1 **Cesarean Set**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
	Technical Specifications	
	BP Handle standard No.4 **QTY:2**	
	Debakey Forceps plain 8" traumatic tissue QTY:4	
	forceps 2,0 mm straight. QTY:4	
	Debakey Forceps nontoothed 6'A "(2mm) QTY:2	
	atraumatic tissue forceps QTY:4	
	Adson Forceps plain 5"/12 cm QTY:2	
	Adson Forceps toothed 5"/12 cm QTY:2	
	Metzenbaum Scissors Strt 8" (TC TIP) QTY:2	
	Metzenbaum Scissor Curved 20 cm 8Inch (TC TIP) QTY:2	
	Kocher Artery Forceps Straight 18"-QTY:1	
	Babcock Tissue Forceps 6" QTY:	
	Babcock Tissue Forceps 8 " QTY:	
	Allis Tissue Forceps 6" QTY:2	
	Allis Tissue Forceps 8" QTY:2	
	Artery Forceps Cur 8" long /20cm QTY:4	
	Artery Forceps Cur 6" Medium 15 cm QTY:2	
	Mosquito Artery Forceps Cur 12.5" QTY:4	
	Doyen"s Retractor 80 x 53mm. 8 1/2722 c,m QTY:2	
	Langenback Retractor 11x3Smm 8 1/2"/22 c.m QTY:1	
	Heavy Straight Scissor S.S./Sharp8"/20cm QTY:2	
	Needle Holder 8" & 6"/20 cm &16 cm (TC TIP) QTY:1	
	Kidney Tray 8" S.S. QTY:2	
	Bowl S.S. 6" (medium) QTY:3	
	Green Armytage 8 3/4 " QTY:2	
	Artery Forceps str 6" /15 cm QTY:2	
	Right Angle Artery Forceps MIXTER 8"/20 cm QTY:1	
	Sponge Holding Forceps 10" & 6" /18cm QTY:4	
	Suction Tip Pool Straight 10mm S.S. QTY:1	
	Cross Action Towel Clips Backhaus 3" QTY:4	
	Wrigley Outlet Forceps QTY: 1pair	
	Silicone vaccum cup (medium/large) QTY: 1pair	
	Baby tray 20 x 16 x 3 inches, thickness 0.5 mm with rounded edges & without sharp. QTY:1	
	Standards & Safety Requirements	
	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
	Warranty	
	Comprehensive warranty for 2 years.	

2 **Couch**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	Examination couch for use of health checkup and treatment of patients.	
2	**Operational Requirements**	
2.1	An examination couch with upholstered top in two pieces. Adjustable headrest on gas spring.	
3	**System Configuration**	
3.1	Examination couch with mattress.	
4	**Technical Specifications**	

	4.1	The examination couch shall be made of a solid steel sheet and plate construction with anti-corrosive and antirust treated epoxy powder coating with upholstered top.	
	4.2	All 4 legs of the bed shall be capped with heavy duty rubber footings.	
	4.3	Overall size of the table must not be less than 1890mm L x 600mm W x 825mm H	
	4.4	Strong Mild steel tubular construction epoxy powder coated treated. The top base of machine pressed double bent Mild steel sheet epoxy powder coated treated finish	
	4.5	Gas spring assisted adjustable backrest of approx. size 450mm L x 310mm H with upholstered top.	
	4.7	Swinging tray must be attached near headrest for BP apparatus and/or other health checkup minor equipment.	
	4.8	The mattress shall be foldable and shall be designed to bend with the positioning of the bed when the backrest of the bed is adjusted.	
	4.9	Bidder shall indicate the weight capacity and the total weight of the mattress in kilogram (kg)	
	4.10	The mattress shall have mid-firmness, with foam density of approximately 0.55kg/ cubic foot, to avoid that the patient would sink down into foam with antibacterial, antistatic, acid resistance, waterproof and washable vinyl or vinylized nylon cover.	
	4.1	The joints must be smooth and neat finish.	
	5	**Accessories, spares and consumables**	
	5.1	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer, 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 Climate, Temperature,Humidity, etc. for Sudan.	
	7	**Warranty**	
	7.1	Comprehensive warranty for 2 years after acceptance.	
	8	**Maintenance Service During Warranty Period**	
	8.1	During the warranty period supplier must ensure corrective/breakdown maintenance whenever required.	
3		**Examination Screen**	

No.		Specifications	Fill your Specification
I		**Manufacturer Name:**	
II		**Model No.:**	
III		**Country of Origin:**	
	1	**Description of Function**	
	1.1	A patient screen is widely used in hospitals when the doctor examines a patient in his private chamber or in the patient's room in the hospitals. The screen can also be used in the operation room or the changing room of the doctors and nurses.	
	2	**Operational Requirements**	
	2.1	Epoxy powder coated or Better , three or four fold patient screen.	
	3	**System Configuration**	
	3.1	Patient Screen with light blue curtain and fully swivels twin wheel castors.	
	4	**Technical Specifications**	
	4.1	Three or four fold ward screen approx. total size 2450 w x 1650 h mm in three or four sections.	
	4.2	Mild steel tubular construction with epoxy powder coated or better treated in three or four section 600mm span width at each side and 1210 mm span width in the middle) and mounted on wide spaced legs for each section, and each foot to have two swivel castors size 50mm.	
	4.3	To be supplied with hooks, springs and heavy duty curtain, firmly attached at sides, top and bottom. Curtain must have no gaps between sections	
	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 product offered shall be designed to be stored and to operate normally under the conditions. The conditions include Climate, Temperature, Humidity, etc.	
7	**Warranty**	
7.1	Comprehensive warranty for 2 years after acceptance.	

4	**Manual Patient Bed One Movement With Mattress**	

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	A hospital bed is a bed specially designed for hospitalized patients in need of patient ease. These beds have special features both for the comfort and well-being of the patient and for the convenience of hospital staff.	
1.2	Mattress is to provide a comfortable platform to rest or sleep upon the bed.	
2	**Operational Requirements**	
2.1	The patient bed shall be made of solid steel construction with anti-corrosive and antirust treated baked hard epoxy powder coating	
3	**System Configuration**	
3.1	Hospital Bed epoxy powder coated	
4	**Technical Specifications**	
4.1	Bed base shall be anti-corrosive and antirust treated epoxy powder coated welded steel bar or epoxy powder coated 18G perforated sheet top to improve ventilation.	
4.2	The patient bed shall be fixed height with 2 sections where the backrest section could be elevated by mechanical hand crank located at the foot-end of the bed.	
4.3	Shall have 4 IV rod receptacles and mosquito net pole receptacles at the 4 corners	
4.4	It shall come with one dual hook anti-corrosive and antirust treated epoxy powder coated or 304 grade stainless steel IV rod.	
4.5	Shall have provisions to fix urinary bag on both sides.	
4.6	It shall mobile on 4 x 200mm robust swivelling castors with non-marking grey tyres and with at least 2 diagonal castors shall have locking/brake mechanism.	
4.7	Bedhead and foot-end panel (head and foot bows) shall be made of either between 4-6 anti-corrosive and antirust treated epoxy powder coated vertical tubular tube of not less than 30mm in diameter or epoxy powder coated steel panel	
4.8	Both bedhead and foot-end panel shall be detachable.	
4.9	The height of the bedhead panel: not less than 1060mm from floor.	
4.10	The height of the foot-end panel: not less than 820mm from floor.	
4.1	Overall approximate dimension: not less than 1980mm length, 910mm width, 600mm height	
4.1	The mattress negotiable with hospital beds having an overall approximate dimension of not less than 1980mm length, 910mm width.	
4.1	It shall be fire retardant antibacterial treated high density approx. 40kg/m3 PU foam mattress.	
4.1	The mattress shall have thickness of at least 100mm.	
4.2	Mattress with two sections shall be designed to bend with the positioning of the bed when the backrest and foot section of the bed are adjusted.	
4.2	The weight capacity of the mattress shall be more than 100kg.	
4.2	**Mattress Cover:**	

	The mattress shall come with a zipped fire retardant antibacterial, antistatic, acid resistance, waterproof and washable vinyl or vinylized nylon cover. It shall be designed to provide ventilating airflow over the patient's skin. The zip shall be a heavy-duty/large toothed synthetic zipper to enable inspection of the inner foam and totally covered by a flap extending over the zip to prevent ingress of fluids into the actual mattress and allow for replacement.	
5	**System Configuration Accessories, spares and consumables**	
5.1	All standard accessories/consumables/parts required for the 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 system offered shall be designed to store and to operate normally under the conditions. The conditions include Climate, Temperature, Humidity, etc.	
7	**Warranty**	
7.1	Warranty for 2 years.	

5	**Emergency Trolley**

No.	Item Specifications	Fill your Specification
	Manufacturer Name:	
	Model No.:	
	Country of Origin:	
	Technical Specifications	
	1. Overall approximate dimension: 1905 mm L x 710 mm W.	
	2. Stretcher dimension approximately: 1830 mm L x 555 mm W.	
	3. Two section top.	
	4. Height adjusted by crank mechanism from 625 mm to 850 mm.	
	5. X-ray permeable removable stretcher top in two sections made of pre-treated-laminated board supported on tubular frame.	
	6. Backrest raised on ratchet.	
	7. Trendelenburg & reverse trendelenburg positions on crank mechanism.	
	8. Four 125 mm diameter, castor wheels with high grade synthetic body, two with brake and two without brake.	
	9. Complete with corner buffers.	
	10. Synthetic rubber covered handles.	
	11. Storage tray.	
	12. Oxygen cylinder holder.	
5	**Operating Environment**	
5.1	The product offered shall be designed to be stored and to operate normally under Climate, Temperature,Humidity, etc. for Sudan.	
6	**Warranty**	
6.1	Comprehensive warranty for 2 years after acceptance.	
7	**Maintenance Service During Warranty Period**	
7.1	During the warranty period supplier must ensure corrective/breakdown maintenance whenever required.	

7	**Wheel Chair**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	Wheel chair is used in hospitals for means of mobility by disabled persons/or persons who have impairments that limit their ability to walk.	
2	**Operational Requirements**	
2.1	It shall be a foldable BUT shall NOT a collapsible type. The mechanism of folding & unfolding must be easy. Large standard adult size hospital wheelchair fixed/ foldable type. Easy maneuverable.	

3	**System Configuration**	
3.1	Wheel chair invalid type.	
4	**Technical Specifications**	
4.1	Must be made of the highest quality materials such as Chrome polished finish or stainless steel.	
4.2	Dimensions: approx. W 68 cm × D 110 cm × H 94 cm.	
	Seat width: approx.450mm (18").	
4.3	Wheels to have braking/locking mechanism and self-propelling SS hoops; two swivel castors (200mm dia. approx.) in front.	
4.4	Tyre fitted with self-propelling hoops and brake arrangements.	
4.5	Tyre sizes: Rear approx. 60cm (24") solid Mag tyres or Bicycle type spoked wheels, and Front approx. 200mm (8") Mag swivel casters.	
4.6	Armrests: Padded, Fixed height and detachable.	
4.7	Waterproof upholstery and easy to clean.	
4.8	Padded back rest, seat and push handle.	
4.9	Footrests: Fixed height and swing away foot plates and detachable, preferably made of Aluminium.	
4.1	Maximum Patient weight capacity: approx. 110kg (250 lbs.).	
4.1	I.V. pod shall be provided at the right side of the back rest.	
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.	
6	**Operating Environment**	
6.1	The product offered shall be designed to be stored and to operate normally under Climate, Temperature,Humidity, etc. for Sudan.	
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	**User Training**	
8.1	Not applicable.	
9	**Warranty**	
9.1	Comprehensive warranty for 2 years.	
10	**Maintenance Service During Warranty Period**	
10	Standard warranty conditions are applicable.	
11	**Installation and Commissioning**	
11	Must supply preassembled unit, ready to use.	
12	**Documentation**	
12	User's manual shall be supplied in English.	

8	**Oxygen Regulator with Flow meter**

No.	Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Technical Specifications**	
1	**Regulator:**	
	Bull nose screw type, medical oxygen cylinder fitting	
	Regulated to convert standard cylinder pressure (typically 2,000 psi) to approximately 4 BAR (4 atmospheres) pressure	
	Regulator delivery pressure must be factory pre-set, and not permit user adjustment	
	Maintenance engineer adjustment of delivery pressure via a screw slot or covered or capped system is required	
	Regulator must be diaphragm type needle valve regulators are NOT permitted.	
	The regulator must provide genuine pressure reduction and not just flow reduction	
	Regulator must incorporate overpressure safety valve with auto venting	
2	**Flow Meter:**	
	Back Pressure Controlled Flow Meter	

	Sturdy and reliable Flow Meter Unit for an accurate measuring of flow of gases.	
	Chromium plated Brass body.	
	Metering tube and cover made of unbreakable Poly carbonate.	
	Flow adjustment by Needle valve equipped with inlet filter – 100 µm.	
	Flow rate range 0 – 15 litres / minute.	
	Inlet pressure suitable for the cylinder.	
	Flow meter to be attached to regulator output	
3	**Bubble Humidifier with Safety Valve and Pressure Relief Valve:**	
	Lid made of ABS Plastic	
	Jar made of Unbreakable Poly Carbonate	
	Valve Brass chromium plated	
	Humidifier jar must be steam autoclaveable / gas sterilizeable.	
4	**Standards and Safety Requirements**	
4.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
4.2	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
5	**User Training**	
5.1	Must provide user training (including how to use and maintain the equipment).	
6	**Warranty**	
6.1	Comprehensive warranty for 2 years after acceptance.	

9	**Autoclave (50 L)**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	Autoclaves are required for sterilizing an object in high temperature and high pressure steam.	
2	**Operational Requirements**	
2.1	Microprocessor based electrically heated vertical steam sterilizer	
3	**System Configuration**	
3.1	Microprocessor based Autoclave (Vertical Model) with complete accessories.	
4	**Technical Specifications**	
4.1	capacity: approx. 50 L.	
4.2	Vertical type.	
4.3	Stainless steel.	
4.4	Digital controlled temperature and pressure system.	
4.5	Steam sterilization, up to 134° C	
4.6	Digital temperature and pressure gauges.	
4.7	Safety devices : over heat (low water cut-off switch , safety valve and release valve)	
4.8	Automatic controlled sterilization cycle.	
4.9	2 modes sterilization (121°c - 134°c)	
###	Exhaust system.	
4.1	Stainless steel basket.	
4.1	Double wall case.	
5	**Accessories, spares and consumables**	
5.1	All standard accessories, consumables and parts required to operate the equipment.	
5.2	Spare heating element- 1 set	
5.3	A minimum of two spare lid gaskets	
6	**Operating Environment**	
6.1	The unit shall be capable of operating in ambient temperature of 10°C-45°C and relative humidity of 10-95%	
6.2	The unit shall be capable of being stored continuously in ambient temperature of -20°C -60°C and relative humidity of 10-95%	
7	**Power supply:**	
7.1	Input power supply: 220/240 V AC , 50Hz single phase schuko plug	
8	**Standards and Safety Requirements**	

8.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
8.2	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
8.3	Shall meet IEC 61010-2-040 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-040: Particular requirements for sterilizers and washer-disinfectors used to treat medical materials.	
9	**Training**	
9.1	Must provide user & service training.	
10	**Warranty**	
10	Comprehensive warranty for 2 years.	
11	**Maintenance Service During Warranty Period**	
11	Supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.	
12	**Documentation**	
12	User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
12	Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	
12	List of important spare parts, accessories and consumables with their part numbers and costing.	

10	**CTG Machine**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
	Technical Specifications	
1	Antepartum fetal monitor for Foetal HR and contractions tracking.	
2	Trolley mounted with twin Ultrasound Transducer, Contractions Transducer (TOCO), Patient Event marker and unique clinical event marker with trace annotation, Automatic fetal movement detection	
3	High Resolution thermal printer Alarm facilities	
4	Communication ports (RS232).	
5	Builtin Battery rechargeable	
6	**Operating Environment**	
6.1	The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature,Humidity, etc. for Sudan.	
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.	
8	**User Training**	
8.1	Must provide user training (including how to use and maintain the equipment).	
9	**Warranty**	
9.1	Comprehensive warranty for 2 years after acceptance.	

11	**Delivery Table**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	Delivery bed is used for Baby Delivery and must incorporate ideal blend of the patient's individual requirements on comfort and the professional needs of the delivery team, focusing on the aesthetic and functional design of the entire product.	
2	**Operational Requirements**	
2.1	Manually operated delivery bed.	
3	**System Configuration**	
3.1	Delivery Bed with complete attachments and accessories.	

4	**Technical Specifications**	
4.1	It must have manual adjustments for height and back positions.	
4.2	It must have collapsible side rails.	
4.3	It must have three sectional mattresses and seat section must have large perennial cut.	
4.4	It must have head board which can be detached.	
4.5	Must have wheels provided with locking system.	
4.6	Must have retractable foot section so as to convert bed into table.	
4.7	Must have infusion rods which have adjustable heights, quick release and attaches to all corners of bed.	
4.8	Must have adjustable leg rests.	
4.9	Must have push grip handles.	
4.10	Must have sliding stainless steel bowl at perennial part of table.	
4.1	It must have catheter bag holder which can be attached on either side of bed.	
4.1	It must be able to give trendelenburg, reverse trendelenburg and 70 degree sitting position.	
4.1	It must have adjustable foot supports.	
4.1	It must be easy to maintain clean and sterilize (especially blood stains).	
4.2	Frame must be (washable) stainless steel.	
4.2	Dimensions (approx.):	
	Length: 7 feet	
	Width: 3 feet	
4.2	Capacity load of 180 kg or more	
5	**Accessories, spares and consumables**	
5.1	All standard attachments and accessories: 01 set	
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.	
6	**Operating Environment**	
6.1	The product offered shall be designed to be stored and to operate normally under Climate, Temperature , Humidity , etc. for Sudan.	
7	**Warranty**	
7.1	Comprehensive warranty for 2 years after acceptance.	
8	**Maintenance Service During Warranty Period**	
8.1	During the warranty period supplier must ensure corrective/breakdown maintenance whenever required.	

12	**Hormone Analyzer 36 Test/Hr**	

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Technical Specifications**	
	Fully automated, sample selective analyzer for heterogeneous immunoassays, continuous loading, self contained Min. throughput 30 results/hr Serum, Plasma	
	Specify Load/unload capacity	
	Specify Number of Rack positions, RD standard	
	Specify Number of Tray (racks/ samples)	
	processed with priority	
	Primary tubes: 5 to 10ml; 16x100, 16x75, 13x100, 13x75mm	
	Sample cup: 2.5ml Cup on tube:	
	Cup on tube: Cup on top o a 16x75/100mm 5 to 50µl	
	Ready to use Rack Packs with 2-D barcode temperature controlled reagent compartment	
	(20°C) onboard capacity max. 15 tests 180 disposable cups	
	360 disposable tips (Assay Tip), liquid level and clot detection, sample and test specific dilution	
	Colored touch-screen monitor, customized keyboard and computer	

	RS 232 serial interface, bi-directional, query and batch mode	
	Running cost details important and all start up kits neede for operation and calibration	
	Running cost details important and all start up kits neede for operation and calibration	
2	**Operating Environment**	
	The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%	
	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%	
3	**Power supply**: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.	
	Suitable UPS with maintenance free batteries for minimum 30 min. back-up shall be supplied with the system.	
4	**Standards and Safety Requirements**	
	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
	Should be FDA/CE/BIS approved product.	
	Shall meet internationally recognised for Electromagnetic Compatibility(EMC) for electromedical equipment: 61326-1.	
	Certified to be compliant with IEC 61010-1, IEC 61010-2-281, 61010-2- 101 for safety.	
5	**User Training**	
	Must provide user training (including how to use and maintain the equipment).	
6	**Warranty**	
	Comprehensive warranty for 2 years from acceptance.	
7	**Maintenance Service During Warranty Period**	
	During the warranty period supplier must ensure planned preventive maintenance (PPM) and corrective/breakdown maintenance whenever required.	
8	**Installation and Commissioning**	
	The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.	
9	**Documentation**	
	User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	List of important spare parts and accessories with their part number and costing.	

13	**Chemistry Analyzer (200T/HR)**

No.	**Item Specifications**	**Fill your Specification**
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Technical Specification**	
	Fully automated, latest and bench top analyzer to perform the analysis of substrates, enzymes	
	and special parameters from whole blood, serum, plasma and urine samples	
	System should be Discrete, fully selective random access with a provision to test STAT samples	
	System should have four different on-board technologies (Photometry, Potentiometry, Fluorescence Polarization and Turbidimetry) to measure substrates, enzymes, Homogeneous immunoassays, TDM's and Drugs.	
	System should have facility for programming 125 - 150 different test parameters and the reagents should be available from the same manufacturer.	
	System should have a routine throughput of 200 tests / hr	
	Onboard sample capacity should be at least 90 or more	

	Flexibility to use different sample containers like primary tubes with different sizes, sample cups, micro cups and cup on tube for easy processing.	
	Facility to keep reagent bottles / cassettes for at least 30 common tests with on board refrigeration is must.	
	Sample volumes should be less than 2 - 10 ul per test.	
	System should have high sensitive pressure sensors to detect any incorrect pipetting even at 2 ul sample volume	
	Onboard sample and calibrator dilution should be available (1 – 100 times)	
	System must use disposable cuvettes to prevent any carryover without using any onboard washing	
	System should be used for testing special parameters like HbA1c, Lactate, hsCRP, D-Dimer, Ferritin, IgA, IgM, IgG, ASO, Cyclosporine, MPA and electrolytes (Na, K and Cl), TDM, DAT tests besides the routine clinical parameters.	
	On-board reagent stability should be for at least 3 months and calibration of the parameter.	
	should be typically with lot. No daily calibration should be required by the system to save the reagents.	
	System should have 12 wavelength photometer with mono and bi-chromatic measurements.	
	Light source should be 20 W halogen lamp with lamp save feature.	
	System should have external windows NT based data control work station with flat screen monitor for programming the tests and entering the patient data.	
	System should external printer to take printout of patient results.	
	Patient samples and Reagents can be scanned with barcode scanner for easy operation.	
	System should have 1 x RS 232 bidirectional interface and in-built modem for remote diagnostics access.	
2	**Operating Environment**	
	The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%.	
	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%.	
3	**Power supply**: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.	
	Suitable UPS with maintenance free batteries for minimum 30 min. back-up shall be supplied with the system.	
4	**Standards and Safety Requirements**	
	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
	Should be FDA/CE/BIS approved product.	
	Shall meet internationally recognised for Electromagnetic Compatibility(EMC) for electromedical equipment: 61326-1.	
	Certified to be compliant with IEC 61010-1, IEC 61010-2-281, 61010-2- 101 for safety.	
5	**User Training**	
	Must provide user training (including how to use and maintain the equipment).	
6	**Warranty**	
	Comprehensive warranty for 2 years from acceptance.	
7	**Maintenance Service During Warranty Period**	
	During the warranty period supplier must ensure planned preventive maintenance (PPM) and corrective/breakdown maintenance whenever required.	
8	**Installation and Commissioning**	
	The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the user in advance, in detail.	
9	**Documentation**	
	User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	

	List of important spare parts and accessories with their part number and costing.	

14 **Portable Ultrasound Machine**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	A general purpose fully digital B & W Ultrasound imaging system.	
2	**Operational Requirements**	
2.1	It shall operate on mains AC supply.	
3	**System Configuration**	
3.1	System shall come with main unit, 1 probe, 1 unit of black and white video thermal printer and Ultrasound gel warmer 1 unit.	
4	**Technical Specifications**	
4.1	Latest technology and all digital beam former general purpose standalone ultrasound machine with integrated light weight mobile cart.	
4.2	Main applications: OB/GYN, abdominal, peripheral vessels and small parts.	
4.3	The system shall have at least 12" or higher flat LCD monitor with tilt & swivel facilities.	
4.4	Shall have B-mode, M-mode, B/M mode, 2B mode & 2D mode.	
4.5	The system must have at least Two active probe ports for easy use and convenient operation.	
4.6	256 Grey shades for sharp contrast resolutions.	
4.7	Controls for depth, gain compensation, body markers with transducer position.	
4.8	Shall have real time continuous dynamic focus.	
4.9	Shall have facility for image zoom, freeze, text annotation.	
4.10	The system shall have extensive calculation software package for Ob/Gyn and general imaging.	
4.1	The system must have provision for measurement and calculation of distance, area, volume, heart rate and circumference on the image.	
4.1	The system shall have Tissue Harmonic Imaging.	
4.1	Near and far gain adjustable.	
4.1	Contrast, adjustable.	
4.2	Focus: auto adjustable.	
4.2	Shall have an alpha-numeric keyboard with easy access scans controls and track ball and status display.	
4.2	Cine memory of 250 frames for cine loop playback.	
4.2	Frame rate: not less than 50fps.	
4.2	Display depth: minimum 28-30cm.	
4.20	Dynamic range, selectable up to approximately 165dB.	
4.2	Image storage: Minimum 200 patient's images on main unit.	
4.2	Shall have facility for inbuilt CD writer.	
4.2	System shall be DICOM ready and capable of being interfaced with HIS/RIS/PACS.	
4.2	Facility for future upgradeability.	
4.3	Probe: 2 to 5 MHz convex probe for Obs. /Gyn. and abdominal application is to be supplied.	
5	**Accessories, spares and consumables**	
5.1	**Accessories:**	
	□ Black and white video thermal printer with 50 rolls of high density recording paper: 01 no.	
	□ DVD/CD Recorder with DICOM media transfer.	
	□ Ultrasound gel warmer: 01 unit.	
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.	
6	**Operating Environment**	

6.1	The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature,Humidity, etc. for Sudan.	
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	Shall provide UPS of suitable rating with voltage regulation and spike protection for 30 minutes back-up.	
7	**Standards and Safety Requirements**	
7.1	Must submit ISO 13485:2003/AC: 2007 AND	
7.2	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
7.3	Electrical safety conforms to standards for Electrical Safety IEC 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment.	
8	**User Training**	
8.1	Must provide user training (including how to use and maintain the equipment).	
9	**Warranty**	
9.1	Comprehensive warranty for 2 years after acceptance.	
10	**Maintenance Service During Warranty Period**	
10	During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required.	
11	**Documentation**	
11	User (Operating) manual in English.	
11	Service (Technical / Maintenance) manual in English.	
11	List of important spare parts and accessories with their part number and costing.	

15 **Conventional X-Ray Machine**

No.	Item Specifications	Fill your Specification
I	**Manufacturer Name:**	
II	**Model No.:**	
III	**Country of Origin:**	
1	**Description of Function**	
1.1	A general purpose X-ray machine for routine X-ray examinations at healthcare facilities.	
2	**Operational Requirements**	
2.1	It shall be suitable to be used for adult and paediatric patients in general Radiography examination.	
3	**System Configuration**	
3.1	X-ray Generator,1 unit	
3.2	X-Ray tube & tube support system, 1 unit	
3.3	Radiographic patient table, fixed height1 unit	
3.4	Floor mounted bucky stand, 1 unit	
4	**Technical Specifications**	
I	Should be floor to floor mounted	
	X-ray Generator:	
	Microprocessor based, high frequency inverter generator, the generator shall have at least 50kHz.	
	Generator Output: not less than 30 Kw	
	Radiographic voltage: 40 kV to 140kV, in 1Kv step.	
	Radiographic current approx : 10 to 350 mA	
	Exposure time: 0.001sec (1msec) - 10sec	
	Anatomical Programmable Radiographic mode shall be available.	
	Manual & automatic exposure control and automatic brightness control shall be available.	
	Shall come with overload protection device.	
	Floor Mounted Tube Stand:	
	Longitudinal travel: approx. 1750mm.	
	Vertical travel: from 630 -1850mm or in the range.	
	Movement arrested by electromagnetic brakes.	
	Rotation of tube arm around vertical axis: 1800; lockable at 00 to +/- 900.	

	X-Ray Tube:	
	Maximum tube output shall match with the generator output of not less than 20 Kw.	
	X-ray tube rotating: +/-90°.	
	Large focus not more than 1.2 mm.	
	Small focus not more than 0.6 mm.	
	Maximum tube voltage 140 KV.	
	Filtration: min 2.5mm Al equivalent.	
	Cooling method passive or forced air and/or oil cooling.	
	Anode rotating speed: More than 3000 rpm.	
	Anode heat capacity shall not be less than 200 KHU.	
	Collimator:	
	Manually adjustable.	
	Manually selectable filters.	
	Light localizer with timer controlled light.	
	Built-in light switch should be provided.	
	Turning angle should be min +/- 45 degree.	
	Light source: halogen lamp or better.	
	Radiography Patient Table:	
	Radiography table shall be fixed height, 4-way floating top type with foot switch control.	
	Come with grid and cassette tray, with grid ratio: approx 8:1 or more. Grid line number: 40 line/cm. Focus distance: 115cm.	
	Cassette size: accept all sizes from cassette 5” x 7” cm to 14” x 17” type.	
	Radiography table shall be fixed height of about 60cm.	
	Table top to film distance: approx. 6cm.	
	Table top transverse movement : approx. ±14cm.	
	Table longitudinal movement : approx. ± 29cm.	
	Table top dimension: approx. 2000 x 800 mm (LxW)	
	Table movement arrested by electromagnetic brakes.	
	Floor Mounted Bucky Stand:	
	Vertical travel: from 460-1700mm or in the range.	
	Moving Grid with Grid ratio approx: 8:1 or more. Grid line number: 40 lines/cm.	
	Shall come with Automatic Exposure Control for vertical bucky exposures.	
	Cassette size: accept all sizes from 5”x7” to 14”x17”.	
	Movement arrested by electromagnetic brakes.	
	Control Console:	
	Digital Display.	
	Minimum 3 Point Exposure Technique.	
	Status display, error display.	
	Shall have area dose product determination and display.	
	Shall come with radiography remote control in control room.	
	Accessories, spares and consumables	
	All standard accessories, consumables and parts required to operate the equipment.	
	Power supply:	
	Power supply: 415 ± 5%V (3 Phase), 50Hz fitted with appropriate plug	
	Environmental factors	
	The unit shall be capable of being stored continuously in ambient temperature of 0 - 55deg C and relative humidity of 15-95%	
	The unit shall be capable of operating in ambient temperature of 20-50 deg C and relative humidity of 80%	
	Standards & Safety Requirements	
	Should be CE or FDA approved product certificate.	
	Warranty	
	Comprehensive warranty for 2 years.	
	Documentation	
	User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	

	Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	List of important spare parts, accessories and consumables with their part numbers and costing.	