12. Infusion Pump

S.N	Technical Specification	Compliance (Yes/ No)	Deviation (if any)	Data sheet/catalog page no. supporting technical specification.
	INFUSION PUMP			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**Description of Function**			
1.1	It provides accurate and continuous flow rate for precise delivery of I.V. medication in critical medical care.			
2	**Operational Requirements**			
2.1	The infusion pump must be user friendly, safe to use and must have battery backup and comprehensive alarm system.			
3	**System Configuration**			
3.1	Infusion pump with battery backup alarm and with complete accessories.			
4	**Technical Specifications**			
4.1	Shall be operated on Peristaltic pump method.			
4.2	Shall have a LED/LCD display with backlight minimum size 3 inch or better.			
4.3	Shall have accuracy of set delivery rate of ±5% in compliance with IEC/ EN 60601-2-24.			
4.4	Shall have delivery rate of 0.1 to 1200ml with increment step of 0.1 ml/h for 0.10 - 100 ml /h and 1.0ml/h for 100 - 1200 ml/h.			
4.5	Shall have Keep vein open (KVO) facility.			
4.6	Shall have facility of audible and visual alarm for lower occlusion, upstream occulsion alarm, air in-line alarm, door open, infusion complete, low battery, drip sensor error, infusion line out.			
4.7	Shall have rechargeable battery having at least 8 hours backup when used at the 5ml/hr rate.			
4.8	Shall have automatic calculation of delivery rate.			
4.9	Shall have free flow protection.			
4.1o	Shall have 3 adjustable pressure occulusion alarm allowing the pumps to be set to the specific therapeutic application.			

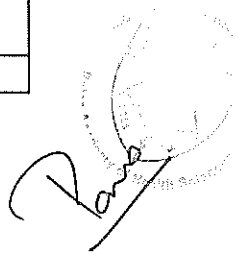
4.11	Shall have dose rate calculation in: ml/h,µg/kg/min,µg/min,µg/kg/h,µg/h,µg/kg/day, µg/day,mg/kg/min,mg/min,mg/kg/h,mg/h,mg/kg/day,mg/day,g/kg/min,g/min,g/kg/h,g/h,g/kg/day,g/day.			
4.12	Shall have facility to give bolus at rate 300 ml/h.			
4.13	Shall have facility for hands on and hands free bolus setting.			
4.14	Shall have IP 24 protection.			
4.15	Shall have post occlusion bolus reduction safety feature to help reduce the possibility of over infusion of drug.			
4.16	Shall have drug library for upto 1000 drugs.			
4.17	Shall have facility for data event log.			
5	**ACCESSORIES**			
5.1	Mounting device - 1 set each			
5.2	Manufacturer IV set - 200 pcs			
5.3	Manufacturer Calibration kit/ tool and software for routine calibration of infusion pumps set - 2 units			
5.4	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 Shall specify the quantity of every item included in their offer. (including items not listed 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, climate, temperature, humidity, etc.			
6.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (FLAT). The power cable Shall be at least 3m long.			
7	**STANDARDS AND SAFETY REQUIREMENTS**			
7.1	Shall submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) and /or USFDA approved product certificate.			
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.			
8	**TRAINING**			

8.1	Shall provide user training (including application: how to use and maintain the equipment) to concerned user until complete familarity with the system.			
8.2	Shall provide service training (installation, assembling, disassembling, trouble shooting) to Bio maintenance staff by certified company engineer of manufacturer and provide certificate of service training completion from manufacturer.			
9	**WARRANTY**			
9.1	Comprehensive warranty for 3 years on system.			
9.2	The warranty starts from the day of complete satisfactory of installation of equipment.			
10	**MAINTENANCE DURING SERVICE PERIOD**			
10.1	During warranty period supplier Shall ensure corrective/breakdown maintenance whenever required.			
10.2	Four preventive maintenance should be performed annually through out warranty period.			
10.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
11	**GUARANTEE**			
11.1	The bidder Shall ensure the service and complete spare parts support for 10 years of the system, including accessories.			
12	**MAINTENANCE CONTRACT PROPOSAL**			
12.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
13	**INSTALLATION, INSPECTION, COMMISSIONING**			
13.1	The bidder Shall 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			
13.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Failure to demonstrate listed specification shall result in rejection of the equipment.			
14	**DOCUMENTATION**			

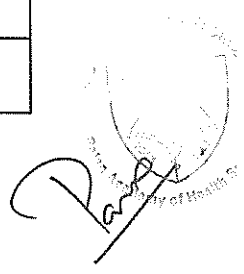
14.1	User (operating) manual in English in printed form. (Mandatory)			
14.2	Service/ Maintenance manual in English in printed form. (Mandatory)			
14.3	Must provide Certificate of calibration and inspection from factory/manufacturer.			
14.4	Please provide a complete list of Spare parts, Accessories and consumables along with cost and part numbers to be used with the system.			
14.5	Company Shall mandatorily (compulsorily) provide Authorization letter from parent (Origin) company proving that they have been legally authorized for dealership (Sales/ Service) of that particular equipment in Nepal.			
14.6	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

13. Syringe Pump

S.N	Technical Specification	Compliance (Yes/ No)	Deviation (if any)	Data sheet/catalog page no. supporting technical specification.
	SYRINGE PUMP			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**Description of Function**			
1.1	The Syringe Syginge Pump provides uniform flow of fluid by precisely driving the plunger of a syringe down its barrel.			
2	**Operational Requirements**			
2.1	The syringe pump must be programmable, user friendly, safe to use and must have battery backup and comprehensive alarm system.			
3	**System Configuration**			
3.1	Syringe pump with battery backup alarm and with complete accessories.			
4	**Technical Specifications**			
4.1	Shall have programmable flow rate from 0.01 to 1200 ml/hr. in increments of 0.1 mll/hr with infused volume displayed.			
4.2	Shall be compatible with commonly used syringe sizes of different manufacturers: 5ml, 10ml, 20ml, 30ml, 50/60ml.			
4.3	Shall have automatic detection of syringe size and proper fixing. Shall provide alarm for wrong loading of syringe.			
4.4	Shall have a LED/LCD display with backlight with minimum display size 3 inch or better.			
4.5	Shall have accuracy of set delivery rate of ±2%			
4.6	Must have visual and audible alarms for occulusion, low battery, empty container, infusion completion, disconnection, syringe disengaged, slider disengaged, wrong size syringe.			
4.7	Shall have facility to give bolus. Both hands free bolus and fix bolus as per need.			
4.8	Should have auto self test feature.			
4.9	It shall have rechargeable battery having at least 8 hours backup at 5ml/hr delivery rate.			
4.1o	Shall have automatic calculation of dose.			



4.11	Shall have post occlusion bolus reduction safety feature to help reduce the possibility of over infusion of drug.			
4.12	Shall have free flow prevention mechanism.			
4.13	Shall have rate mode, volume target mode, body weight mode.			
4.14	Shall have facility for drug library for upto 1000 drugs with facility to set drug dose for individual drug helping to prevent wrong drug dose.			
4.15	Shall display drug volume to be infused, drug infused and drug amount remaining to be infused.			
4.16	Shall have feature for occulsion pressure monitoring and user adjustable 3 level occlusion pressure setting.			
4.17	Shall have IP24 protection.			
4.18	Shall have dose rate calculation in: ml/h,µg/kg/min,µg/min,µg/kg/h,µg/h,µg/kg/day, µg/day,mg/kg/min,mg/min,mg/kg/h,mg/h,mg/kg/ day,mg/day,g/kg/min,g/min,g/kg/h,g/h,g/kg/day, g/day.			
4.19	Shall have data event log feature.			
5	**ACCESSORIES**			
5.1	Mounting device - 1 set each			
5.2	Syringe unit size 20ml and 50ml - 100 pcs each			
5.3	Calibration kit/ tool and software for routine calibration of syringe pump - 2 units			
5.4	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 Shall specify the quantity of every item included in their offer. (including items not listed 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, climate, temperature, humidity, etc.			
6.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (FLAT). The power cable Shall be at least 3m long.			
7	**STANDARDS AND SAFETY REQUIREMENTS**			



7.1	Shall submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) and /or USFDA approved product certificate.			
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.			
8	**TRAINING**			
8.1	Shall provide user training (including application: how to use and maintain the equipment) to concerned user until complete familarity with the system.			
8.2	Shall provide service training (installation, assembling, disassembling, trouble shooting) to Bio maintenance staff by certified company engineer of manufacturer and provide certificate of service training completion from manufacturer.			
9	**WARRANTY**			
9.1	Comprehensive warranty for 3 years on system.			
9.2	The warranty starts from the day of complete satisfactory of installation of equipment.			
10	**MAINTENANCE DURING SERVICE PERIOD**			
10.1	During warranty period supplier Shall ensure corrective/breakdown maintenance whenever required.			
10.2	Four preventive maintenance should be performed annually through out warranty period.			
10.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
11	**GUARANTEE**			
11.1	The bidder Shall ensure the service and complete spare parts support for 10 years of the system, including accessories.			
12	**MAINTENANCE CONTRACT PROPOSAL**			
12.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
13	**INSTALLATION, INSPECTION, COMMISSIONING**			

13.1	The bidder Shall 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			
13.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Failure to demonstrate listed specification shall result in rejection of the equipment.			
14	**DOCUMENTATION**			
14.1	User (operating) manual in English in printed form. (Mandatory)			
14.2	Service/ Maintenance manual in English in printed form. (Mandatory)			
14.3	Must provide Certificate of calibration and inspection from factory/manufacturer.			
14.4	Please provide a complete list of Spare parts, Accessories and consumables along with cost and part numbers to be used with the system.			
14.5	Company Shall mandatorily (compulsorily) provide Authorization letter from parent (Origin) company proving that they have been legally authorized for dealership (Sales/ Service) of that particular equipment in Nepal.			
14.6	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

14. Hemodialysis Machine

S.N	TECHNICAL SPECIFICATION	Feature Available (Yes/No)	Deviation (if any)	Corresponding page no. of data sheet/ catalogue in support of specification
	HEMODIALYSIS MACHINE			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**DESCRIPTION OF FUNCTION**			
	Haemodialysis is a method for removing waste products such as potassium and urea as well as free water from the blood.			
2	**OPERATIONAL REQUIREMENTS**			
2.1	Machine must have facility for acetate, bicarbonate, sequential dialysis.			
3	**SYSTEM CONFIGURATION**			
3.1	Haemodialysis machine, complete unit with complete accessories.			
4	**TECHNICAL SPECIFICATION**			
4.1	The haemodialysis unit shall be microprocessor control and capable of providing the following features:-			
4.1.1	Acetate & bicarbonate dialysis			
4.1.2	Volumetric ultrafiltration			
4.1.3	Sodium & UF profilings			
4.1.4	Built-in clearance monitoring for real time measurement of effective urea clearance (K) and plasma sodium (Na) for therapy assessment.			
4.1.5	Built-in blood pressure monitoring for measuring the patient non-invasive blood pressure and pulse rate automatically.			
4.2	The haemodialysis unit shall have an enlarged and high resolution LCD color screen for dialysis data display.			
4.3	The haemodialysis unit shall have a multi-colour traffic light located on the top of machine monitor indicating the treatment status.			
4.4	The keyboard function keys and LCD color display shall provide an immediate overview of the machine status for treatment supervision.			
4.5	The haemodialysis machine should display informative and context related operator guidance, warning messages and alarm reports			
	The haemodialysis unit shall include the following safety features:			
	Closed System Design			

	Volumetric Ultrafiltration			
	Volumetric Concentrate Dilution			
	Startup test			
4.6	Self-test during treatment			
4.7	The haemodialysis unit shall have an adjustable arterial blood pump flow rate ranging from 15 ml/min to 600 ml/min. The unit shall be capable of calculating effective blood flow rate and display in a real-time basis during dialysis automatically.			
4.8	The haemodialysis unit shall have an adjustable arterial blood pump segment (both for peadatric and adult) for bloodline diameter from 2 mm to 10mm.			
4.9	The haemodialysis machine shall have diagnostic programme for checking individual valves, pumps, closed loop tightness.			
4.1o	The haemodialysis unit shall have user-selectable Dialysate Flow Rate of 0,300, 500, 800 ml/min.			
4.11	The dialysate conductivity shall be adjustable by setting the sodium concentration. The conductivity measurement range should be 12.8 t0 15.7 mS/cm			
4.12	The haemodialysate unit shall have temperature control range from 35.0 to 39.0 °C and tempertature alarm liinits of 33.5 to 40.0 °C			
4.13	The haemodialysis machine shall have the following Volumetric Ultrafiltration Control			
4.13.1	Control Range : 0 to 4 L/hr.			
4.13.2	UF Volume : 0 to 9.99 L adjustable in 1 ml increment.			
4.13.3	Treatment Time : adjustable up to 9 hr 59 min in 1 min increment.			
4.13.4	Isolated ultrafiltration process shall be provided.			
4.14	The haemodialysis unit shall be capable of on-line preparation of bicarbonate dialysis Fluid.			
4.15	The haemodialysis unit shall have a hygienic connection for the ultrapure dialysate fluid filter having an endotoxin retention capacity not less than 10^6. The unit shall have provide a reminder message as tbe end of filter's service life or maximum number of treatments is about to be reached.			
4.16	The measurement of effective urea clearance (K), dialysis dose (Kt/V) and plasma sodium (Na) shall be performed in non-invasive, real-time mode without additional disposable required during the treatment			
4.17	The haemodialysis unit shall be able to operate and monitor the extracorporeal circuit without interruption for atleast 15 min. in case of AC power failure by battery backup.			
4.18	The haemodialysis unit shall have centrally located function keys for easy use.			

4.19	The haemodialysis unit shall have the following features with regards to disinfection and cleaning			
4.19.1	Both chemical and heat disinfections shall be performed.			
4.19.2	Sodium hypochlorite, diluted formaldehyde or peracetic acid may be used as disinfectant.			
4.19.2	Decalcification shall be possible by using citric acid			
4.19.3	Various programmable cleansing cycles can be provided with different phases and timings in accordance with different disinfectants.			
4.19.4	One-touch fully automatic operation including: pre-rinse, chemical-intake for combined disinfection & decalcification, post-chemical mandatory rinse, and automatic power-off; without extra end-user handling during the whole disinfection process.			
5	**ACCESSORIES, SPARE, CONSUMABLES**			
5.1	Bacteria filter - 10 sets extra			
5.2	Dialyzer and tubing - 100 pcs			
5.3	Cansister of recommended disinfectant cleaner: 5 units			
5.4	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 listed 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, climate, temperature, humidity, etc.			
6.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug. The power cable must be at least 3m long.			
7	**STANDARDS AND SAFETY REQUIREMENTS**			
7.1	Must submit ISO13485:2012/AC:2012 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
8	**TRAINING**			
8.1	Must provide user training (including application: how to use and maintain the equipment) to concerned user until complete familarity with the system.			
	The bidder shall provide separate service training followed by practical sessions for clinical on clinical issues and operation of the machine preferably before the supplied machine are brought into operation.			

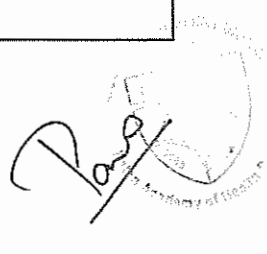
	The bidder should make sure that all the participants of the training be certified upon completion of the training. The detail of training courses shall be supplied at the time of signing contract.			
8.2	The bidder shall be responsible for providing all the training materials including handbooks/training manuals free of cost.			
9	**WARRANTY**			
9.1	Comprehensive warranty for 3 years on system including accessories and parts. Followed by 2 years of free servicing.			
9.2	The warranty starts from the day of complete satisfactory of installation of equipment.			
10	**MAINTENANCE DURING SERVICE PERIOD**			
10.1	During warranty period supplier must ensure corrective/breakdown maintenance whenever required.			
10.2	Four preventive maintenance should be performed annually through out warranty period.			
10.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
11	**GUARANTEE**			
11.1	The bidder must ensure the service and complete spare parts support for 10 years of the system, including accessories.			
12	**MAINTENANCE CONTRACT PROPOSAL**			
12.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
13	**INSTALLATION, INSPECTION, COMMISSIONING**			
13.1	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			
13.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Failure to demonstrate listed specification shall result in rejection of the equipment.			
13.3	The job description of Hospital technical team and Company Service Engineer should be clearly spelt out. Shall provide routine check, weekly check, monthly check and annual check list from manufacturer.			
14	**DOCUMENTATION**			
14.1	User (operating) manual in English both printed form and CD.			
14.2	Service/ Maintenance manual in English in both printed forma and CD.			
14.3	Certificate of calibration and inspection from factory.			

14.4	Please provide a complete list of Spare parts, Accessories and consumables along with cost and part numbers to be used with the system after expiration of warranty for three years.			
14.5	Company must mandatorily (compulsorily) provide Authorization letter from parent (Origin) company to prove that they have been legally authorized for dealership (Sales/ Service) of that particular equipment in Nepal.			
14.6	Bidders must provide company trained certificate of technical trained staff of the above unit.			
14.5	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

15. Blood Gas Analyzer

S.N	Technical Specification	Compliance (Yes/ No)	Deviation (if any)	Data sheet/catalog page no. supporting technical
	Blood gas analyser			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**Description of Function**			
1.1	Blood gas analyzers are used to measure blood gases, electrolytes, pH values and biochemical parameters of the blood			
2	**Operational Requirements**			
2.1	Fully automatic, upgradeable, fast analyser.			
3	**System Configuration**			
3.1	Fully automatic Blood Gas Analyzer with sensor Cassette and built in printer.			
4	**Technical Specifications**			
4.1	Essential Measured parameters; pH, pCO2, pO2, cNa+, cK+, Ca++, cCl-, cLac,Hct . All these parameters must be measured simultaneously.			
4.2	**Calculated parameters must include**			
	cHCO3 -(P), cBase(B), cBase(B,ox), cBase(Ecf), cBase(Ecf,ox), cHCO3 -(P,st), ctCO2(P), ctCO2(B), cCa2+(7.40), Anion Gap (K+), Anion Gap, ctO2, ctHb, sO2, pO2(A), pO2(a/A), pO2(A–a), RI, mOsm			
4.3	Sample volume : 70 µL			
4.4	Sample type: whole blood and capillary			

4.5	Fast analysis time – less than 115 secs			
4.6	Fully automatic liquid solution calibration of all parameters at user-defined intervals without the use of Gas calibrated reagents, external gases, tanks or regulators.			
4.7	Continuous reagent level monitoring.			
4.8	Data display on well-illuminated, adequate size LCD colour touchscreen display of 8inch or more.			
4.9	Data print out on built in graphic printer.			
4.1	Built in auto Quality control facility			
4.11	Automatic result processing, test ordering and transmission to the LIS/HIS system(laboratory Information System/Hospital Information System).			
4.12	Must come with at least 2 USB ports , Barcode reader ,Serial line RS232 , RJ45 Ethernet Port And Must have data capacity of 500 for patient results,system cycle results ,manual QC results and of 1500 for event records & security records.			
5	**ACCESSORIES**			
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 Shall specify the quantity of every item included in their offer. (including items not listed 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, climate, temperature, humidity, etc.			
6.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (FLAT).			
7	**STANDARDS AND SAFETY REQUIREMENTS**			



7.1	Shall submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) and /or USFDA approved product certificate.			
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.			
7.4	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 purpose.			
9.1	Comprehensive warranty for 3 years on system. Followed by 2 years free servicing.			
9.2	The warranty starts from the day of complete satisfactory of installation of equipment.			
10	**MAINTENANCE DURING SERVICE PERIOD**			
10.1	During warranty period supplier Shall ensure corrective/breakdown maintenance whenever required.			
10.2	Four preventive maintenance should be performed annually through out warranty period.			
10.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
11	**GUARANTEE**			
11.1	The bidder Shall ensure the service and complete spare parts support for 10 years of the system, including accessories.			
12	**MAINTENANCE CONTRACT PROPOSAL**			
12.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
13	**INSTALLATION, INSPECTION, COMMISSIONING**			

13.1	The bidder Shall 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.			
13.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Failure to demonstrate listed specification shall result in rejection of the equipment.			
14	**DOCUMENTATION**			
14.1	User (operating) manual in English in printed form. (Mandatory)			
14.2	Service/ Maintenance manual in English in printed form. (Mandatory)			
14.3	Must provide Certificate of calibration and inspection from factory/manufacturer.			
14.4	Please provide a complete list of Spare parts, Accessories and consumables along with cost and part numbers to be used with the system.			
14.5	Company Shall mandatorily (compulsorily) provide Authorization letter from parent (Origin) company proving that they have been legally authorized for dealership (Sales/ Service) of that particular equipment in Nepal.			
14.6	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

16. Electric Needle destroyer

S.N	Technical Specification		Compliance (Yes/ No)	Deviation (if any)	Data sheet/catalog page no. supporting technical specification.
	Electric Needle & Syringe Destroyer (Electro melting type)				
	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				
3	**System Configuration**				
3.1	Electric Needle & Syringe Destroyer (Electro				
4	**Technical Specifications**				
4.1	Housing Enclosure – Moulded type				
4.2	Shock proof & made of ABS plastic with dust				
4.3	Manual cutter – hardened blade of stainless material				
4.4	Needle burning capacity – to destroy Inj.				
4.5	A needle of 1.6mm diameter & 80 mm length				
4.6	Size – not more than 18cm length, 13cm width				
5	**Accessories, spares and consumables**				
5.1	All standard accessories, consumables and				
6	**Operating Environment**				
6.1	The system offered shall be designed to				
6.2	Power supply: 220 – 240 VAC, 50Hz fitted				
7	**Standards and Safety Requirements**				
7.1	Must submit ISO 9001 or				

7.2	CE (93/42 EEC Directives) or USFDA			
8	**User Training**			
8.1	Must provide user training (including how to			
9	**Warranty**			
9.1	Comprehensive warranty for 2 year from			
10	**Maintenance Service During Warranty**			
10.1	Standard warranty conditions are applicable.			
11	**Installation and Commissioning**			
11.1	Must provide preassembled unit ready to use.			
12	**Documentation**			
12.1	User (Operating) manual in English			
12.2	Service (Technical / Maintenance) manual in English			
12.3	List of important spare parts and accessories with their part number and costing.			

17. Defibrillator

	TECHNICAL SPECIFICATION	COMPLIANCE (YES/NO)	DEVIATION (IF ANY)	Corresponding page no. of data sheet/ catalogue in support of specification
	DEFIBRILLATOR			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**TECHNICAL REQUIREMENT**			
1.1	Defibrillator should be Bi-Phasic, Portable and latest model			
1.2	Should print the ECG on thermal recorders.			
1.3	Should work on Manual and Automated external defibrillation (AED) in Bi-phasic mode. The maximum energy delivered by the device should be upto 200J in manual mode and 150 J in AED mode. In AED mode biphasic shocks should be delivered in escalating strengths with inbuilt trans-thoracic impedance compensation.			
1.4	Should be capable of doing synchronized & asynchronized cardioversion			
1.5	Can be operated from mains as well as battery			
1.6	Should have defibrillator self test facility.			
1.7	Should be a low energy biphasic defibrillator monitor with recorder, having capability to arrest all arrhythmia.			
1.8	Should monitor ECG through external paddles and monitoring electrodes and defibrillate through external paddles. Should have automatic/manual switching to see patient ECG through paddles or leads.			
1.9	Should have factory integrated compensation for chest impedance for a range of 25 to 150 ohms			
1.1	Should have a built in printer/thermal recorder			
1.11	Should have charging time of less than **5** seconds for maximum energy. Charging indicator should be there			
1.12	Should have bright TFT colour display 6" or more for viewing messages and ECG waveform.			
1.13	Should have external paddles with paddle contact indicators. Single adult and paediatric paddles should be available.			
1.14	Should have event summary facility for recording and printing.			
1.15	Should have a battery capable of usage for at least 90 minutes of 20 discharges. (approx.)			

1.16	Should be capable of printing reports on event summary, configuration, self test, battery capacity etc.			
1.17	should have facility for self test/check before usage and set up function			
1.18	Should be capable of delivering energy in increments of 1-2 joules up to 10J and increments of 5-20 joules upto 50J.			
1.19	Should have user friendly 1,2,3 or colour-coded operations			
1.2	External Pacing Capability			
2	**ACCESSORIES, SPARE, CONSUMABLES**			
2.1	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer. Bidders shall specify in separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specification form.			
2.2	All Standard maintenance tools and cleaning/lubrication materials where applicable shall be included. Bidders shall specify in separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specification form.			
2.3	Paddles Adult/Paediatric (pair) -01			
2.4	Complete set of ECG Leads along with mother cable			
2.5	ECG paper roll – 5 rolls			
3	**OPERATING ENVIRONMENT**			
3.1	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.			
3.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (flat). The power cable must be at least 3m long.			
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 approved product certificate.			
5	**USER TRAINING**			
5.1	Must provide user training 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.			
5.2	Must provide service training (installation, assembling, disassembling, trouble shooting) to Bio maintenance staff by trained company engineer onsite.			
6	**WARRANTY**			

6.1	Comprehensive warranty for 3 years on the system. Followed by 2 years of free servicing.			
6.2	The warranty starts from the day of complete satisfactory installation of equipment and handover.			
7	**MAINTENANCE DURING SERVICE PERIOD**			
7.1	During warranty period supplier must ensure corrective/breakdown maintenance whenever required.			
7.2	Four preventive maintenance should be performed annually through out warranty period.			
7.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
8	**GUARANTEE**			
8.1	The bidder must ensure the service and complete spare parts support for 10 years of the system, including accessories.			
9	**MAINTENANCE CONTRACT PROPOSAL**			
9.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
10	**INSTALLATION, INSPECTION, COMMISSIONING**			
10.1	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			
10.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Unable to fulfill so, shall result in rejection of equipment.			
10.3	The job description of Hospital technical team and Company Service Engineer should be clearly spelt out.			
11	**DOCUMENTATION**			
11.1	User (operating) manual in English both printed form and CD.			
11.2	Service (Technician/Maintenance) manual in English both printed form and CD.			
11.3	Certificate of calibration and inspection from factory.			
11.4	Please provide a complete list of common Spare parts and Accessories, along with cost and part numbers to be used with system for next three years, applicable after the comprehensive warranty period is over..			
11.5	Bidder must mandatorily (compulsorily) provide Authorization letter from parent (Origin) company to prove that they have been legally authorized for dealership of that particular equipment in Nepal.			

11.6	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

18. Portable Ventilator

S.N	Technical Specification	Compliance (Yes/ No)	Deviation (if any)	Data sheet/catalog page no. supporting technical specification.
	Ventilator, Portable			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	The portable ventilator is used during transport of a patient with artificial respiration support or home care of a patient after discharge from a hospital.			
2	**Operational Requirements**			
2.1	The portable ventilator shall be light weight(< 10 kg)			
	Shall be microprocessor controlled.			
	Shall operate with mains electric supply as well as with battery.			
	Shall be able to work both with cylinders and pipeline, connectors and high-pressure tubing of appropriate length to be supplied.			
3	**System Configuration**			
3.1	Portable ventilator for paediatric to adult and with battery backup for at least 3 hour.			
4	**Technical Specifications**			
4.1	Shall have turbine or equivalent technology for supplying air- oxygen mixture			
4.2	Must have a built in Electronic Blender for Air and Oxygen.			

4.3	Must be able to accept low pressure Oxygen source in addition to High Pressure Oxygen.			
4.4	Facility to estimate the residual capacity of Oxygen Cylinder connected to the ventilator.			
4.5	Must have at least 3 hours of built in battery back-up for the complete ventilator including compressed Air Source.			
4.6	The ventilator shall be compatible with DC power cables for powering the ventilator from Ambulance Cigarette lighter power supply.			
4.7	Shall have following settings			
	a. TV 50 ml – 1000 ml			
	b. PEEP/CPAP 0-20cm H2O			
	c. Pressure Support: 0-40cm H2O			
	d. RR up to 40bpm			
	e. I: E ratio 1:3 to 2:1			
	f. FiO2: 21 – 100%			
	g. Respiratory rate: 0-60 breaths per minute			
4.8	Shall have VCV, PCV with SIMV & PSV. Must be suitable for NPPV application.			
4.9	It shall have ability to adjust variable flow and time termination criterion for PSV.			
4.1	Shall have selectable Flow trigger or Pressure trigger or both.			
4.11	Shall have provision for automatic leak compensation.			
4.12	Shall have monitoring of PIP, Type of breath initiation, Exhaled VT, Total breath rate, I:E ratio, PEEP on display so that these can be read in outdoor conditions often associated with the field ambulances and during patient transfers.			

4.13	Shall have measurement of static compliance & Auto-PEEP through inspiratory & expiratory hold respectively. Shall have apnoea back up ventilation also.			
4.14	Audio-visual alarms for			
	a. Low supply pressure			
	b. High/low airway pressure			
	c. Leakage/disconnection			
	d. Power failure			
	e. Apnea			
	f. Low battery			
4.15	The design of ventilator must be compact in order to store as well as transfer the ventilator in Ambulances (including air ambulances) and / or for inter or intra hospital transfer of patients.			
4.16	Shall fix, on rails of transport trolley and on stand with wheels.			
5	**Accessories, spares and consumables**			
5.1	· Adult Reusable /Autoclaveable Silicon Patient Circuit-02			
	· Paediatric Reusable/Autoclaveable Silicone Patient Circuit-02			
	· Oxygen Hose-01			
	· Air Hose-01			
	· Rechargeable Batteries- 01 set			
	· Disposable Patient Circuits (adult & paediatric)–50 nos.			
	· HME Filters (adult & paediatric)- 100 nos.			
	· Bacteria Filters (adult & paediatric)–100 nos.			

5.2	All standard accessories/consumables/parts required for the proper operation of the above equipment shall be included in the offer.			
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 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (FLAT). The power cable Shall be at least 3m long.			
7	**STANDARDS AND SAFETY REQUIREMENTS**			
7.1	Shall submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) and USFDA approved product certificate.			
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.			
8	**TRAINING**			
8.1	Shall provide user training (including application: how to use and maintain the equipment) to concerned user until complete familarity with the system.			
8.2	Shall provide service training (installation, assembling, disassembling, trouble shooting) to Bio maintenance staff by certified company engineer of manufacturer and provide certificate of service training completion from manufacturer.			
9	**WARRANTY**			
9.1	Comprehensive warranty for 3 years on system.			
9.2	The warranty starts from the day of complete satisfactory of installation of equipment.			

10	**MAINTENANCE DURING SERVICE PERIOD**			
10.1	During warranty period supplier Shall ensure corrective/breakdown maintenance whenever required.			
10.2	Four preventive maintenance should be performed annually through out warranty period.			
10.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime wonld be added as penalty to the warranty period.			
11	**GUARANTEE**			
11.1	The bidder Shall ensure the service and complete spare parts support for 10 years of			
12	**MAINTENANCE CONTRACT PROPOSAL**			
12.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
13	**INSTALLATION, INSPECTION, COMMISSIONING**			
13.1	The bidder Shall 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			
13.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Failure to demonstrate listed specification shall result in rejection of the equipment.			
14	**DOCUMENTATION**			
14.1	User (operating) manual in English in printed form. (Mandatory)			
14.2	Service/ Maintenance manual in English in printed form. (Mandatory)			
14.3	Must provide Certificate of calibration and inspection from factory/manufacturer.			

14.4	Please provide a complete list of Spare parts, Accessories and consumables along with cost and part numbers to be used with the system.			
14.5	Company Shall mandatorily (compulsorily) provide Authorization letter from parent (Origin) company proving that they have been legally authorized for dealership (Sales/ Service) of that particular equipment in Nepal.			
14.6	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

19. Fixed Ventilator

S.N	TECHNICAL SPECIFICATION	COMPLIANCE (YES/NO)	DEVIATION (IF ANY)	Corresponding page no. of data sheet/ catalogue in support of specification
	VENTILATOR			
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**TECHNICAL REQUIREMENT**			
1.1	Microprocessor Controlled Intensive Care ventilator capable of delivering high flow delivery upto 240l/min and ventilating from Pediatric to Adult patients. Shall be able to ventilate pediatric patient below 10 kg weight..			
1.2	Ventilator Should be Rugged, Light Weight, Compact and Mounted on its Own Trolley of same manufacturer as main unit.			
1.3	Should have Dedicated Pediatric and Adult Modes Configurations for Invasive and non Invasive.			
1.4	Should have an Built in 12" Color screen with Touch screen Facility and a single Knob Operation.			
1.5	Should have a Built In Compressor or turbine as an Air source delivering high flow upto 240 L/min and minimum 4 Hours Battery backup for the Whole ventilator Unit including the Compressor.			
1.7	Should have the Following Modes of Ventilation			
	Ø VCV			
	Ø PCV			
	Ø SIMV			
	Ø SIMV-PC			
	Ø PSV			
1.9	Should have Dual Modes like PRVC or equivalent..			
1.1o	Should have user Configurable Apnea Backup.			
1.11	Should have Non Invasive Ventilation (NPPV) with			
	Ø S/T			
	Ø CPAP			
	Ø PCV Modes			
	Ø Should have NIV Specific Trigger			
1.12	Should have the following settings of the parameters.			
	Ø Tidal Volume 20-2000ml			
	Ø Inspiratory Pressure 1-65 CmH20			
	Ø Inspiratory Time 0.2- 10.0 secs			
	Ø Rise Time 1-5sec			
	Ø Rate 4-80 BPM			
	Ø Flow 3-140LPM (VCV)			

	Ø PEEP 0-40 CmH2O			
	Ø PSV OFF, 2-60 CmH2O			
	Ø FiO2 Setting 21-100%			
1.13	Should Have the Following Settings for NPPV Mode			
	i. IPAP 4-40 CmH2O			
	ii. EPAP 4-25 CmH2O			
	iii. CPAP 4-25 cmH2O			
	iv. Rate 4-80 BPM			
	v. Inspiratory Time 0.30 to 3.0 secs			
	vi. Rise Time 1-5			
	vii. Inspiratory Trigger and Cycling Automatic Triggering Facility			
	viii. Fio2 21-100% Oxygen			
1.14	Should have Facility to Visualize Pressure, Flow and Volume Vs Time Scalars and Pressure Vs Volume and Flow Vs Volume Loops.			
1.15	Should have Facility to Freeze Loops and calculate Inflection points.			
1.16	Should have Monitoring of following parameters Including Following Parameters in all Modes PIP, MAP, Total RR, Spont RR, Tidal Volume, Minute Volume, Spont Min Volume, PEEP, Vti, Vte, Ti, Te, FiO2, I:E F/Vt, Ti/Ttot, compliance, resistance.			
1.17	Measured Parameter screen should be configured as per user.			
1.18	Shall have automatic leakage compensation in both invasive and non-invasive ventilation modes.			
1.19	Shall have facility for monitoring intrinsic PEEP and expiratory pause.			
1.2o	Should have battery backup of minimum 4 Hours for complete ventilator unit including compressor and ventilator should show the remaining battery time on the screen.			
1.21	Should Have User settable alarms for the Following			
	O High/Low Pressure			
	Ø High Low Minute Volume			
	O High/Low Tidal Volume			
	O High/Low Spontaneous Tidal Volume			
	O High/Low Leak			
	O Hi PEEP			
	Ø High Rate			
	O Apnea Time			
	O Patient Disconnect			
1.23	Shall have inbuilt nebulization system. For pediatric and adult patients. Standard nebulization kit for pediatric and adult to be provided.			

1.24	Shall have various weaning ventilatory tools. Bidder to specify the weaning ventilatory tools.			
1.25	Shall have automatic tube compensation.			
1.26	Shall have oxygen therapy facility.			
2	**ACCESSORIES, SPARE, CONSUMABLES**			
2.1	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer. Bidders shall specify in separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specification form.			
2.2	All Standard maintenance tools and cleaning/lubrication materials where applicable shall be included. Bidders shall specify in separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specification form.			
2.3	Air intake filter, 5 sets for 5 replacements.			
2.4	Reusable silicon autoclaveable breathing circuit for adult and pediatric, 2 complete set each.			
2.5	Connecting hose with regulator/ flow meter or probe for connection to Pin index oxygen cylinder and BOC type oxygen wall outlet, 3 meter length, 1 set.			
2.6	Nebulization kit for adult and pediatric- 5 pc each			
2.7	Silicon test lung adult and pediatric size, 2 set each.			
2.8	Patient humidifer F&P MR 850, 1 pc			
2.9	Humidifier bracket, 1 pc			
2.1o	Hinged arm, 1 pc			
2.12	Extra Expiratory Flow sensors, 10 pcs			
3	**OPERATING ENVIRONMENT**			
3.1	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.			
3.2	Power Supply: 220 - 240 VAC, 50 Hz Single phased fitted with appropriate 3 pin plug (flat). The power cable must be at least 3m long.			
4	**STANDARDS AND SAFETY REQUIREMENTS**			
4.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
4.2	CE (93/42 EEC Directives) and USFDA (510K) approved product certificate.			
4.3	Certified to be compliant with ANS/IEC60601.2.12-01 Medical Electrical Equipment - Part 2 - 12; Particular Requirements for the safety of Lung Ventilators - Critical Care Ventilators.			
5	**TRAINING**			
5.1	Must provide user training to enable operators to use the equipment properly. The training shall include the use of all operational clinical functions of the equipment, as well as routine checks and maintenance expected by users.			

5.2	Must provide service training (installation, assembling, disassembling, trouble shooting) to at least two Bio maintenance staff by trained company engineer at authorized service training center and provide certificate of training completion.			
6	**WARRANTY**			
6.1	Comprehensive warranty for 3 years on the system including accessories and parts. Followed by 2 years of free servicing.			
6.2	The warranty starts from the day of complete satisfactory installation of equipment and handover.			
7	**MAINTENANCE DURING SERVICE PERIOD**			
7.1	During warranty period supplier must ensure corrective/breakdown maintenance whenever required.			
7.2	Four preventive maintenance should be performed annually through out warranty period.			
7.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
8	**GUARANTEE**			
8.1	The bidder must ensure the service and complete spare parts support for 10 years of the system, including accessories.			
9	**MAINTENANCE CONTRACT PROPOSAL**			
9.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
10	**INSTALLATION, INSPECTION, COMMISSIONING**			
10.1	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			
10.2	Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Unable to fulfill so, shall result in rejection of equipment.			
10.3	The job description of Hospital technical team and Company Service Engineer should be clearly spelt out.			
11	**DOCUMENTATION**			
11.1	User (operating) manual in English both printed form and CD.			
11.2	Service (Technician/Maintenance) manual in English both printed form and CD.			
11.3	Certificate of calibration and inspection from factory.			
11.4	Please provide a complete list of common Spare parts and Accessories, along with cost and part numbers to be used with system for next three years, applicable after the comprehensive warranty period is over..			
11.5	Bidder must mandatorily (compulsorily) provide Authorization letter from parent (Origin) company to prove that they have been legally authorized for dealership of that particular equipment in Nepal.			
11.6	Bidder must provide a copy of certificate of service engineer having been trained in the above mentioned system for proper installation and after sales service.			

11.7	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			

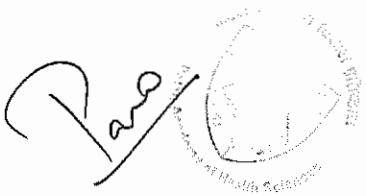
20. High End Ultrasound Machine

S.N	Technical Specification	Feature Available (Yes/No)	Deviation (if any)	Corresponding page no. of data sheet/ catalogue in support of specification
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**TECHNICAL REQUIREMENT**			
1.1	The system must be high end and should be latest launch and state of the art with fully digital technology equipment to incorporate the facility of 2D, M-Mode, CDI, PW Doppler, Power Doppler, directional power angio, Contrast Imaging, Elastography imaging, Real time 3-D(4-D), Imaging for abdomen, obstetrics & Gynae, Cerebrovascular, peripheral vascular, adult trans-cranial & superficial parts imaging like breast, scrotum, thyroid and musculoskeletal.			
1.2	System must be offered with a minimum of 50,00,000 digital processed channels. Original technical data sheet should be enclosed in technical bid to support the number of channels on the systems. If not mentioned Please attach a letter from manufacturer along with the technical bid clearly stating the digital processed channels of the offered system.			
1.3	System must have Convex transducer with High Density crystal technology or purewave technology or matrix technology for excellent grayscale Image quality on Difficult to image patients. Please mention the High Density crystal technology or purewave technology or matrix technology being used in the transducer. Original technical data sheet should be enclosed in technical bid to support the technology. System offered with normal crystal technology will be rejected.			
1.4	System must be offered with a (APPROX.) 23 inch High Resolution Flat Panel Medical grade Display monitor with freely articulatig mobile arm for up/down side to side movement.			
1.5	System should have at-least 4 Imaging universal active probe ports with electronic switching facility from key board and an extra parking slot would be preferable.			
1.6	Operating modes B-mode,M-Mode, B/M Mode, Doppler Mode,Colour flow,Power Doppler, DCA/DPA, Contrast Imaging, B/Colour flow, PW Doppler, CW Doppler, realtime 3D/4D Imaging, strain based Elastography Imaging.			
1.7	System should support broadband & multi frequency probes spanning a frequency of 1- 17 MHz			
1.8	System should have a dynamic range of minimum 300 dB or more so that variety of patient sizes can be handled without compromise. Please mention dynamic range in the technical bid with supporting specification sheet.			
1.9	Auto trace & automatic Doppler calculations should be available in Live & frozen images.			
1.1o	System must be offered with High Definition Speckle Reduction Imaging, which is a real-time algorithm that increases contrast resolution by reducing speckle noise while maintaining true tissue appearance Image processing technique to remove speckles and clutter artifacts. Should demonstrate and show multiple transmitted line of sight in convex, linear and endocavity probes.			

1.11	B Mode and B color simultaneous should be available side by side real time display of B-Mode and color flow. Digital zoom facility of region of interest in real time and frozen images should be available.			
1.12	System should be capable of scanning depth of 30 cm. Scanning Depth should be clearly mentioned in the technical quote If not mentioned Please attach a letter from manufacturer along with the technical bid clearly stating the scanning depth of 30 cms. in the offered system.			
1.13	System must be offered with an 2D frame rate of at least 880 frames/second. Acquisition frame rate should be clearly mentioned in the technical quote If not mentioned Please attach a letter from manufacturer along with the technical bid clearly stating the frame rate of the offered system			
1.14	Should have dedicated feature for clear visualization of Needle for biopsy and other procedures.			
1.15	The System should have Panoramic imaging and extended field of view imaging.			
1.16	The system should have Contrast Harmonic Imaging and should have optimization settings to detect the Contrast Agents. Please specify other advanced Technologies to perform better Contrast Harmonic Imaging.			
1.17	The System should be quoted with Strain based Elastography for Breast Imaging accompanied by quantification package software.			
1.18	The System should be quoted with Liver Elastography imaging using shearwave acoustic push pulses and tracking pulses to assess diffused liver and tissue stiffness. The reading must be in both in m/s and kPa			
1.19	The System should be quoted with protocol driven workflow for assessing the fetal heart data set and giving views as recommended by ISUOG Fetal Cardiac Screening Guidelines or equivalent.			
1.2o	Shall have user friendly, high resolution user interface touch panel and intuitive keyboard around 10inch or more in size.			
1.21	System should have inbuilt HDD of 1TB or above.			
1.22	System should have extensive image management capability including thumbnail review, cineloop editing's and so on.			
1.23	System should have Real-time Virtual Sonography function is able to synchronize the volume data which was previously acquired by CT, MRI, PET, or US and in real-time US image.			
1.24	Shall have tissue harmonic imaging (THI).			
1.25	Shall have real time compound imaging feature for better image quality.			
1.26	Shall have triplex imaging feature.			
1.27	Shall have DICOM 3.0 software.			
2	**SYSTEM MUST BE THE FOLLOWING TRANSDUCERS**			
2.1	2- 6 MHz Convex Transducer for General Imaging, Renal, OB/GYN, abdominal imaging with capabilities of Elastography imaging. This probe must have either single crystal technology or purewave or matrix technology for excellent grayscale Image quality on difficult to image patients .Please mention the crystal or matrix technology used in the transducer by attaching technical data sheet of transducer.			
2.2	5–8 MHz Broadband Micro convex Transducer for paediatric abdominal and neurosonogram imaging.			
2.3	9- 14 MHz Linear Array Transducer for scanning Vascular, breast, Musculoskeletal, small parts imaging and with elastography imaging.			
2.5	4 – 9 MHz Broadband Transducer for endocavity imaging with capabilities of CEUS and strain based Elastography imaging. Also, provide Prostatic biopsy instrument in endocavity probe.			

2.6	2- 4 MHz Broadband Volume 4D probe for General Imaging, Abdomen, Renal, OB/GYN imaging.			
3	**System should be supplied with the following peripheral devices :**			
3.1	Thermal B/W Printer.			
3.2	ONLINE UPS for 30 minutes backup.			
3.3	Latest Pentium PC(off-cart workstation) with software for analysing and quantification of 2D and 3D data sets. CD/DVD writer with Image Management Software and laser Printer. PC should be offered with a flat panel 17 inch display monitor. (Hardware essential for OFF-CART Quantification).			
4	**ACCESSORIES, SPARE PARTS, CONSUMABLES**			
4.1	All standard accessories, consumables and spare parts required for the proper operation of the above item must be included in the offer.			
4.2	Bidder shall specify in a separate document the quantity and details of any items included in this offer which have not been specififed in this Technical Specification.			
5	**POWER SUPPLY**			
5.1	Power supply: 220 - 240 VAC, 50 Hz Single Phase , 50 Hz fitted with appropriate 3 pin plug Flat.			
5.2	The power cable must be at least 3 meters in length.			
5.3	UPS of suitable rating to be provided for 30 min backup time.			
6	**STANDARD AND SAFETY**			
	Must submit ISO 13485:2003/AC: 2007 **AND**			
	CE (93/42 EEC Directives) and USFDA (510K) approved product certificate.			
6.1	Electrical safety conforms to standards for Electrical Safety IEC 60601-2-37 Medieal electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment.			
7	**WARRANTY**			
7.1	Three years complete comprehensive warranty on the System along with PROBES supplied. Followed by 2 years of free servicing.			
7.2	The warranty starts from the day of complete satisfactory installation of equipment.			
8	**GUARANTEE**			
8.1	The bidder must ensure the service and complete spare parts support for 10 years of the system, including accessories.			
9	**MAINTENANCE DURING WARRANTY PERIOD**			
9.1	During the warranty period supplier must ensure planned preventive maintenance (PPM) along with correctivc/breakdown maintenance whenever required.			
9.2	Minimum 4 Preventive Maintenance service to be carried out yearly.			
9.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
10	**MAINTENANCE CONTRACT PROPOSAL**			
10.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
11	**TRAINING**			
11.1	Along with in house clinical application training, suppliers must provide Clinical Application training to at least three concerned doctors at authorized training center.			
11.2	Must provide Service training (maintenance and troubleshooting) to at least two Biomedical maintenance staff by trained company engineer at authorized training center and provide certificate at the completion of training.			

12	**INSTALLATION, INSPECTION, COMMISSIONING**			
12.1	Suppliers must accomplish proper installation and commissioning of the equipment on site. Inspections to verify the compliance of the offered equipment as per specifications will be conducted by the technical team appointed by the Hospital. Unability to pass the verification shall result in cancellation of the tender. Bidder to provide letter stating confirmation with the above statement.			
12.3	Log book with instruction for daily, weekly, monthly, and quarterly maintenance checklist should be provided.			
12.4	The job description of Hospital technical team and Company Service Engineer should be clearly spelt out. Manufacturer recommended routine/weekly/monthly/annual checklist for in-house biomaintenance staff must be provided.			
13	**DOCUMENTATION**			
13.1	User (operating) manual in English both printed form and CD.			
13.2	Service (Technician/Maintenance) manual in English both printed form and CD.			
13.3	Certificate of calibration and inspection from factory.			
13.4	Bidders must provide letter of authorization from Company of Origin or Parent company citing that they have been officially recognized as the dealer for sales/service support in Nepal for the tendered system.			
13.5	Bidders should mention model number and provide availability chart or Yes/No chart with original catalogue having specification as provided by the manufacturing company. Photocopy, Scan copy or self made specification will not be accepted.			



21. High End Ultrasound Machine for Obstetrics and Gynaecology

S.N	Technical Specification	Feature Available (Yes/No)	Deviation (if any)	Corresponding page no. of data sheet/ catalogue in support of specification
	Manufacturer:			
	Brand:			
	Type/Model:			
	Country of Origin:			
1	**TECHNICAL REQUIREMENT**			
1.1	The system must be high end and should be latest launch model and state of the art with fully digital technology equipment to incorporate the facility of 2D, M-Mode, CDI, PW Doppler, Power Doppler, directional power angio, Contrast Imaging, Elastography imaging, Real time 3-D(4-D), Imaging for abdomen, obstetrics & Gynae, Cerebrovascular, peripheral vascular, adult trans-cranial & superficial parts imaging like breast, scrotum, thyroid and musculoskeletal.			
1.2	System must be offered with a minimum of 50,00,000 digital processed channels. Original technical data sheet should be enclosed in technical bid to support the number of channels on the systems. If not mentioned please attach a letter from manufacturer along with the technical bid clearly stating the digital processed channels of the offered system.			
1.3	System must have Convex transducer with High Density crystal technology or purewave technology or matrix technology or single crystal technology for excellent grayscale Image quality ondifficult to image patients. Please mention the technology being used in the transducer. Original technical data sheet should be enclosed in technical bid to support the technology. System offered with normal crystal technology will be rejected.			
1.4	System must be offered with approx. 23 inch High Resolution Flat Panel Medical grade Display monitor.			
1.5	System should have at-least 4 Imaging universal active probe ports with electronic switching facility from key board and an extra parking slot would be preferable.			
1.6	Operating modes B-mode,M-Mode, B/M Mode, Doppler Mode,Colour flow,Power Doppler, DCA/DPA, Contrast Imaging, B/Colour flow, PW Doppler, CW Doppler, foursight 3D/4D Imaging, strain based Elastography Imaging.			
1.7	System should support broadband & multi frequency probes spanning a frequency of 1-17 MHz			
1.8	System should have a dynamic range of minimum 300 dB or moreso that variety of patient sizes can be handled without compromise. Please mention dynamic range in the technical bid with supporting specification sheet.			
1.9	B Mode and B color simultaneous should be available side by side real time display of B-Mode and color flow. Digital zoom facility of region of interest in real time and frozen images should be available.			
1.1o	Auto trace & automatic Doppler calculations should be available in Live & frozen images.			
	System must be offered with High Definition Speckle Reduction Imaging, which is a real-time			

1.11	algorithm that increases contrast resolution by reducing speckle noise while maintaining true tissue appearance Image processing technique to remove speckles and clutter artifacts. Should demonstrate and show multiple transmitted line of sight in convex, linear and endocavity probes.			
1.12	System should be capable of scanning depth of 30 cm. Scanning Depth should be clearly mentioned in the technical quote If not mentioned Please attacb a letter from manufacturer along with the technical bid clearly stating the scanning depth of 30 cms. in the offered system.			
1.13	System must be offered with an 2D frame rate of at least 880 frames/second. Acquisition frame rate should be clearly mentioned in the technical quote If not mentioned Please attach a letter from manufacturer along with the technical bid clearly stating the frame rate of the offered system			
	System must be offered with user friendly high resolution user interface touch panel which is minimum 10 inch. User friendliness will be given priority.			
1.14	The System should have Panoramic imaging and extended field of view imaging.			
1.15	The system should have Contrast Harmonic Imaging and should have optimization settings to detect the Contrast Agents. Please specify other advanced Technologies to perform better Contrast Harmonic Imaging.			
1.16	The System should be quoted with protocol driven workflow for assessing the fetal heart data set and giving views as recommended by ISUOG Fetal Cardiac Screening Guidelines or equivalent.			
1.17	Shall have tissue harmonic imaging (THI).			
1.18	Shall have real time compound imaging feature for better image quality.			
1.19	Shall have triplex imaging feature.			
1.2o	Shall have automatic gynecology and obstetrics examination measurement and calculation package including automatic 4D measurement, volume rendering and calulations.			
1.21	Obstetric analysis; BPD, CRL, AC, HC, FL, GS, GA, EDD, Fetal weight, Amniotic fluid. Perferable: GA, HL, TL, RL.			
1.22	Shall have DICOM 3.0 software.			
1.23	Shall have advanced fetal visulization tools. Bidder to specify the tools present in the system.			
1.24	System should have Real-time Virtual Sonography function is able to synchronize the volume data which was previously acquired by CT, MRI, PET, or US and in real-time US image.			
1.25	Shall have inbuilt HDD of 1 TB capacity for storing images, cine.			
2	**SYSTEM MUST BE THE FOLLOWING TRANSDUCERS**			
2.1	2- 6 MHz Convex Transducer for General Imaging, Renal, OB/GYN, abdominal imaging. Must have Tissue Harmonic Imaging. This probe must have either single crystal technology or purewave or matrix technology for excellent grayscale Image quality on difficult to image patients .Please mention the crystal or matrix technology used in the transducer by attaching technical data sheet of transducer.			
2.3	9- 14 MHz Linear Array Transducer for scanning Vascular, breast, Musculoskeletal, small parts imaging.			
2.5	4 – 9 MHz Broadband Transducer for endovaginal imaging. Also, provide biopsy instrument in endovaginal probe.			
2.6	2- 4 MHz Broadband Volume 4D probe for General Imaging, Abdomen, Renal, OB/GYN imaging.			
3	**System should be supplied with the following peripheral devices :**			
3.1	Thermal B/W Printer.			

3.2	ONLINE UPS for 30 minutes backup			
3.3	Latest Pentium PC(off-cart workstation) with software for analysing and quantification of 2D and 3D data sets. CD/DVD writer with Image Management Software and laser Printer. PC should be offered with a flat panel 17 inch display monitor.(Hardware essential for OFF-CART Quantification).			
4	**ACCESSORIES, SPARE PARTS, CONSUMABLES**			
4.1	All standard accessories, consumables and spare parts required for the proper operation of the above item must be included in the offer.			
4.2	Bidder shall specify in a separate document the quantity and details of any items included in this offer which have not been specifiifed in this Technical Specification.			
5	**POWER SUPPLY**			
5.1	Power supply: 220 - 240 VAC, 50 Hz Single Phase , 50 Hz fitted with appropriate 3 pin plug Flat.			
5.2	The power cable must be at least 3 meters in length.			
5.3	UPS of suitable rating to be provided for 30 min backup time.			
6	**STANDARD AND SAFETY**			
6.1	Must submit ISO 13485:2003/AC: 2007 **AND**			
	CE (93/42 EEC Directives) and USFDA (510K) approved product certificate.			
	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.			
7	**WARRANTY**			
7.1	Three years complete comprehensive warranty on the System along with PROBES supplied. Followed by 2 years of free servicing.			
7.2	The warranty starts from the day of complete satisfactory installation of equipment.			
8	**GUARANTEE**			
8.1	The bidder must ensure the service and complete spare parts support for 10 years of the system, including accessories.			
9	**MAINTENANCE DURING WARRANTY PERIOD**			
9.1	During the warranty period supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.			
9.2	Minimum 4 Preventive Maintenance service to be carried out yearly.			
9.3	95% uptime should be guaranteed. If down time exceeds 5% triple the downtime would be added as penalty to the warranty period.			
10	**MAINTENANCE CONTRACT PROPOSAL**			
10.1	A written document for AMC (Annual Maintenance Contract) and CMC (Comprehensive Maintenance Contract) to be submitted separately.			
11	**USER TRAINING**			
11.1	Along with in house training, suppliers must provide Clinical Application training to at least two concerned doctors at authorized training center.			
11.2	Must provide Service training (maintenance and troubleshooting) to at least two Biomedical maintenance staff by trained company engineer at authorized training center and provide certificate at the completion of training.			
12	**INSTALLATION, INSPECTION, COMMISSIONING**			

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