1 **Anesthesia Machine**

No.	Item Specifications	Fill your Specification
1	**Description of Functions**	
1.1	It shall be an anaesthesia unit with pneumatically or electrically powered and electrically controlled ventilator.	
2	**Operational Requirements**	
2.2	It shall be suitable to be used for adult and paediatric patients.	
3	**System Configurations**	
3.1	It shall come with the main unit and two vaporizers, one for isoflurane and the other for halothane.	
4	**Technical Specifications**	
4.1	Equipment safety standard should follow IEC 60601, document evidence shall be submitted for evaluation	
4.2	On sturdy steel with anticorrosive powder coating trolley running on four antistatic wheels with brakes and drawers	
4.3	Revolving support for possible inclusion of CO2 absorber.	
4.4	Gas inlet: 3 inlets, O2, N2O and Air	
4.5	Gas cylinder yokes: O2 & N2O	
4.6	Should come with accessories for connecting gas supply both from central supply as well as from cylinders.	
4.7	**Flow meter:**	
4.8	It shall come with 6 flow meter columns; 2 flow meter columns for each kind of gas; which 1 column with normal increments and 1 column with small adjustments.	
4.9	The oxygen flow meter shall have adjustment ranges: 1 column approximately from 0 to 1 L/min and the other column approximately from 1 to 10 L/min	
4.10	The Nitrous oxide flow meter shall have adjustment ranges: 1 column approximately from 0 to 1 L/min and the other column approximately from 1 to 10 L/min	
4.11	The air flow meter shall have adjustment ranges: 1 column approximately from 0 to 1 L/min and the other column approximately from 1 to 10 L/min	
4.12	O2, N2O and air pressure gauges	
4.13	Battery backup for not less than 90 minutes of operation	
4.14	Autoclaveable CO2 absorbent canister with minimum 2.5kg soda lime.	
4.15	All circuits shall be detachable, washable and Autoclaveable at most with steam of 134 degree C	
4.16	**Vaporizer**	
4.17	Type of vaporiser : shall be concentration calibrated type, such as variable bypass or heated blender or equivalent	
4.18	It shall accommodate two vaporizers.	
4.19	Come with 2 sets of concentration calibrated type vaporizers and two sets of compatible fillers for one for isoflurane and the other for halothane.	
4.20	Stainless steel supporting arm with two articulations and rail clamp	
4.21	Vaporizer is to be maintenance free with easy re-filling	
4.22	Gas flow control or Oxygen ratio control	
4.23	The N2O and O2 flow control shall be interlocked that the proportion of O2 to N2O will never fall below a minimum value, i.e. O2 concentration shall never be less than 25%, to produce a hypoxic breathing mixture.	
4.24	It shall automatically cut off the supply of N2O and other gases and activate an alarm if O2 pressure drops below 28 - 30PSI, It shall sounds at maximum volume every 10 seconds	
4.25	**Ventilator**	
4.26	Microprocessor based electrically powered and electrically controlled ventilator	
4.27	Operating modes: Manual, spontaneous, VCV	
4.28	Tidal Volume: approximately 50 - 1200 ml	

No.	Item Specifications	Fill your Specification
4.29	Breathing frequency: approximately 5 - 60 breath/min	
4.30	Inspiratory flow: approximately 5 - 70 L/min	
4.31	Pressure limitation : approximately 10 - < 70 cm H2O	
4.32	PEEP (positive end-expiratory pressure): approximately 0 - 20 cm H2O	
4.33	**Monitoring**	
4.34	Alarms shall be available for all vital parameters and system error or failure of at least the following	
a	Concentration of O2	
b	Expiratory volume and flow	
c	High and low airways pressure	
d	Pressure high, low or leakage	
e	Low gas supply pressure	
f	Power failure, low battery, patient disconnection and others	
5	**Accessories, Spare Parts and Consumables**	
5.1	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer.	
5.2	All standard Maintenance tools and cleaning /lubrication materials where applicable shall be included.	
5.3	Silicone breathing circuit for adult and child, 2 complete sets each.	
5.4	Connecting hose with regulator/ flow meter or probe for connection to PIN index oxygen cylinder and BOC type oxygen wall outlet, at least 5 meter length, 1 set	
5.5	Connecting hose with regulator/ flow meter or probe for connection to N2O cylinder or N2O wall outlet, at least 5 meter length, 1 set	
5.6	Connecting hose with regulator/ flow meter or probe for connection to air cylinder or wall outlet, at least 5 meter length, 1 set	
5.7	Silicone test lung adult and child size, 1 set each	
5.8	Silicone rubber anaesthesia face mask adult and paediatric size, 1 pc each	
5.9	O2 sensor, 1 set	
6	**Operating Environment**	
6.1	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length.	
7	**Standards & Safety Requirements**	
7.1	This unit shall be certified to meet ISO9001 and ISO14971 and ISO 13485:2003/AC: 2007 or Directive 93/42/EEC and its subsequent additional Directives amending to it or equivalent. Certificates showing the compliance of this unit offered with any relevant quality and safety standards MUST be submitted with this TSF.	
8	**User Training:**	
8.1	The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.	
9	**Warranty**	
9.1	The warranty period for this item shall be 24 months after acceptance of the Goods	
10	**Maintenance Service During Warranty Period**	
10.1	Preventive and corrective maintenance services during warranty period shall be included.	
11	**Documentation**	
11.1	It must be supplied with detailed operating and maintenance manuals and technical information in the English language	

2 **Autoclave (50 L)**

No.	Item Specifications	Fill your Specification
No.	Item Specifications	Fill your Specification
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**	
	capacity: approx. 50 L.	
	Vertical type.	
	Stainless steel.	
	Digital controlled temperature and pressure system.	
	Steam sterilization, up to 135° C	
	Digital temperature and pressure gauges.	
	Safety devices : over heat (low water cut-off switch , safety valve and release valve)	
	Automatic controlled sterilization cycle.	
	2 modes sterilization (121°c - 134°c)	
	Exhaust system.	
	Stainless steel basket.	
	Double wall case.	
5	**Accessories, spares and consumables**	
	Spare heating element- 2 set	
	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 , Power supply , Humidity, etc. for Sudan.	
	Power supply: 220-240V/ 50 Hz AC Single phase with appropriate plug .The power cable must be minimum 3 Meter	
7	**Standards and Safety Requirements**	
7.1	Must submit ISO 9001 or ISO13485:2003/AC:2007 for Medical Devices AND	
7.2	CE or USFDA approved product certificate.	
	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.	
8	**Warranty**	
8.1	Comprehensive warranty for 2 years.	
9	**Maintenance Service During Warranty Period**	
9.1	During warranty period supplier must ensure corrective/breakdown maintenance whenever required.	
10	**Installation and Commissioning**	
10.1	The supplier must accomplish proper commissioning of the item onsite.	
11	**Documentation**	
11.1	User and/or service manual shall be supplied in English.	
11.2	User (Operating) manual in English	
11.3	Service (Technical / Maintenance) manual in English	
11.4	List of important spare parts and accessories with their part numbers and costing.	
11.5	Certificate of calibration and inspection from factory.	

3 **Auto CPAP**

No.	Item Specifications	Fill your Specification
No.	Item Specifications	Fill your Specification
1	**Description of Functions**	
1.1	Should be an auto adjusting CPAP with pressures ranging from 4 to 20 cmH2O	
1.2	Unit should be light weight (less than 1.5 Kg) and noise less than 30 dBA	
1.3	The unit should have an automatic altitude setting.	
1.4	The unit should have an Automatic mode & manual mode of selection.	
1.5	Should have an Ramp Time Automatic of 5 - 45 minutes	
1.6	Should have a backlit LCD display for easy viewing	
1.7	Should be able to change the settings with easy to use rotary control dial	
1.8	The unit should have comfort feature A-Flex which adjusts air pressure based on patient need on every inhalation & exhalation	
1.9	Unit should have C-flex/C-Flex+ mode when unit is running as manual CPAP.	
1.10	The unit should have System one resistance control for optimized pressure delivery, no matter which mask is used	
1.11	Mask fit and seal monitoring should be capable to check the seal of the mask.	
1.12	Should have advanced event detection algorithm which detects and records CA, OA,CSR, RERA, Hypopnea, Vibratory snore, Large leak & Flow limitation for helping the physicians in opting for alternate therapy.	
1.13	Should have Memory for recording the usage & compliance data .	
1.14	The unit should have 2 years warranty	
1.15	CE or USFDA or TUV approved certificate.	
1.16	MASK: Should be able to select between medium and small size.	
1.17	Mask should be provided with angled exhalation micro ports.	
1.18	Should have blue gel with silicon membrane to create an effective self adjustment seal.	
1.19	The mask should have silicone spring facility to enable patient to move in any direction.	
1.20	HUMIDIFIER also should be supplied along with the System and should be of dry box technology such that it takes the room humidity into account while humidifying.	
1.21	Tubing connection to be at the top of the humidifier unit.	
1.22	Should have sensors both inside and outside the machine to allow it to accurately make changes in humidity and prevent condensation from forming inside the tube.	
1.23	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.	
2	**User Training**	
2.1	Must provide user training (including how to use and maintain the equipment).	
3	**Warranty**	
3.1	Comprehensive warranty for 2 years after acceptance.	
4	**Maintenance Service During Warranty Period**	
4.1	During warranty period supplier must ensure corrective/breakdown maintenance whenever required.	
5	**Documentation**	
5.1	User (Operating) manual in English.	
5.2	Service (Technical / Maintenance) manual in English.	
5.3	List of important spare parts and accessories with their part numbers and costing.	
5.4	Certificate of calibration and inspection from factory.	

4 **Cardiotocography (CTG)**

No.	Specifications	Fill your Specification
1	Antepartum fetal monitor for Foetal HR and contractions tracking.	

No.	Item Specifications	Fill your Specification
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.	

5 **Defibrillator Machine**

No.	Item Specifications	Fill your Specification
1	**Description of Functions**	
1.1	To be used in emergency & critical care departments to meets various resuscitation and monitoring needs.	
2	**Operational Requirements**	
2.1	It shall operate on AC power supply and internal battery.	
3	**System Configurations**	
3.1	Defibrillator with complete accessories.	
4	**Technical Specifications**	
4.1	**Defibrillation function:**	
4.2	It shall be a manual defibrillator for external defibrillation	
4.3	Able to perform synchronized defibrillation and non-invasive pacing therapy.	
4.4	Defibrillation energy selection:	
4.5	External monophasic: 50 - 360J	
4.6	External biphasic: 50 - 200J	
4.7	External Paediatric /neonatal: 2 - 20J	
4.8	System shall be user friendly, lightweight and easily transportable.	
4.9	Waveform shape: biphasic.	
4.10	The defibrillator paddles shall be easily interchangeable among adult, child, infant and internal paddles. It shall come with at least adult and paediatric paddles.	
4.11	Can be used for neonatal/paediatric and adult defibrillation.	
4.12	The unit shall be able to perform defibrillation and monitoring by using disposable electrodes.	
4.13	Shall have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation.	
4.14	Recharge time shall not be held longer than 10 seconds before discharge.	
4.15	Energy charge & discharge and other selection/control buttons shall be available at the paddle handles.	
4.16	**ECG monitoring function:**	
4.17	Shall have a 3-leads ECG, Lead I, II & III, monitoring capability protected from defibrillation by mean of ECG electrodes and through-the-paddles monitoring	
4.18	With heart rate display and alarms	
4.19	With Lead-fault indicator	
4.20	Shall have an integrated thermal printer/ recorder with paper speed of 25mm/sec	

No.	Item Specifications	Fill your Specification
4.21	**General function:**	
4.22	Shall have LCD that displaying at least dual ECG channel, HR, battery status, shock indicator and various data. Bidder to specify size of LCD screen and the no. of waveforms which can be displayed.	
4.23	Shall have audio and visual alarms. (Please indicate in the next column type of alarms available)	
4.24	Shall have HR limit and shockable rhythms alarms	
4.25	Shall have a rechargeable battery when it is fully charged it shall deliver approximately 40 - 50 discharges or 2 hours of continuous ECG monitoring. Bidder to specify the type of battery used and number of discharge and monitoring hour.	
4.26	Must have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation.	
4.27	The unit shall be portable and come with a carrying bag able to keep all required accessories and consumables.	
4.28	Please indicate the weight in kilogram (KG) of the unit included all accessories and carrying case. It shall be within 8kg	
5	**Accessories, Spare Parts and Consumables**	
5.1	**Accessories:**	
	Rechargeable battery, 1 piece on the unit	
	Thermal paper x 2 rolls/sets	
	Power cord x 1 set	
	3 wire ECG cable x 1 set for ECG monitoring	
	Disposable ECG electrodes, 50 pieces	
	Carry Bag/case x 1 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 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 metres in length.	
7	**Standards & Safety Requirements**	
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
7.2	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
7.3	Comply to AHA & ACLS requirements or equivalent	
7.4	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.	
8	**User Training**	
8.1	The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.	
9	**Warranty**	
9.1	Comprehensive warranty for 2 years.	
10	**Maintenance Service During Warranty Period**	
10.1	During the warranty period supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.	
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.	

No.	Item Specifications	Fill your Specification
6	**Diathermy Machine**	

No.	Item Specifications	Fill your Specification
1	**Description of Functions**	
1.1	A 300W diathermy machine (electrosurgical unit)	
2	**Operational Requirements**	
2.1	It shall operate on AC power supply in the operating theatre.	
3	**System Configurations**	
3.1	Diathermy Machine (Electrosurgical) 300W with complete accessories.	
4	**Technical Specifications**	
4.1	Nominal HF output: 300 Watts at ~400 Ohm.	
4.2	At least 2 modes of operation: mono-polar cutting and mono-polar / bipolar coagulation.	
4.3	Mono-polar cutting modes shall have different level of effects from pure cutting to blend cutting (cutting with haemostasis).	
4.4	Come with 3 mono-polar coagulation modes - soft, forced and spray.	
4.5	Desiccate mode for low voltage contact coagulation suitable in delicate tissue work	
4.6	Fulgurate mode for efficient non-contact coagulation in most applications.	
4.7	Spray mode for coagulation large tissue areas with minimum depth of necrosis.	
4.8	Come with 3 bipolar modes: precise, standard and macro or equivalent.	
4.9	Precise mode to have fine control of desiccation in delicate tissue.	
4.10	Standard mode for applications at low voltage to prevent sparking.	
4.11	Macro mode for applications on tissue with high resistance.	
4.12	Control panel with digital setting and display of power of modes used.	
4.13	All mono-polar and bipolar modes shall be controllable by hand switch and footswitch.	
4.14	Bipolar mode can be activated by either foot pedal and / or auto coagulate by using forceps.	
4.15	Footswitches shall be splash proof and unaffected by common OR fluid spills, easy to clean, have suitable mechanical protection against accidental pedal depression and Switches shall not be susceptible to sticking in the ON position.	
4.16	Unit must have automatic power regulating feature to always keep minimum current to the patient throughout the procedures.	
4.17	Shall come with Return Electrode Contact Quality Monitors (RECQMs) to monitor the quality of electrode-skin contact to eliminate the risk of patient's burn. It shall give audio-visual alarm and deactivate output if contact between patient and electrode is loosened or disconnected.	
4.18	Come with output Leakage controller.	
4.19	Shall have over current protection.	
4.20	Shall be able to be activated from only one output at a time.	
4.21	Must have an undefeatable audible activation-tone indicator/alarm.	
4.22	The unit must have RF activation port to tell other equipment like ECG or EEG that RF current is being generated.	
5	**Accessories, Spare Parts 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 Forms.	
5.2	All standard Maintenance tools and cleaning /lubrication materials where applicable shall be included.	
5.3	The unit shall come with trolley well designed to fit the generator with drawers for keeping the accessories	
5.4	One unit/ set of explosion-protected foot pedal for mono-polar and bipolar operation	

No.	Item Specifications	Fill your Specification
5.5	Universal adapter to fit and use with most common electrosurgical instruments/ hand pieces x 1 set.	
5.6	Come with reusable standard mono-polar pencil/ handle with 2 button switch - 1 unit.	
5.7	Reusable mono-polar cord x 1 set.	
5.8	Come with 2 types of reusable standard mono-polar electrodes, 1 piece/ type of electrode.	
5.9	Come with 1 piece of reusable standard mono-polar coagulation forceps.	
5.10	Come with 1 piece of reusable standard bipolar forceps with hand switch.	
5.11	Reusable bipolar cord x 1 set.	
5.12	Reusable connecting cable for patient electrode x 1 set	
5.13	Patient return electrode for Adult & Child, 50 pieces each	
6	**Operating Environment**	
6.1	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length.	
7	**Standards & Safety Requirements**	
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	
7.2	CE (93/42 EEC Directives) or USFDA or TUV approved product certificate.	
7.3	Shall meet IEC 60601-2-2 Medical Electrical Equipment - PART 2-2: Particular Requirements for the Safety of HIGH FREQUENCY SURGICAL EQUIPMENT.	
8	**User Training:**	
8.1	The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.	
9	**Warranty**	
9.1	Comprehensive warranty for 2 years.	
10	**Maintenance Service During Warranty Period**	
10.1	Preventive and corrective maintenance services during warranty period shall be included.	
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.	

7 **ECG Machine**

No.	Item Specifications	Fill your Specification
1	**Description of Function**	
1.1	ECG Machine is primary equipment to record ECG Signal in various configurations.	
2	**Operational Requirements**	
2.1	Microprocessor controlled digital 3 channel ECG machine suitable for adult, paediatric and neonate applications.	
3	**System Configuration**	
3.1	3 channel ECG machine with complete accessories.	
4	**Technical Specifications**	
4.1	3 channel ECG machine with simultaneous acquisition of 12 standard leads: aVR, aVL, aVF, I, II, III and V1-6 pre-cordials.	
4.2	Internal memory for storage of up to 50 ECGs.	
4.3	Splash-resistant alphanumeric keyboard with function keys.	
4.4	With zeroing reset, auto-base-line correction (0.5Hz) and 1mV test/calibration signal.	
4.5	Filter setting for line-frequency (50 or 60Hz) and tremor.	

No.	Item Specifications	Fill your Specification
4.6	Continuous check on the quality of electrodes connection, audio visual alert on loss of signal.	
4.7	Appropriately protected for operation during defibrillation.	
4.8	Alphanumeric colour LCD display, approximately: 4".	
	Display shows ECG-curves, heart rate, patient name and ID, time, age, sex, speed and filter setting.	
4.9	ECG machine shall have 3 modes of operation – Automatic, Manual & Rhythm.	
4.10	Shall have measurements and analysis programs.	
4.11	Measurements: QRS rate, PR interval, QRS duration, QT/QTC, P/QRT/T axes, RV5/SV1.	
4.12	Shall have interpretation and waveform analysis.	
4.13	Shall have maintenance free digital thermal array printer.	
4.14	Printer shall be able to print ECG report and must have on/off selection.	
4.15	Shall have ECG lead annotation facility.	
4.16	Paper speed, user adjustable: 25 and 50mm/sec.	
4.17	CMRR shall be > 100dB.	
4.18	Sensitivity, automatic or user selectable: 5, 10 and 20mm/mV.	
4.19	Rechargeable battery & charger integrated in the device.	
4.20	Battery autonomy, approximately 2 hours.	
4.21	The unit shall be compact, light in weight, easy to carry.	
5	**Accessories, spares and consumables**	
5.1	**Accessories:**	
	□ Reusable Patient cable with reusable electrodes for adult & paediatric- 2 set.	
	□ Reusable patient cable with reusable electrodes for neonate & infant- 1 set.	
	□ Extremity clamp electrodes, reusable- 4 nos.	
	□ Recording paper rolls- 12 rolls	
	□ Bottles of electrode gel, approximately 350ml- 2 nos.	
	□ Spare rechargeable battery pack- 1 no.	
	□ Set of spare fuses- 1 set	
	□ Plastic protective dustcover- 1 no.	
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: 220–240V AC, 50Hz fitted with appropriate plug type D round 3 pins. 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	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.	
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**	
10.1	During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required.	
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.	

No.	Item Specifications	Fill your Specification
11.4	Certificate of calibration and inspection from factory.	

8 **Echo Ultrasound (Dedicated for Cardiology) with UPS**

No.	Item Specifications	Fill your Specification
1	**Description of Function**	
1.1	Echocardiography System is required to study the anatomical abnormalities and blood flow in the heart and associated vessels.	
2	**Operational Requirements**	
2.1	Latest generation Electronic Phased array Colour Doppler system with minimum 512 electronic independent channels.	
	System must be DICOM ready and capable of being interfaced with HIS/RIS/PACS.	
	Must be upgradable to next generation system on site.	
	Frequency compounding or better technology for better resolution and penetration.	
3	**System Configuration**	
3.1	Colour Doppler System with all application packages, quad loop for serial studies with high frame rate review. Harmonic imaging capability in all modes. (Tissue, Contrast, Anglo) Integrated Stress Echo Package, Digital Storage and Retrieval – 01no.	
	1-3 MHz Adult Cardiac probe Electronics Phased Array probe- 01 ea.	
	3-11 MHz Electronics Phased Array Probe for Vascular applications- 01 ea.	
	Multi-plane TEE Probe: 4-8 MHz for Adult as well as Paediatric echocardiography.	
	5-10 MHz Electronic phased array probe for Paediatric cardiology.	
	Colour Printer -01no.	
	B/W Video Thermal Printer -01no.	
4	**Technical Specifications**	
4.1	Latest generation Electronic Phased array colour Doppler system with Minimum 512 Electronic independent channels.	
4.2	256 gray shades for sharp contrast resolutions	
4.3	Multi-dimensional Beam former for generating two images simultaneously-one at low end of bandwidth and one at high end-then selectively retrieves and mixes the components together for finely textured 2-D or B mode image with superior contrast resolution	
4.4	Adult Cardiac and Vascular Probes to be supplied which must be latest generation wide band transducers without frequency selection for higher sensitivity of response over a broader frequency range of operation. All probes to be phased array.	
	Probes for paediatric application and Trans oesophageal Echo for future requirement. (options)	
4.5	Harmonic Imaging: System must have following modes in harmonic with separate setting for:	
	Tissue Harmonic.	
	Contrast Harmonic - both triggered and real time	
	Harmonic Angio.	
	Quantification of harmonics imaging	
4.6	Harmonic imaging capability in Adult Cardiac, Paediatric Cardiac and linear Probe.	
4.7	Gain control in two dimensions for additional level of flexibility to image quality control.	
4.8	Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes	
4.9	Frame rate must be 300 FPS or more.	
4.10	Steerable PW/CW in all Phased Array probes.	

No.	Item Specifications	Fill your Specification
4.11	High definition acoustic zoom for enlarging sections of 2D and colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.	
4.12	Modes - 4D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition colour flow with capability of automatically picking up colour flow as a function of focal depth	
4.13	Monitor must be 15" or more, high resolution colour monitor.	
	Tilt and Swivel monitor must be able to view in all angles and all light conditions.	
4.14	Colour Flow Imaging for:	
	□ Increased lateral & spatial resolution.	
	□ Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate.	
	□ Colour flow with capability of automatically picking up colour flow as a function of focal depth	
4.15	Tissue Colorization (B-colour) for improved contrast resolution	
4.16	Application software for Adult, Paediatric, Foetal and Peripheral Vascular and Trans oesophageal applications. (All application packages must be built into the system).	
4.17	Cine loop memory- more than 120MB of memory.	
	□ High Frame rate review for better clarity of playback images study in slow motion.	
	□ Quad loop with memory for pre and post image comparison of any procedure.	
	□ Memory: 256 frames or more in quad loop. M Mode & Doppler Scroll Memory-40 seconds or more.	
	□ Frame grabber facility for post analysis.	
4.18	Various maps for pre and post processing.	
4.19	ECG triggers facility.	
4.20	User defined system and application pre-sets for multi-user department.	
4.21	Minimum 4.8 GB optical disc drive for image storage and retrieval. (standard with system)	
4.22	Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol.	
4.23	Tissue movement colorization with quantification possibility for IHD/CAD patients.	
4.24	Three transducer ports will be preferred.	
4.25	Colour Map resolution up to 128 levels.	
4.26	Study Manager (> 1.5 GB) for on-cart digital acquisition, review and editing of complete patient studies.	
4.27	Facility of Real time perfusion studies	
4.28	System Peripherals shall include:	
	□ CD Writer with calculation facility on playback.	
	□ Colour Video Printer.	
	□ B/W Thermal Printer.	
5	**Accessories, spares and consumables**	
5.1	**Accessories:**	
	□ DVD/CD Recorder with 100 CDs and 100 DVDs	
	□ Colour Print Paper- 500 sheets	
	□ B/W Thermal Paper - 10 rolls	
	□ ECG Cable - 02nos.	
	□ MO Disc - 10pcs	
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.	

No.	Item Specifications	Fill your Specification
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	UPS of suitable rating conforming to international standards shall be supplied for minimum 30 min. backup for the entire 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	The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment.	
7.4	Type of protection against electric shocks - Class I	
	Degree of protection against electric shocks for ultrasound probes Type "BF"	
	For ECG electrodes Type 'CF"	
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.	
10	**Maintenance Service during Warranty Period**	
10.1	During the warranty period supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.	
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.	

9 **Portable Echo Ultrasound (Dedicated for Cardiology)**

No.	Item Specifications	Fill your Specification
1	**Description of Function**	
1.1	Portable Echocardiography System is required to study the anatomical abnormalities and blood flow in the heart and associated vessels.	
2	**Operational Requirements**	
2.1	Latest generation Electronic Phased array Colour Doppler system with minimum 512 electronic independent channels.	
	System must be DICOM ready and capable of being interfaced with HIS/RIS/PACS.	
	Must be upgradable to next generation system on site.	
	Frequency compounding or better technology for better resolution and penetration.	
3	**System Configuration**	
3.1	Cardiology System with all application packages, quad loop for serial studies with high frame rate review. Harmonic imaging capability in all modes. (Tissue, Contrast, Anglo) Integrated Stress Echo Package, Digital Storage and Retrieval – 01no.	
	1-3 MHz Adult Cardiac probe Electronics Phased Array probe- 01 ea. (state the price sperately)	
	3-11 MHz Electronics Phased Array Probe for Vascular applications- 01 ea. (state the price sperately)	
	Multi-plane TEE Probe: 4-8 MHz for Adult as well as Paediatric echocardiography. (state the price sperately)	
	5-10 MHz Electronic phased array probe for Paediatric cardiology. (state the price sperately)	
	Colour Printer -01no.	
	B/W Video Thermal Printer -01no.	
4	**Technical Specifications**	

No.	Item Specifications	Fill your Specification
4.1	Latest generation Electronic Phased array colour Doppler system with Minimum 512 Electronic independent channels.	
4.2	256 gray shades for sharp contrast resolutions	
4.3	Multi-dimensional Beam former for generating two images simultaneously-one at low end of bandwidth and one at high end-then selectively retrieves and mixes the components together for finely textured 2-D or B mode image with superior contrast resolution	
4.4	Adult Cardiac and Vascular Probes to be supplied which must be latest generation wide band transducers without frequency selection for higher sensitivity of response over a broader frequency range of operation. All probes to be phased array.	
	Probes for paediatric application and Trans oesophageal Echo for future requirement.	
4.5	Harmonic Imaging: System must have following modes in harmonic with separate setting for:	
	Tissue Harmonic.	
	Contrast Harmonic - both triggered and real time	
	Harmonic Angio.	
	Quantification of harmonics imaging	
4.6	Harmonic imaging capability in Adult Cardiac, Paediatric Cardiac and linear Probe.	
4.7	Gain control in two dimensions for additional level of flexibility to image quality control.	
4.8	Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes	
4.9	Frame rate must be 300 FPS or more.	
4.10	Steerable PW/CW in all Phased Array probes.	
4.11	High definition acoustic zoom for enlarging sections of 2D and colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.	
4.12	Modes - 4D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition colour flow with capability of automatically picking up colour flow as a function of focal depth	
4.13	Monitor must be 15" or more, high resolution colour monitor.	
	Tilt and Swivel monitor must be able to view in all angles and all light conditions.	
4.14	Colour Flow Imaging for:	
	Increased lateral & spatial resolution.	
	Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate.	
	Colour flow with capability of automatically picking up colour flow as a function of focal depth	
4.15	Tissue Colorization (B-colour) for improved contrast resolution	
4.16	Application software for Adult, Paediatric, Foetal and Peripheral Vascular and Trans oesophageal applications. (All application packages must be built into the system).	
4.17	Cine loop memory- more than 120MB of memory.	
	High Frame rate review for better clarity of playback images study in slow motion.	
	Quad loop with memory for pre and post image comparison of any procedure.	
	Memory: 256 frames or more in quad loop. M Mode & Doppler Scroll Memory-40 seconds or more.	
	Frame grabber facility for post analysis.	
4.18	Various maps for pre and post processing.	
4.19	ECG triggers facility.	
4.20	User defined system and application pre-sets for multi-user department.	
4.21	Minimum 4.8 GB optical disc drive for image storage and retrieval. (standard with system)	
4.22	Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol.	

No.	Item Specifications	Fill your Specification
4.23	Tissue movement colorization with quantification possibility for IHD/CAD patients.	
4.24	Three transducer ports will be preferred.	
4.25	Colour Map resolution up to 128 levels.	
4.26	Study Manager (> 1.5 GB) for on-cart digital acquisition, review and editing of complete patient studies.	
4.27	Facility of Real time perfusion studies	
4.28	System Peripherals shall include:	
	□ CD Writer with calculation facility on playback.	
	□ Colour Video Printer.	
	□ B/W Thermal Printer.	
5	**Accessories, spares and consumables**	
5.1	**Accessories:**	
	□ DVD/CD Recorder with 100 CDs and 100 DVDs	
	□ Colour Print Paper- 500 sheets	
	□ B/W Thermal Paper - 10 rolls	
	□ ECG Cable - 02nos.	
	□ MO Disc - 10pcs	
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.	
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	The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment.	
7.4	Type of protection against electric shocks - Class I	
	Degree of protection against electric shocks for ultrasound probes Type "BF"	
	For ECG electrodes Type 'CF"	
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.	
10	**Maintenance Service during Warranty Period**	
10.1	During the warranty period supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.	
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.	

10 **Cold Centrifuge with UPS**

No.	Item Specifications	Fill your Specification
1	**Technical Specifications**	
	Lid locking and holding	
	Emergency lid lock release	
	Motor overheating protection	

No.	Item Specifications	Fill your Specification
	Imbalance switch-off	
	Standstill indication	
	Benchtop centerifuge,refrigerated	
	Capacity 4x250ml,swing-out rotor	
	Speed/ RCF: n=15000min/RCF24400	
	temp:controlable from-20cto+40c	
2	**Operating Environment**	
2.1	The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature,Humidity, etc. for Sudan.	
2.2	Power supply: 220-240V/ 50 Hz AC Single phase with appropriate plug .The power cable must be minimum 3 Meter	
2.3	UPS of suitable rating conforming to international standards shall be supplied for minimum 30 min. backup for the entire system.	
3	**User Training**	
3.1	Must provide user training (including how to use and maintain the equipment).	
4	**Warranty**	
4.1	Comprehensive warranty for 2 years after acceptance.	
5	**Maintenance Service During Warranty Period**	
5.1	During the warranty period supplier must ensure corrective/breakdown maintenance whenever required.	
6	**Installation and Commissioning**	
6.1	Supplier must accomplish proper installation and commissioning of the equipment on site.	
7	**Documentation**	
7.1	User (Operating) manual in English	
7.2	Service (Technical / Maintenance) manual in English	
7.3	List of important spare parts and accessories with their part numbers and costing.	
7.4	Certificate of calibration and inspection from factory.	

11 **Plasma extractor**

No.	Item Specifications	Fill your Specification
1	**Description of Function**	
	Suitable for separating plasma from all types of blood collection bags.	
2	**Operational Requirements**	
	Plasma Extractor (Plasma Separation Stand) complete system.	
3	**Technical Specifications**	
	Automatic control system	
	automatic separation of blood components from the blood bag.	
	acrylic Pressure Plate	
	Audiovisual alarm	
	Compression plate designed to exert uniform pressure on the blood bag.	
	Power supply: 220-240V/ 50 Hz AC Single phase with appropriate plug .The power cable must be minimum 3 Meter	
4	**Accessories, spares and consumables**	
	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).	
5	**Operating Environment**	
	The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature,Humidity, etc. for Sudan.	
6	**Standards, Safety and Training**	
	Must submit ISO13485:2003/AC:2007 for Medical Devices AND	

No.	Item Specifications	Fill your Specification
	CE (93/42 EEC Directives) or USFDA approved product certificate.	
7	**User Training**	
	Must provide user training (including how to use and maintain the equipment).	
8	**Warranty**	
	Comprehensive warranty for 2 years after acceptance.	
	Maintenance Service During Warranty Period During warranty period supplier must ensure corrective/breakdown maintenance whenever required.	
9	**Installation and Commissioning**	
	Supplier must accomplish proper installation & commissioning of the equipment on site.	
10	**Documentation**	
	User (Operating) manual in English	
	Service (Technical / Maintenance) manual in English	
	List of important spare parts and accessories with their part numbers and costing.	
	Certificate of calibration and inspection from factory.	

12 **Medical Bed With Mattress (One Movement)**

No.	Item Specifications	Fill your Specification
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.	
4.11	Overall approximate dimension: not less than 1980mm length, 910mm width, 600mm height	
4.12	The mattress negotiable with hospital beds having an overall approximate dimension of not less than 1980mm length, 910mm width.	
4.13	It shall be fire retardant antibacterial treated high density approx. 40kg/m3 PU foam mattress.	
4.14	The mattress shall have thickness of at least 100mm.	

No.	Item Specifications	Fill your Specification
4.15	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.	
4.16	The weight capacity of the mattress shall be more than 100kg.	
4.17	**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.	

13 **Medical Bed With Mattress (Two Movement)**

No.	Item Specifications	Fill your Specification
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 3 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.	
4.11	Overall approximate dimension: not less than 1980mm length, 910mm width, 600mm height	

No.	Item Specifications	Fill your Specification
4.12	The mattress negotiable with hospital beds having an overall approximate dimension of not less than 1980mm length, 910mm width.	
4.13	It shall be fire retardant antibacterial treated high density approx. 40kg/m3 PU foam mattress.	
4.14	The mattress shall have thickness of at least 100mm.	
4.15	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.	
4.16	The weight capacity of the mattress shall be more than 100kg.	
4.17	**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.	

14 **Bed Mattress**

No.	Specifications	Fill your Specification
1	**Description of Function**	
1.1	Mattress is to provide a comfortable platform to rest or sleep upon the bed.	
2	**Operational Requirements**	
2.1	A mattress for hospital bed.	
3	**System Configuration**	
3.1	Hospital Mattress, two sections.	
4	**Technical Specifications**	
4.1	The mattress negotiable with hospital beds having an overall approximate dimension of not less than 1980mm length, 910mm width.	
4.2	It shall be fire retardant antibacterial treated high density approx. 40kg/m3 PU foam mattress.	
4.3	The mattress shall have thickness of at least 100mm.	
4.4	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.	
4.5	The weight capacity of the mattress shall be more than 100kg.	
4.6	**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	**Operating Environment**	
5.1	The product offered shall be designed to be stored and to operate normally under Climate, Temperature,Humidity, etc. for Sudan.	

No.	Item Specifications	Fill your Specification
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.	