 – 100 µl approx.. with least count 0.5µl • Reaction volume : 180 – 500 µl approx.. • Reagent volume : 20 – 300 µl approx. with least count 1µl			
4.3	Analytical Requirements: • At least 20 sample position • At least 40 reagent position with refrigerated reagent tray • At least 40 reaction position • Reaction types: End point, kinetic- differential and initial rate bichromatic, with & without blank correction • Test Parameters: 50 or more, all programmable as per user requirement. • Incubation Temp: 37ºC preferably with variable temperature options • Cuvette Temp: 37ºC +0.1ºC • Quality control: Daily and monthly QC, S.D., C.V. • Auto wash station to wash the cuvette for re-use with water consumption less than 4 L/hr			
4.4	PC: At least 5th generation processor, latest windows based operating system, minimum widows 7, Hard disk minimum 500GB ,4 GB RAM, LED monitor minimum size 17", connectivity LAN, USB 3			
4.5	Software: Patient oriented, user friendly and test oriented.			
5	**Accessories, spares and consumables**			
5.1	**Accessories:** • Compatible laser printer: 01 no. • A4 paper (75GSM) . – 5 rim			

SN	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
6.3	Suitable UPS with maintenance free batteries for minimum 30 min. back-up shall be supplied with the system.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC 61010-2-081safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation and 1 year free AMC contract.			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

5. Microscope

SN	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Binocular Microscope (LED)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	A microscope fitted with double eyepieces for vision with both eyes is a Binocular Microscope. The purpose in dividing the same image from a single objective of the usual compound micro-scope is to reduce eyestrain and muscular fatigue which may result from monocular, high-power microscopy			
2	**Operational Requirements**			
2.1	System complete with illumination system and research quality optics is required.			
3	**System Configuration**			
3.1	Binocular Microscope (LED) with all the necessary adapters and power cords.			
4	**Technical Specifications**			
4.1	**Optical System:** Infinitely corrected optics par focal, plan achromatic lenses with anti-fungal properties.			
4.2	Magnification must be 40X – 1000X.			
4.3	**Illumination:** Built in transmitted Koehler illumination. The Illumination must be modular type with LED illumination having life time more than 20,000 hours of operation.			
4.4	**Focusing:** • Fine drive: 0.3mm /rotation. • Coarse drive: 44mm/rotation. • Total travel range is 15mm. • Stage height movement by roller guide (rock & pinion). • Upper limit stopper. • Tension adjustable on coarse focus. • Adjustment knob.			
4.5	Revolving nosepiece, Quintuple.			
4.6	**Observation tube:** • Observation tube must be Binocular compensation free with Side & top of design with two working heights at 385 & 425 mm with an ergonomic head inclination at 30^{o}. • Interpupillary distance adjustment must be from 48-74mm.			
4.7	**Stage:** • Mechanical stages must be low positioned coaxial control knobs: X-Y travelling area 140 x 135mm. • Travel range 75x30mm having graduated scale. • Must have filter holder and must be equipped with Blue, Green Yellow filters.			

	• Must have rounded edges of the stage corners.			
4.8	**Condenser:** • Type – Abbe condenser. • N.A. – 0.9/ 1.5 • Aperture iris diaphragm – built-in.			
4.9	Base must be metallic, supplied with field lens unit, rubber feet and with external power adapter.			
4.10	The Objectives must be antifungal Plan Achromatic Objectives, 4x/0.1, 10x/0.25, 40x/0.65, 100/1.25 Oil immersion and 40x & 100x Objectives spring loaded. Ocular and Objective must have an antifungal coating with 4-position reverser, the inclined ocular tube at a ergonomically height of 30^{o} (for convenient and fatigue free observation).			
4.11	Eye Pieces must be WF-10X/18.			
4.12	The Microscope must have provision of connection of Plano Concave mirror unit.			
4.13	LED light intensity must be displayed on both sides of the stand.			
5	**Accessories, spares and consumables**			
5.1	**Accessories:** • Dust cover with integrated handle.			
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220-240V/ 50 Hz AC Single phase fitted with appropriate plugs to meet purchaser's country requirements. The power cable must be minimum 3 metres long. Power Consumption: approx. 50 watt.			
6.3	Shall be supplied with suitable voltage stabilizer to give constant output of 220-240V AC.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC: 2007 **AND**			
7.2	CE or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			

11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

6. DC-Counter

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	DC-Counter, Manual			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	A differential cell counter in which the percentages of blood cell types are calculated as well as the total number of cells.			
2	**Operational Requirements**			
2.1	Manual type DLC-Counter.			
3	**System Configuration**			
3.1	DLC-Counter, Manual, complete unit.			
4	**Technical Specifications**			
4.1	It must be a differential cell counter.			
4.2	Must provide blood cell counting and simple calculations including percentage.			
4.3	Each unit counts up to 999 and last unit totalize the different cells.			
4.4	The bell automatically sounds at very 100.			
4.5	It must be 6unit-8keys and totalizer.			
4.6	It has a dual knob on both ends to facilitate easy resetting.			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must supply preassembled unit			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	Certificate of calibration and inspection from factory.			
11.4	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

7. Dry Bath Incubator

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Dry Bath Incubator			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Dry Bath Incubator to be used for incubating biochemistry lab preparation			
2	**Operational Requirements**			
2.1	Dry Bath Incubator of minimum 20 bath			
3	**System Configuration**			
3.1	Dry Bath Incubator, 20 bath positon			
4	**Technical Specifications**			
4.1	Must have at least 20 bath positon			
4.2	Must be compatible for universal type test tube			
4.3	At least 3 temperature setting 37, 30 and room temperature must be available			
4.4	Temperature can be adjustable			
4.5	Temperature display must be provided in the form of LCD or any display			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (EEC Directives) or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	Certificate of calibration and inspection from factory.			
11.4	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

8. Digital Timer

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Digital Timer			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Digital Timer that gives alarm after a set time is over.			
2	**Operational Requirements**			
2.1	Digital Timer to be used in Laboratory			
3	**System Configuration**			
3.1	Digital Timer, set			
4	**Technical Specifications**			
4.1	Digital display with audible alarm			
4.2	Unit can easily be hanged on wall, attached on any equipment (water bath) or placed on stand-on position on the table top			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
8	**Installation and Commissioning & User Training**			
8.1	Not applicable			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after acceptance			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Certificate of calibration and inspection from factory.			
11.3	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

9. Hematology Analyzer (3 part)

SN	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Hematology Analyzer (3 part)			
	Manufacture			
	Brand			
	Type/ Model			
	Country of Region			
1	**Description of Function**			
1.1	Automated 3 part blood cell counter is used to count WBC, RBC and platelets			
2	**Operating Environment**			
2.1	Automatic 3 part blood cell counter that measures minimum 20 parameters			
3	**System configuration**			
3.1	Automatic 3 part cell counter with complete unit with all standard accessories			
4	**Technical specification**			
4.1	**Principle :** Semi conductor Laser Flow cytometric Analysis, Automated Pulse resistance method, cyanide free colorimetric(HGB) method			
4.2	**Parameter :** 3 part, 20 parameters, 3 Histograms			
4.3	**Report parameter :** Minimum 20 report parameter- WBC, LYM#, MID#,GRAN#,LYM%,MID%,GRAN%,RBC,HGB,HCT,MCV,MCH,MCHC,PLT,PCT,RDW-CV,RDW-SD,MPV,PDW,P-LCR and WBC,RBC,PLT			
4.4	Should alarm for confirmed and seemingly abnormal samples, allow self setting			
4.5	**Sample :** Three Sample mode : - Whole blood (aprrox.16uL), capillary blood (16ul approx..), pre diluted blood(20ul) and sample volume not more than 20ul.			
4.6	**Sample Method :** Open vial type			
4.7	**Throughput :** not less than 60 sample per hour			
4.8	**Performance :** WBC (Repeatability ≤ 2%,Linearity range 0.0-300x10^9/L), RBC (Repeatability ≤ 1.5%,Linearity range 0.0-8.5x10^12/L), HGB (Repeatability ≤ 1.5%,Linearity range 0.0-250g/L), MCV (Repeatability ≤ 1%), PLT (Repeatability ≤ 4%,Linearity range 0.0-3000x10^9/L)			
4.9	Easy operation by big touch screen function (Display at least 10")			
4.10	**Carry Over :** RBC, WBC,HGB <1%, PLT <1.5%			
4.11	Control Mode : L-J, ,X-R, X-B			
4.12	Daily Maintenance automatically by on & off. One key to remove error automatically.			
4.13	Automatic Sleep Status must be available			
4.14	Should support minimum reagent consumption. (Machine that require Diluent & Lyse only in daily routine test will be preferable)			
	Cost of the reagents (Diluent, Lyse and Cleaner(if applicable)) must be quoted for at least 2 years along with the tender. Cost must be quoted as per volume (ml or L)			
5	**Accessories, Spare and Consumables**			

5.1	All standards accessories, consumables and parts required to operate the equipment, including all standard tools and clearing and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The Conditions include power supply, purchaser's country requirements. The power cable must be minimum 3 meters long.			
6.2	Power supply 220V -240VAC, 50Hz fitted with appropriate plug.			
7	**Standards and Safety Requirements**			
7.1	CE/USFDA approved certificate for machine.			
7.2	Must submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.3	Shall meet IEC 61010-2-081safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer’s Authorization or Local Distributor Authorization (Manufacturer’s Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

10. Blood Mixer

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Blood Mixer			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	Description of Function			
1.1	The system is used to collect donated blood from the donor and at the same time mixing the blood for quality collection of blood.			
2	Operational Requirements			
2.1	It is meant for stationary and mobile use. Gentle mixing and control of collection time to give high quality blood (platelets). Suitable for all blood bags on the market. Automatic check on blood flow and collection time with buzzer alarm. Shall continuously display collected volume, flow and time during collection. Shall provide repetitive notification of completed collection every minute including gentle mixing to avoid coagulation.			
3	System Configuration			
3.1	Blood Mixer and Collector with complete accessories.			
4	Technical Specifications			
4.1	Volume Setting: Pre-selection of volume to be collected. Tarring of bag volume before collection. Tarring range: 0 – 600 g. Automatic storage and recall of set volume. Measure volume with best accuracy <1%.			
4.2	Indications and Alarms: • LED indication on commencement of collection. • LED indication and audible alarm at the end of collection. • Indication of time taken for collection. • Indication of blood flow with audio alarm when blood flow is higher or lower than desired. Continuous display of collected volume, flow and time during collection			
4.3	Automatic clamping at termination of pre-set volume collection			
4.4	Automatic release of bag when lifted.			
4.5	Continuous agitation of blood bags during collection: 12 – 16 rpm.			
4.6	Easy provision to change pre-set volume.			
4.7	Must operate on mains as well as inbuilt rechargeable battery. The battery shall be at least for 5 hours.			
4.8	Must be less than 5 Kg			
5	**Accessories, spares and consumables**			

5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 V AC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	Standards and Safety Requirements			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC 61010-1 safety requirements for electrical equipment for measurement, control, and laboratory use.			
8	Installation and Commissioning & User Training			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	Warranty & Maintenance Service During Warranty Period			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer’s Authorization or Local Distributor Authorization (Manufacturer’s Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

11.Needle Destroyer

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Needle Destroyer			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Needle & syringe destroyers are used to destroy the needles & syringes instantly to prevent reuse and manage waste management effectively.			
2	**Operational Requirements**			
2.1	Needle & Syringe destroyer electrically operated.			
3	**System Configuration**			
3.1	Electric Needle & Syringe Destroyer (Electro melting type)			
4	**Technical Specifications**			
4.1	Housing Enclosure – Moulded type			
4.2	Shock proof & made of ABS plastic with dust tray of same material.			
4.3	Manual cutter – hardened blade of stainless material			
4.4	Needle burning capacity – to destroy Inj. Needles of length 12.5mm to 80 mm.			
4.5	A needle of 1.6mm diameter & 80 mm length should be destroyed in 1 minute.			
4.6	Size – not more than 18cm length, 13cm width & 13 cm height.			
4.7	Weight not more than 4kg.			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length. Power consumption – for the thickness needle of 1.6 mm dia meter consumption should not exceed 5 Amp.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

12.External thermometer for Refrigerator

S.N.	Purchaser's Specifications	Bidder's Complianc	Reference Page No.	Remarks
	Thermometer for Refrigerator			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Function**			
1.1	It is used to validate and control temperature inside the Refrigerator.			
2	**Operational Requirements**			
2.1	Digital Thermometer to measure 2 ºC - 8 ºC			
3	**System Configuration**			
3.1	Digital Thermometer to measure 2 ºC - 8 ºC			
4	**Technical Specifications**			
4.1	Thermometer for measuring inside temperature of Refrigerator.			
4.2	Mercury free, Digital type.			
4.3	Range: approximately: -20ºC to 25 ºC.			
5	**Accessories, Spares and Consumables**			
5.1	**Accessories:** • 1x Tube-shaped durable protective cover.			
6	**Operating Environment**			
6.1	The system offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include, Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	CE or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Not applicable			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

13. Counting Chamber (Neubauer Chamber)

S.N.	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Technical Specification**			
1.1	Use: for blood cell counting.			
1.2	Optical ground and polished milled glass chambers			
1.3	Diamond etched chamber			
1.4	Dimension : (30 cm x 70 cm x 4 mm) (approx.)			
1.5	Depth 0.100 mm ($\pm$ 2 %)			
1.6	Volume 0.1 microlitre			
1.7	Ruling			
	As of improved neubauer			
	Covers 9 sq. mm			
2	**Accessories**			
2.1	With two extra cover glass			
	Squared glass- 22 mm x 22 mm and thickness 0.5mm			
3	**Standards and Safety Requirement**			
3.1	ISO certified.			
4	**Installation and Commissioning & User Training**			
4.1	Not Applicable			
5	**Warranty & Maintenance Service During Warranty Period**			
5.1	Not Applicable			
6	**Authorization**			
6.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
7	**Documentation**			
7.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

14. Pipette Stand

S.N.	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Technical Specification**			
1.1	Pipette Stand for at least 4 pipettes to hang			
2	**Accessories**			
2.1	Not Applicalbe			
3	**Standards and Safety Requirement**			
3.1	ISO certified.			
4	**Installation and Commissioning & User Training**			
4.1	Not Applicable			
5	**Warranty & Maintenance Service During Warranty Period**			
5.1	Not Applicable			
6	**Authorization**			
6.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
7	**Documentation**			
7.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

15.Rack, ESR

S.N.	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Technical Specification**			
1.1	ESR Rack to hold ESR tube for ESR test			
1.2	Must be able to hold at least 8 tubes at least			
2	**Accessories**			
2.1	Not Applicalbe			
3	**Standards and Safety Requirement**			
3.1	ISO certified.			
4	**Installation and Commissioning & User Training**			
4.1	Not Applicable			
5	**Warranty & Maintenance Service During Warranty Period**			
5.1	Not Applicable			
6	**Authorization**			
6.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
7	**Documentation**			
7.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

16. Thermometer, Room

S.N.	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Technical Specification**			
1.1	Thermometer to be hanged on wall of the laboratory			
1.2	Reading capabilities from -2°C to 40°C			
2	**Accessories**			
2.1	Not Applicalbe			
3	**Standards and Safety Requirement**			
3.1	ISO certified.			
4	**Installation and Commissioning & User Training**			
4.1	Not Applicable			
5	**Warranty & Maintenance Service During Warranty Period**			
5.1	Not Applicable			
6	**Authorization**			
6.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
7	**Documentation**			
7.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

17.PT INR Machine (Semi Auto)

SN	Purchaser's Specification	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Semi Auto Coagulometer			
	Manufacture			
	Brand			
	Type/ Model			
	Country of Region			
1	**Description of Function**			
1.1	Coagulometer measures the blood clotting parameters.			
2	**Operational Requirements**			
2.1	Microprocessor controlled system.			
3	**System Configuration**			
3.1	Coagulometer complete unit with printer and with complete accessories.			
4	**Technical Specifications**			
4.1	16 incubation positions for samples (4 cells x 4 columns).			
4.2	Shall have 2 measurement channels.			
4.3	2-4 positions for reagents (one with magnetic stirrer) and 2 pipette wells.			
4.4	Four independent built in timers for incubation.			
4.5	Measurement possible in plasma.			
4.6	Automatic pipette (electronically connected or manual start up).			
4.7	Backlight LCD display, 4 lines of 40 characters with built in printer or external printer.			
4.8	Results in seconds and in various units (% INR, Ratio, Gm. / L mg/ds, IC/ml).			
4.9	RS 232 interface or USB.			
4.10	Incubation and measurement wells at 37ºC +/- 0.5ºC.			
4.11	Tests: PT, PTT, TT, FIB (Clauses and PT derived), Factor II, V, VII, VIII, IX, X, XI, XII, Fletcher, VT (Venom time), APCR, AT-III (clot), Protein C (clot), Protein S (clot), Heparin, STAT (PT/PTT).			
5	**Accessories, Spare and Consumables**			
5.1	• Double Cuvettes: 100 Pcs. • Stage auto pipette: 1 Pc. • Reagent Adaptor 22,5mm: 1 Pc. • Reagent Adaptor 22,8mm: 1 Pc. • Reagent Adaptor 24,2mm: 1 Pc. • Reagent Adaptor 27,8mm: 1 Pc. • Reagent Adaptor 25,2mm: 1 Pc. • Stirring magnets: 4 Pcs. • Reagent container 22,4mm: 25 Pcs. • Reagent tubes 16mm: 50 Pcs. • Thermal Printer with printer cable: 01 no. • Thermal Paper : 10 rolls			
5.1	All standards accessories, consumables and parts required to operate the equipment, including all standard tools and clearing and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above)			

6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The Conditions include power supply, purchaser's country requirements. The power cable must be minimum 3 meters long.			
6.2	Power supply 220V -240VAC, 50Hz fitted with appropriate plug.			
7	**Standards and Safety Requirements**			
7.1	CE/USFDA approved certificate for machine.			
7.2	Must submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.3	Shall meet IEC 61010-2-081safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer’s Authorization or Local Distributor Authorization (Manufacturer’s Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			