Terms of Reference (ToR)

for supplying Medical Equipment & Furniture

Project Title	Health System Recovery Project, Nuwakot
Type of service	Supply of Medical Equipment & Furniture
Location	District (Trishuli) Hospital, Nuwakot
Name of the company/firm	External company/firm/supplier
Deadline of ITB submission	28 September 2020
Anticipated completion of project	30 November 2020

1. General Background

Good Neighbors International (GNI) Nepal has been working in Nepal since 2002 with the objective of improving lives of the poor people especially children through education, child protection, and income generating activities, health, WASH, and disaster risk reduction. GNI Nepal has been operating its interventions in 20 districts.

2. Project Description and Rationale

Good Neighbors International with funding from the Korea International Cooperation Agency (KOICA) is implementing Health System Recovery Project (HSRP) in Nuwakot District since December 2015 with an objective of improving the health status and psychosocial well-being of community members through post-disaster recovery. HSRP covers 2 municipalities and 5 rural municipalities. The Health System Recovery Project aims:

a. To improve Maternal and Child Health (MCH) status in target communities

b. To improve services of Adolescent Sexual and Reproductive Health (ASRH)

c. To improve students, psycho-social status

d. To improve Health Facility with Functional Equipment

One of the main objectives of HSRP project is to make functional health facilities equipped with necessary medical equipment and furniture. KOICA has constructed 10 health posts and a district hospital in Nuwakot district. GNI Nepal is planning to supply all the necessary medical equipment and furniture to those Health Posts and hospital constructed by KOICA.

3. Support of medical equipment & Furniture and Office Furniture

Most of the health facilities in Nuwakot district were destroyed by the 2015 earthquake. HSRP has been working to re-vitalize services at health facilities. Additionally, Nepal government plans to provide basic maternity services including delivery services by establishing birthing centres at each health posts. Therefore, this Project is committed to supplying medical equipment and furniture as per the government standard.

4. Scope of the work

Under this assignment, complete furniture and equipment will be placed in newly constructed district (Trishuli) hospital. In this phase, District (Trishuli) Hospital will be supported with Medical Equipment & Furniture and Office Furniture. This is a re-ITB for the medical equipment and furniture which are not finalised through its first ITB. The list of medical equipment and furniture is mentioned in ***Annex I.***

The bidder shall supply either all the equipment and furniture or single item.

5. Quantity and specification of supply items

The quantity and specification of the required Medical Equipment & Furniture is mentioned in technical specification form ***Annex II***.

6. Expected Deliverables

Followings deliverables are the expected from the supplier;

- Supply of Medical Equipment & Furniture as per the specification.
- Transportation of commodities in good condition to District (Trishuli) hospital in Nuwakot.
- Proper installation of Medical Equipment & Furniture in hospital
- Orientation on operating/handling procedure and safety measures to concerned staffs.
- Maintenance or replacement of the Medical Equipment & Furniture, in case of problems after sales as per warranty.

7. Duration

After the signing of the agreement, it is expected that the delivery, installation and orientation should be executed within 60 days from receiving the purchase order.

The project shall be completed by 30 December 2020.

8. Budget and Payment Procedure

The supplier/firm should submit a complete budget with detailed breakdown including applicable taxes at the time of submission of **ITB**. The bidding form is given in the ***Annex-III.*** The budget covers the price of the commodity, transportation cost, cost of installation of equipment/furniture and orientation to concerned staffs and any other applicable costs.

The supplier/firm shall bear all the tariffs, duties and applicable taxes or charges levied at any stage during the execution of the work. Any loss and/or damage of supplied commodity during packaging, transportation, and installation will be the responsibility of supplier/firm, no compensation will be provided by GNI regarding this loss/damage.

Mode of Payment

The payment shall be made in instalment basis.

1. **1st Instalment:** 25% of PO amount within 7 working days of
2. **2nd Instalment:** 40% After the delivery of materials
3. **3rd Instalment:**35%after completion of the tasks

9. Acceptance of Proposal

All rights to accept or reject the proposal without giving any notice and reason shall be reserved with GNI Nepal. If deemed necessary, the firm/supplier shall be asked for modification and presentation of the proposal before approval.

10. Management of the supply

The selected company/firm will be responsible to supply the commodity and be accountable for the timely delivery of the expected quality and quantity of commodities.

11. Bid Security

- The bidder shall furnish, as part of its bid, a bid security amounting 1% should be made through bank Guarantee letter in the name Good Neighbors International with 60 days' validity.
- Unsuccessful bidders' bid security will be discharged as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity. The successful bidder's bid security will be discharged after signing the agreement.

The bid security may be forfeited:

(a) if the Bidder withdraws its bid during the period of bid validity specified by the Bidder in the Bid Form; or

(b) in the case of a successful Bidder, if the Bidder fails to sign the contract

12. Late Bids

Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, will be declared "Late" or "Rejected" and returned unopened to the Bidder.

13. Modification and Withdrawal of Bids

The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission.

14. Responsibilities

a. Supplier/firm

The supplier/firm will be responsible to accomplish the task outlined by this ToR and ensure the delivery of commodities stated above within the agreed budget and timeline.

b. GNI Nepal

- GNI Nepal guided by its policies and practices will assist the supplier/firm to achieve the objective of this ToR.
- Make physical verification and approve each equipment/ furniture by a person assigned by GNI before and after dispatching of commodities.

15. Termination of the contract

GNI Nepal will terminate the contract if the supplier/firm commits a breach in the performance or observance of its obligation under this ToR. The supplier/firm shall be notified in writing a week prior to the termination of the agreement.

16. Confidentiality

During the performance of the assignment or any time after expiry or termination of the agreement, the supplier/firm shall not disclose to any person or otherwise make use of any confidential information which the company/firm has obtained or may obtain in the course of the work relating to GNI Nepal and other stakeholders.

17. Documents to be submitted

The bid shall contain following documents:

A. Detailed financial proposal: The proposal should include the price of commodities (including tax), transportation cost, installation cost, and any other applicable costs. Prices of commodities can be quoted for different qualities/standard of the same item mentioning specifications of each quality.

   A complete list of proposed commodities with their clear photographs (colored)/ catalogue should be included with the bid.

B. In addition, the following documents shall be submitted by the bidder.
   a. Copy of company/firm registration
   b. Profile of firm with relevant experiences
   c. A copy of Tax clearance certificate
   d. VAT/ PAN registration
   e. Audit report
   f. Any other relevant documents

18. How submit the bid

The EOI should reach the address below via courier or hand delivery by **17:00 hrs., 28 September 2020.** Please, enclose the bid in an envelope, do seal and mark it with **"Bid to supply Medical Equipment & Furniture"** and send to:

Good Neighbors Inernational Nepal

Ekantakuna-13, Lalitpur

GPO Box 8975, EPC 1605

Kathmandu, Nepal

Annex-I

List of Equipment and Furniture for District (Trishuli) Hospital, Nuwakot

S.N.	Name of Equipment/ Furniture	Operational Requirements	System Configuration	Technical Specifications	Standards and Safety Requirements	Unit	Required Quantity
1.	Vacuum Extractor	Electrical type vacuum extractor set.	Vacuum Extractor/Suction – Electrical type with complete accessories.	1. Microprocessor controlled vacuum extractor for safe extraction cup parturition and also suitable as suction unit for freeing the respiratory tract, for suction curettage and as breast pump in case of milk congestion. 2. Automatic vacuum generation and reduction with freely preselectable parameters, hydrophobic bacterial filter with filter change indication. 3. Electronic filling level control with over-sucking protection. 4. Vacuum preselection by key press; high resolving display with indication of desired/actual vacuum value in MBR or KPA and time progress with audible action signals. 5. Air flow rate of pump 36±2 L/Min.; Vacuum –90 KPA/675mmHg. 6. The unit equipped with reusable and autoclaveable: · Polycarbonate Jar 1.5 litre with lid and double socket nipple · Inline filter · Hose for extraction cups · Hose holder · Medical Grade Silicon Cups – one each of 50mm and 60mm · Bacterial Filter – 5 nos. · Vapour sterilizeable (up to 136 0C) 6mm inner-diameter silicone suction tube – 5metre	1. Must submit ISO13485: 2003/AC:2007 for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate.	pcs	1
2.	Wheelchair with Oxygen carrier	Basic foldable/unfoldable wheelchair for adult use.	Wheel Chair (with oxygen carrier)	1. Heavy carriage mounted on 4 ball-bearing wheels. 2. Front wheels free rolling, 360 degrees swivel. 3. Both rear wheels with brake. 4. Foot lever, integrated in frame, facilitates tilting the wheelchair. 5. Two handles at the rear fit with plastic rims. 6. Swing-away foot and arm supports for easy stepping on/off. 7. Armrests seat and back are upholstered. 8. Materials: · High resistance to corrosion (tropical environment). · Frame: Chrome-plated tubular steel. · Upholstery: Plastic, flexible highly tear resistant, anti-static, flame retardant, disinfectant- and liquid proof, washable.	1. Must submit ISO 9001 or ISO 13485:2003/AC: 2007 AND 2. CE or USFDA approved product certificate.	pcs	1

				· Tires: Heavy duty solid rubber. 9. Dimensions, Approx. + 10%: · Overall: 450 x 500 x 870mm (d x w x h). · Back support: 500 x 400mm (w x h). · Frame, diameter: 23mm. · Wheels, diameter: Front 200mm, Rear 600mm. · Carrying capacity: Approximately 150kg. 10. Attached with an oxygen cylinder carrier (small cylinder) to be moved freely with the wheelchair			
3.	Examination Bed	An examination couch with upholstered top in two pieces. Adjustable headrest	Examination couch with mattress.	1. The examination couch shall be made of a solid steel sheet and plate construction with anti-corrosive and antirust treated epoxy powder coating with upholstered top. 2. All 4 legs of the bed shall be capped with heavy duty rubber footings. 3. Overall size of the table must not be less than 1890mm L x 600mm W x 825mm H 4. Strong Mild steel tubular construction epoxy powder coated treated. The top base of machine pressed double bent Mild steel sheet epoxy powder coated treated finish 5. Adjustable backrest of approx. size 450mm L x 310mm H with upholstered top. 6. Upper section with drawers lower section comprises of cabinet with lockable sliding door. 7. Swinging tray must be attached near headrest for BP apparatus and/or other health checkup minor equipment. 8. The mattress shall be foldable and shall be designed to bend with the positioning of the bed when the backrest of the bed is adjusted. Bidder shall indicate the weight capacity and the total weight of the mattress in kilogram (kg) 9. The mattress shall have mid-firmness, with foam density of approximately 0.55kg/ cubic foot, to avoid that the patient would sink down into foam with antibacterial, antistatic, acid resistance, waterproof and washable vinyl or vinylized nylon cover. 10. The joints must be smooth and neat finish.	1. Must submit ISO 9001 or ISO 13485:2003/AC: 2007 AND 2. CE or USFDA approved product certificate.	pcs	5
4.	Oxygen concentrator	Electrically operated Portable device to produce	Oxygen contractor Minimum flow	1. Shall have Semi automatic operation. 2. Oxygen Density at 5LPM should be at least 95%±2% V/V. 3. Oxygen delivery pressure should be between 3 to 7 PSI	1. Must submit ISO 13485:2003/	pcs	4

		substantially higher oxygen concentrations of oxygen than the levels of ambient air is required.	5L per min with complete accessories.	4. Compact structure design, light weight, easy to move. 5. Advanced oil-free compressor 6. 24 hours continuous working available, Minimum 15000 hours working time warranty 7. Big LCD Screen easy to operate Remote control with timing setting Power off alarm, abnormal voltage alarm Time setting, times keeping and time counting Running Noise note more than 50dB. 8. Dimensions: 390x340x610 mm Approx Gross Weight: not more than 10Kg 9. Power consumption not more than 400W 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)	AC:2007 for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate		
5.	Anesthesia Workstation with cardiac monitor	It shall be suitable to be used for adult and paediatric patients.	Anaesthesia workstation with circle absorber, two vaporizers, Ventilator and Monitoring and with complete accessories	1. It must be pneumatically or electrically powered and electronically controlled 2. Must be compact, ergonomic & easy to use 3. Must have provision for delivery of oxygen, nitrous oxide and medical air with pressure gauges. 4. Machine must provide electronic gas mixing. 5. Multi-colour TFT display of at least 12" size, with virtual flow meters for O2, N2O or Air. 6. Dual flow sensing capability at inhalation and exhalation ports. 7. Must have back-up O2 control which provides an independent fresh gas source and flow meter control in case of electronic failure. 8. Gas regulators shall be of modular design/ graphic display 9. Two Pin index yokes for connecting cylinders each for O2, N2O. 10. Separate Pipeline inlet for Oxygen , Nitrous Oxide and Air 11. Oxygen and Nitrous oxide must be linked either mechanically or pneumatically to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture. 12. Must have audio-visual oxygen failure warning system. 13. 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. 14. Flow Meter:	1. Must submit ISO 9001 or ISO 13485:2003/AC: 2007 AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate. 3. Shall meet IEC-60601-1-2:2001General Requirements of Safety for Electromagnetic Compatibility. 4. Shall be compliant with IEC 60601-2-13-Medical Electrical Equipment part	pcs	3

				· It shall come with 6 flow meter columns; 2 flow meter columns for each kind of gas (N2O, O2, Air); 1 column approximately from 0 to 1 L/min and the other column approximately from 1 to 10 L/min (OR equivalent digital flow meter) 15. Breathing system: · Latex free fully autoclave able. · Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect. · Sensor must not require daily maintenance. · Bag to vent switch shall be bi-stable and automatically begins mechanical ventilation in the ventilator position. · Adjustable pressure limiting valve shall be flow and pressure compensated. 16. Non-return cum pressure relief valve when pressure exceeds 120cmH2O. 17. Battery backup for not less than 90 minutes of operation. 18. Must provide with oxygen flush switch. 19. Must have low flow anaesthesia technique. 20. All circuits shall be detachable, washable and Autoclave able at most with steam of 134 ^{0}C. 21. Standard Circle Absorber System: · Must have a bag/ventilator selecting valve integrated onto the absorber. · Must be suitable to use low flow techniques · Facility to attach oxygen sensor. · Must have CO2 absorbent chamber canister · Autoclaveable Bidder shall specify the capacity of soda lime (in kg) will be supplied. 22. Vaporizers: · New generation vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer. · Precision vaporizers (Temperature, pressure and flow compensated) for Halothane, Isoflurane and Sevoflurane. · Must be easy to mount and dismount from the back bar. · Must have a standard filling port with keyed filling device. · Must be designed for transport with liquid in vaporizer chamber with protection against tipping and shaking	2-13: Particular requirements for the safety of Anaesthesia Workstations		

				· Maintenance free vaporizer · Come with 2 sets of concentration calibrated type vaporizers and two sets of compatible fillers: one for isoflurane and one for halothane. 25. Ventilator: · The workstation must have integrated Anesthesia Ventilator system. · Microprocessor based electrically powered and electrically controlled ventilator · Ventilator must have Volume Control and Pressure Controlled and SIMV modes. · Ventilator must have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow. · Ventilator must be capable of at least 120-150 L/min peak flow to facilitate rapid movement through physiologic “dead space” in the Pressure Control mode. · Tidal Volume: approximately 50 - 1200 ml · Breathing frequency: approximately 5 - 60 breath/min · Inspiratory flow: approximately 5 - 70 L/min · Pressure limitation : approximately < 70 cm H2O · PEEP (positive end-expiratory pressure): approximately 0 - 20 cm H2O 26. Anaesthesia Monitoring Specifications: · Monitoring of vital parameters: ECG, NIBP, SPO2 and Invasive Blood Pressure. · Twin temperature measurement with skin and rectal probes- Two sets with each monitor · Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor · Neuromuscular Transmission Monitoring with all accessories. One set with each monitor · Cardiac Output measurement facility by thermo dilution technology with all accessories- one set for three monitors. · 24hrs of graphical and numerical trending · Must have Hemodynamic, Oxygenation and Ventilation calculation package · Must include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anaesthesia event using			

				standardized menu based entries. · Facility to store snapshots during critical events for waveform review at a later stage · Audio visual and graded alarming system 27. Display of Ventilator: · Tidal volume (VT) · Inspiratory/expiratory ratio (I:E) · Inspiratory pressure · Pressure limit · Positive End Expiratory Pressure (PEEP)			
6.	Electrosurgical Unit	A 300W diathermy machine (electrosurgical unit) with vessel sealing system.	Diathermy Machine (Electrosurgical) approx. 300W with Vessel Sealing and with complete accessories.	I. Electrosurgical Unit: 1. Nominal HF output: 300 Watts at ~400 Ohm. 2. At least 2 modes of operation: mono-polar cutting and mono-polar / bipolar coagulation. 3. Mono-polar cutting modes shall have different level of effects from pure cutting to blend cutting (cutting with haemostasis). 4. Come with 3 mono-polar coagulation modes - soft, forced and spray. 5. Desiccate mode for low voltage contact coagulation suitable in delicate tissue work 6. Fulgurate mode for efficient non-contact coagulation in most applications. 7. Spray mode for coagulation large tissue areas with minimum depth of necrosis. 8. Come with 3 bipolar modes: precise, standard and macro or equivalent. 9. Precise mode to have fine control of desiccation in delicate tissue. 10. Standard mode for applications at low voltage to prevent sparking. 11. Macro mode for applications on tissue with high resistance. 12. Control panel with digital setting and display of power of modes used. 13. All mono-polar and bipolar modes shall be controllable by hand switch and footswitch. 14. Bipolar mode can be activated by either foot pedal and / or auto coagulate by using forceps. 15. Footswitches shall be splash proof and unaffected by common OR fluid spills, easy to clean, have suitable mechanical protection	1. Must submit ISO13485:2003 /AC:2007 for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate. 3. Shall meet IEC 60601-2-2 Medical Electrical Equipment - PART 2-2: Particular Requirements for the Safety of HIGH FREQUENCY SURGICAL EQUIPMENT.	pcs	3

				against accidental pedal depression and Switches shall not be susceptible to sticking in the ON position. 16. Unit must have automatic power regulating feature to always keep minimum current to the patient throughout the procedures. 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. 18. Come with output Leakage controller. 19. Shall have over current protection. 20. Shall be able to be activated from only one output at a time. 21. Must have an undefeatable audible activation-tone indicator/alarm. II. Electrosurgical Vessel Sealing System: 22. The unit shall also come with an integrated electrosurgical vessel sealing system. 23. Vessel sealing systems can offer an effective alternative method for sealing blood vessels and tissue bundles replacing established surgical techniques such as suturing, surgical clips and staples. 24. It shall be able to use with accessories (forceps or clamps) suitable for vaginal hysterectomy. 25. Vessel sealing system shall have user control mechanism so that surgeon can decide for a repeat seal before actually cutting it or even not cutting it. 26. The system shall be able to seal vessels or tissue bundles preferably within 2 to 4 seconds. 27. Vessel sealing system shall be able to seal artery, veins up to 7mm, sealed vessels shall withstand up to 3 times the systolic blood pressure. 28. Thermal spread or collateral tissue damage must be minimal. 29. Auto stop after vessel sealed with audible visual alarm. 30. Shall have minimum two different modes for vessel sealing. 31. In case of vessel / tissue is not sealed properly machine shall give re-grasp audio visual alarm. 32. Vessel sealing system shall be compatible with Argon Coagulator. 33. The complete unit must have RF activation port to tell other			

				equipment like ECG or EEG that RF current is being generated.			
7.	OT Table (Electric)	Shall be electro-hydraulic type surgical table/bed.	O.T. Table for surgical procedure and with complete accessories.	1. Approx. dimensions: Length 1800-1900mm, Width 800-850mm, Height 630-810mm 2. Cushions-White/grey with cover foldable arm rests, head piece and adjustable back piece and lower leg piece. 3. The electric and mechanical drive for height adjustment. 4. Seat adjustment, folding of the head end, foot end and supported by a powerful hydraulic cylinder. 5. Foldable head rest, adjustable roller feet for satiability and mobility.	1. Must submit ISO13485:2003 /AC:2007 for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate. 3. Shall be certified to be meeting safety standard IEC 60601-2-46-PART-2 Particular requirements for the safety of operating tables.	pcs	2
8.	**Shadow Less OT Light (Ceiling, double dome)**	Ceiling mount operating light with two large domes	Operating light ceiling type having double large domes with all standard accessories.	1. Lower/upper adjustment of dome, approximately 1.50m. 2. Diameter of dome, approximately 0.60m or better. 3. Minimum luminous intensity for the ligtrt: For major dome : at least 1,50,000 lux For satellite dome : at least 1,40,000 lux Depth of illumination not less than 100cm 4. Color tempreture must be between 4200K to 4500 K 5. Color rendering index not less than 95 6. Type of bulb : LED bulbs with life not less than 40000 hours 7. Rotation: 360 deg. 8. Depth of illumination not less than 100 cm 9. Field-of-view diameter, approx. 0.40m, with focus control. 10. Removable autoclave able handle for dome, 11. It shall design with minimal air resistance 12. Installation Kit	1. Must submit ISO13485for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate	pcs	3

				The followings items shall also be included: • Ceiling mounting plate/ bracket or equivalent and works and materials to make good the ceiling after installation. • Other materials needed for the installation on the items above.			
9.	Arthroscope with shaver	It shall operate on AC power supply.	Basic Arthroscopy, complete unit with all standard accessories.	1. Wide angle or ward-oblique telescope 30° enlarged view, diameter 4mm, length 18cm, autoclaveable, fibre optic light transmission incorporated. 2. Arthroscope Sheath, diameter 6mm, working length 12cm, with 2 rotatable stopcocks and automatic lock-in coupling mechanism, autoclaveable, for use with Hopkins Telescope 30°, diameter 4mm, length 18cm. Coupling between the telescope and sheath must be possible in absolutely any position. 3. Blunt Obturator: Autoclaveable; for use with arthroscope sheath diameter 6mm, working length 12cm. 4. Hook and Retractor: Graduated, autoclaveable, diameter 3.5mm, working length 8.5cm. length of hook 2mm. 5. Suction Punch: Autoclaveable, shaft diameter 4.8mm, working length 13cm. 6. Through Cut Punch: Autoclaveable, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws. 7. Through Cut Punch: Autoclaveable, angled 15° upwards, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws. 8. Through Cut Punch: Autoclaveable, angled 90° left, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws. 9. Through Cut Punch: Autoclaveable, angled 90° right, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws. 10. Autoclaveable Scissors: straight, shaft diameter 3.5mm, working length 13cm. Scissors with two piece design having a handle and working attachment will be preferable. 11. Autoclaveable Biopsy Forceps: straight, shaft diameter 3.5mm, working length 13cm. Biopsy Forceps with two piece design having a handle with ratchet and working attachment will be preferable. 12. Autoclaveable Biopsy Forceps: straight, shaft diameter 3.5mm, working length 13cm. Biopsy Forceps with two piece design having a handle with ratchet and working attachment will be preferable	1. Must submit ISO13485:2003 /AC:2007 for Medical Devices AND 2. CE (93/42 EEC Directives) or USFDA approved product certificate. 3. Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.	pcs	1

				13. Cleaning adaptor for hand instruments. 14. Camera: · Digital single chip camera · Colour system: PAL with camera head. · High horizontal image resolution of more than 450 lines. · Integrated optical par focal zoom lens through which the image can be zoomed in or out without changing the focus. · Automatic exposure control (1/50-1/10000s PAL). · Automatic white balance with memory functions for 2 settings. · RGB - video output. · Integrated universal power supply. · Can be adapted directly to an operating microscope. · Integrated title generator. Camera system compatible with Communication Computer system for remote controlled operation of the various features of the camera along with other equipment so as to function as an integral part of the digitally controlled Operating Room under the command of the operating Surgeon. Camera System having an Autoclaveable Camera Head and Programmable buttons on the camera head itself will be highly desirable. 15. Light Source: Halogen (15V, 250W) light source having optimum light power with colour temperature around 3400K. Compact and light in design with manual light intensity control preferably in steps. The light source must have an in-built infra-red filter for heat and a system for over-heating protection. The light source must also have automatic backup operation in case of lamp failure. 16. Fibre Optic Light Cable for Cold Light Fountains with Straight Connector: Diameter 3.5mm, length 180cm. 17. Hardcopy Devices: · Printer to take print out of the images from monitor screen. · CD/DVD writer to record the procedure video for records and documentation.			
10.	Bone Drill & Saw	Electric driven, autoclave able, versatile, forward & reverse mode with oscillating saw hand pieces	Electric Operated Drill & Saw, complete unit.	1. Driving unit shall include motor, sturdy stand with wheels. 2. Flexible shaft: Minimum length, 2 metres, autoclave able quick connection. 3. Hand Piece for Drill: · Cannulated autoclave able pistol type. · Speed-1200 to 1500RPM.	1. Must submit ISO13485:2003 /AC:2007 for Medical Devices AND 2. CE (93/42	pcs	1

				· Jacob chuck. · Quick coupling chuck (Synthesis type). · Hudson's chuck. · Chuck for K-wire. · Forward & reverse options. 4. Hand Piece for Reamers: · Cannulated autoclave able pistol type. · Speed-400RPM, non-damaging to the bone endosteal blood supply. · Chuck for cannulated reamers. · Forward & reverse options. 5. Sagittal Saw: · Autoclave able pistol type. · Easy Attachments of blades (without Instrument). · 2 Blades each of different size routinely used in Orthopaedic surgery (Total nos. 10). · ACL Blades for commonly used sizes	EEC Directives) or USFDA approved product certificate. 3. Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.		
11.	C Arm Machine	It shall operate on single phase AC power supply	Mobile C-Arm X-ray, two monitors and a memory unit	1. X-ray Generator: Microprocessor based, high frequency inverter generator of at least 30 KHz Anatomical Programmable Radiography Mode to optimize the system setting for better life of X-ray tube Generator output : not less than 3 KW at 100KV Fluoroscopic / Radiographic KV range Lower limit shall not exceed 40 KV Higher limit shall not be less than 110KV Upper limit of Fluoroscopic mA must be at least 9mA Radiographic Range should be approx.(10 to 150) mAs or more 2. X-ray Tube: High Frequency Stationary anode tube type Focal spots range : Small focus hall not be less than 0.5mm2 and large focus shall not be more than 1.8mm2 3. Collimator Operator controlled fixed collimator with a pair of semi-transparent shutters can be rotated 360° approx. 4. C-Arm Orbital movement shall be approx. 125° Vertical travel at least 400 mm Horizontal travel at least 200 mm	1. Must submit ISO 13485:2003/ AC:2007 for Medical Devices 2. CE (93/42 EEC Directives) or USFDA approved product certificate 3. Shall meet IEC 60601-1-3 Part 1: General Requirements for safety Collateral Standard: General requirements for Radiation	pcs	1

				Swivel range shall be approx. 12° Axial Rotation shall be approx ±180° 5. Image Intensifier At least 9", Triple field image input screen with direct coupling with camera Camera shall have at least 100 LPI Noise reduction, scattered light trap for high contrast dynamics Shall have CCD camera technology with AGC and ABC control 6. TV Monitor 2 units LCD monitor side by side for live and reference image Shall be at least 17" size with automatic brightness control Trolley for 2 display screens with either a keyboard or mouse included. High resolution 7. Imaging Modes Fluorscopy mode shall have the following facilities · Continuous fluoroscopy with last image hold · Pulsed fluoroscopy with last image hold · Last image hold with at least two frames image memory Digital image processing capabilities : Filtration, summation and noise reduction Digital image rotation with subsequent processing Positive/Negative and left/right and top/bottom image reversal Image storage capacity of at least 1000 images Shall have facility of CD/DVD or USB or integrated DICOM storage options for external memory Come with one unit of B/W video printer printing on 110mm width thermal paper resolutions more than 300 dpi, 256 grey level. The video printer should have space to be kept in the monitor trolley	Protection in Diagnostic X-Ray Equipment OR any Radiation safety standard certificates from corresponding country's regulatory board.		
12.	Fracture Table (Traction Bed)	Attachment compatible to the OT table	All accessories required for orthopedic procedure	1. Attachment must be compatible to any OT table 2. Must include all accessories for orthopaedic procedure including Arm board, shoulder support, lateral support, hand rest, knee crutches and anaesthesia screen 3. Extension must allow selective positioning of the leg according to the surgeon's direction 4. Attachments must be made from acid proof, anti-rusted stainless steel 304 G		pcs	1
13.	Cervical Dilator set	Stainless steel, reusable cervical	Cervical Dilator Set of different	4.1 Hegar, Cervical Dilator set, double enclosed.	7.13 Must submit	Set	1

		dilator set.	sizes.	4.2 Material: High grade fully stainless steel, corrosion resistance. 4.3 Sizes: · 1 x 2 mm · 3 x 4 mm · 5 x 6 mm · 7 x 8 mm · 9 x 10 mm · 10 x 11mm · 12 x 13mm · 13 x 14mm · 15 x 16 mm 4.4 Autoclaveable/Sterilizeable. 4.5 To be supplied in a wooden velvet livid box.	ISO 9001 or ISO13485:2003 /AC:2007 for Medical Devices 7.14 CE (93/42 EEC Directives) or USFDA approved product certificate		
14.	Delivery Bed	Manually operated delivery bed	Delivery Bed with complete attachments and accessories.	1. It must have manual adjustments for height and back positions. 2. It must have collapsible side rails. 3. It must have three sectional mattress and seat section must have large perennial cut. 4. It must have headboard which can be detached. 5. Must have wheels provided with locking system. 6. Must have retractable foot section so as to convert bed into table.+E2337 Must have infusion rods, which have adjustable heights, quick release and attaches to all corners of bed. 4.8 Must have adjustable leg rests. 4.9 Must have push grip handles. 4.10 Must have sliding stainless steel bowl at perennial part of table. 4.11 It must have catheter bag holder, which can be attached, on either side of bed. 4.12 It must be able to give trendelenburg, reverse trendelenburg and 70 degree sitting position. 4.13 It must have adjustable foot supports. 4.14 It must be easy to maintain clean and sterilize (especially blood stains).	7.1 Must submit ISO13485:2003 /AC:2007 for Medical Devices AND 7.2 CE (93/42 EEC Directives) or USFDA approved product certificate. 7.3 Shall meet IEC 60601-2-46 Medical Electrical Equipment - PART 2-46: Particular Requirements for the Safety of Operating Tables	pcs	5

				4.15 Frame must be of epoxy powder coated (washable) steel. Dimensions (approx.): · Length: 180cm · Width: 75cm · Load capacity: 150kg or more			
15.	Surgical Instrument set (VH, TAH & CS set)	CS Set for Surgery	CS Set, complete set	1. Masson Needle Holder 10 1/2" 1 pcs 2. TC Heaney Needle Holder Cvd 8 1/4" 1 pcs 3. Foerster Sponge Serr Str 91/2" 1 pcs 4. Mayo Dissecting Scissors Str 9" 1 pcs 5. Mayo Dissecting Scissors Cvd 9" 1 pcs 6. Phaneuf Forceps Angular 8" 2 pcs 7. Jackson Vaginal Retractor 1 pcs 8. DeLee OB Forceps 12" 1 pcs	1. Must submit ISO 9001 or ISO13485:2003 /AC:2007 for Medical Devices 2. CE (93/42 EEC Directives) or USFDA approved product certificate.	set	3
16.	Microscope	System complete with illumination system and research quality optics is required.	Binocular Microscope (LED) with all the necessary adapters and power cords	1. Optical System: Infinitely corrected optics par focal, plan achromatic lenses with anti-fungal properties. 2. Magnification must be 40X – 1000X. 3. Illumination: Built in transmitted Koehler illumination. The Illumination must be modular type with LED illumination having life time more than 20,000 hours of operation. 4. Focusing: · Fine drive: 0.3mm /rotation. · Coarse drive: 44mm/rotation. · Total travel range is 15mm. · Stage height movement by roller guide (rock & pinion). · Upper limit stopper. · Tension adjustable on coarse focus. · Adjustment knob. 5. Revolving nosepiece, Quintuple. 6. Observation tube: · Observation tube must be Binocular compensation free with Side & top of design with two working heights at 385 & 425 mm with an	7.1 Must submit ISO 9001 or ISO 13485:2003/AC: 2007 AND 7.2 CE or USFDA approved product certificate	pcs	1

				ergonomic head inclination at 30º. · Interpupillary distance adjustment must be from 48-74mm. 7. Stage: · Mechanical stages must be low positioned coaxial control knobs: X-Y travelling area 140 x 135mm. · Travel range 75x30mm having graduated scale. · Must have filter holder and must be equipped with Blue, Green Yellow filters. · Must have rounded edges of the stage corners. 8. Condenser: · Type – Abbe condenser. · N.A. – 0.9/ 1.5 · Aperture iris diaphragm – built-in. 9. Base must be metallic, supplied with field lens unit, rubber feet and with external power adapter. 10. The Objectives must be antifungal Plan Achromatic Objectives, 4x/0.1, 10x/0.25, 40x/0.65, 100/1.25 Oil immersion and 40x & 100x Objectives spring loaded. Ocular and Objective must have an antifungal coating with 4-position reverser, the inclined ocular tube at a ergonomically height of 30º (for convenient and fatigue free observation). 11. Eye Pieces must be WF-10X/18. 12. The Microscope must have provision of connection of Plano Concave mirror unit. 13. LED light intensity must be displayed on both sides of the stand.			
17.	Deionisation plant for water treatment	Water Treatment	Water Treatment	1. Water deioniser / RO plant of capacity 20L/hr 2. Shall supply with storage tank of 200L	1. The supplier must prove that their design and production facilities are accredited to ISO 9001/EN46001 or ISO 9002/EN46002 or internationally	pcs	1

					acceptable equivalent 2. CE or USFDA approved product certificate		
18.	Washing Machine (21Kg)	Washer and Dryer work together to wash and dry the clothes	Washing Machine with dryer and complete accessories	1. Must be capable of wash and spin two loads at same time. 2. Automatic washing with various in-built wash programmes (At least 15 wash programs). 3. Washer Capacity : At least 21 kg 4. Dryer Capacity : At least 12 kg 5. LCD/LED display for observing the status of the system 6. Facility to control and monitor the laundry remotely 7. Spin speed up to 1000 RPM, at least 6 motion motor 8. Must be vibration free and noise free	Must submit ISO 9001 certificate		2
19.	Table for folding	Electric Iron to be used in hospital laundry	Electric Iron and foldable table for folding ironed clothes, complete set	1. Materials need to be stainless steel 2. Power consumption of at least 2KW approx.. 3. Appropriate table which can be used to perform the function of iron and also for folding the clothes 4. Table should be foldable and at least 5 different adjustable height posiion	ISO certified	pcs	2
20.	Autoclave (Horizontal) - double door 200L	Microprocessor controlled horizontal electrically heated autoclave is required.	Autoclave, Horizontal, Single Door, 200 litres, with complete accessories	Shall have both fully automatic operation mode and manual mode The sterilizer shall be pneumatically (Compressed Air) operated The autoclave shall be designed to operate on various pre select programs such s pre-vacuum cycle, gravity cycle, porous load cycle, liquid cycle and two standard Bowie Dick test and vacuum leak cycle. Autoclave shall work up to 121-136 ^{o}C temperature It shall come with vertical sliding door, a trolley, a steam generator and a dedicated air compressor	Must submit ISO13485:2003 /AC:2007 for Medical Devices **AND** CE (93/42 EEC Directives) or USFDA approved product certificate. Shall meet IEC 61010-2-040 Safety requirements for electrical	pcs	1

					equipment for measurement, control and laboratory use - Part 2-040: Particular requirements for sterilizers and washer-disinfectors used to treat medical materials.		
21.	Breath alcohol analyser			1. Portable and easy to use 2. Universal accepted accuracy 3. Rechargeable battery operated	ISO certified	Pcs	1
22.	Plaster station					Pcs	1
23.	Goniometer measuring tape					Pcs	1

24.	Pneumatic torniquet (Automatic)	Electronic automatic tourniquet with cuffs for paediatric & adult size.	Electronic automatic tourniquet with cuffs for paediatric & adult size.	1. Shall have facility to use single and dual cuff tourniquet. 2. Shall not require any external high pressure air. 3. Must have continuous and bright display for actual cuff pressure, set pressure and time. 4. The cuff pressure must not be released on power failure. 5. Must be possible to increase and decrease the set cuff pressure online 6. Must have facility to release cuff pressure without disconnecting the cuffs from the machine. 7. Must have a cuff pressure from 10 to 400 mmHg. 8. Must have a timer setting from 10 minute to 3 hours. 9. Must have audible and visual alarm for pressure increase and decrease from the set value. 10. Must have audible and visual alarm for reaching the set time.	Must submit ISO13485:2003/AC: 2007 for Medical Devices **AND** CE (93/42 EEC Directives) or USFDA approved product certificate. Shall meet IEC 60601-1 general requirements of electrical safety.	Pcs	1
25.	Oxygen compressor and filling unit	The Medical Air Compressor must be oil free, noiseless compressor suitable to provide medical grade compressed air to run Life Support Ventilator.	Medical Air Compressor complete unit.	1. Must have side rail mount, lightweight, having caster wheels for easy movement in OT & ICU. 2. Shall have easily accessible filters and indicators for regular maintenance 3. Must have space saving vertical design 4. Must have drying system for cool condensation free air. 5. Must have clear visibility of all major panels indicators and filters. 6. Must have internal circuit break for protection against pump over heating 7. Noise level at a distance of one (1m) < 53.B (A). 8. Built in reservoir 1.7- 2.0 litres. 9. Output 60 to 80 litre / minute.	Must submit ISO13485:2003/AC: 2007 for Medical Devices **AND** CE (93/42 EEC Directives) or USFDA approved product certificate. Electrical safety conforms to standards for electrical safety IEC-60601.	Pcs	1
26	Defibrillator Machine	Used in emergency & critical care departments to meets various resuscitation and monitoring needs.	Defibrillator must be Biphasic, light weight and latest model with complete accessories.	1. Shall have both AED (automated external defibrillator) and Manual capabilities. 2. System shall be user friendly, lightweight and easily transportable. 3. The defibrillation shock is delivered using biphasic waveform which delivers a lower range of energy shocks ranging from 2 to 260 joules. For internal defibrillation, the energy is limited to 50 joules. Bidder to indicate the range of energy proposed 4. Shock delivery can be via hands-free multifunction defibrillator	**Must submit ISO13485:2003/AC: 2007 for Medical Devices AND** CE (93/42 EEC Directives) or USFDA approved product certificate. Comply to AHA &		2

				electrode pads or paddles. 5. Able to perform synchronized cardioversion and non-invasive pacing therapy. 6. The AED must be able to start analysis automatically or prompt the operator to press "start analysis". In automatic analysis mode, the analysis of the ECG data shall not be more than 14 seconds. 7. When not in the analyze mode, the AED must provide both audible and visual indication of the presence of, or a change to a potentially shockable rhythm. 8. Can be used for neonatal/paediatric and adult defibrillation. 9. The defibrillator using defibrillation pads shall be used on adults. For paediatric/neonates, it shall use the paediatric/neonate Energy reduced energy defibrillation electrodes. 10. Shall have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation 11. Shall have 3-lead ECG monitoring capability. 12. Shall include a removable data card for storing ECG data (patient heart rhythm and defibrillation events) with capacity of at least 8MB or not less than 4 hrs of recording 13. Shall have capability to download ECG data to a PC-based data management program 14. Operates on AC power supply or internal battery 15. Shall have battery back-up facility 16. Shall have rechargeable battery back-up facility. Fully charged battery shall deliver approximately 50 discharges. Bidder to specify the type of battery used 17. Shall have integral thermal printer with paper speed of 25mm/sec 18. Must comply with AHA & ACLS requirements 19. **Control Panel** · Control panel shall have a high-resolution LCD with bright back-light display · Bidder to specify size of LCD screen and the no. of waveforms which can be displayed. · Audio and visual alarms shall be provided. · Audible indication shall be available during AED mode. · Must be able to display ECG, HR indicator, battery status, shock	ACLS requirements or equivalent Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms		

				indicator. · HR limit and shockable rhythms alarms shall be provided 20. Energy dischargeable buttons shall be provided on the unit. 21. Charge shall not be held longer than 10 secs before discharge. 22. Must have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation			
27	ECG Machine 12 channel	The ECG Machine must be able to acquire all 12 Leads simultaneously and interpret them.	12 channel ECG machine with interpretation, rechargeable battery and other complete accessories.	1. Must acquire simultaneous 12 lead ECG for both adult and paediatric patients 2. Must have Real time Colour display of ECG waveforms with signal quality indication for each lead 3. Must have Artifact, AC, and low and high pass frequency filters 4. Must have a storage memory of at least 100 ECGs with easy transfer by optional modem and data card. 5. Must have full screen preview of ECG report for quality assessment checks prior to print 6. Must have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and paediatric patients 7. Must have alphanumeric Keyboard for patient data Entry (virtual or hard keys) 8. Must have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer using thermal sensitive paper 9. Must have report formats of 3x4; 6x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead 10. Must have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge. 11. Must be able to be connected to HIS /LAN/Wireless LAN (optional) 12. Must display ECG on LCD/TFT Display of 640x480 pixel resolution 13. USB Support (optional) for Storage on external portable memories. 14. Multimode of ECG Storage capability on USB device and shall have internal storage memory of at least 150 ECG	Must submit ISO13485:2003/AC: 2007 for Medical Devices AND CE (93/42 EEC Directives) or USFDA approved product certificate. Shall meet IEC-60601-1-2:2001 General Requirements of Safety for Electromagnetic Compatibility Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.		2
28	Semi Fowler Bed	It shall have anti-corrosive and	Semi Fowler bed, two	1. Dimensions approx.: 208Lx920Wx600H mm (without mattress). 2. The main frame shall be made from 60mmx30mmx16G ERW	Must submit ISO 9001 or ISO		24

		antirust treated baked hard epoxy powder coating, with two section.	sections with mattress.	rectangular tubes 3. Two sections top shall be made from 18G CRCA sheets uniformly perforated and shall be suitably fitted to the main frame 4. All adjustments for fowler position must be obtained from crankshaft, manually operated with stainless steel foldable handle on both the shaft 5. Bed frame must be sturdy and stable to support weight of at least 150 kg. 6. The finished bed must be rust proof, pre-treated and treated with washable epoxy polyester antimicrobial powder coated to increase the bacteriostatic property. 7. The bed shall have a pair of swing down type full length side rails, mild steel (MS), washable epoxy powder coated with self-locking. 8. It shall have easily removable head and foot panels made up of stainless steel (SS) or ABS moulded with four corner buffers. 9. There must be suitable buffer mechanism to avoid hitting of the bed to the wall. 10. Bed frame fitted with non-rusting, noiseless, non-marking 360 deg. swivel heavy-duty castor wheels of 125mm dia, 2 with brakes and 2 without brakes 11. It must have provision of fixing suitable rod for hanging intravenous / irrigation fluid bottle on both sides at head end and foot end. 12. t must have hooks on bed frame on both sides for holding urine /drainage bag (at least 4 nos.). 13. Shall provide with one dual hook 304-grade stainless steel telescopic IV rod. 14. **Mattress:** Shall provide with one no. four section mattress of dimensions at least (2000mm L x 900mm W) with washable cover of good quality. The mattress must be made of high density PU foam of 100mm thickness 15. The colour of the paint or coating shall be finalised during contract agreement	13485:2003/AC:2007 AND CE or USFDA approved product certificate.		
29	ICU Ventilator	It shall operate from the mains	Ventilator unit-1 unit, Trolley-	1. It shall be an electronically controlled pneumatic ventilator. 2. The pneumatics must be designed such that the patient is	Must submit ISO13485:2003/AC:		1

		supply with central oxygen supply and oxygen cylinder.	1unit, Accessories-1set.	always permitted for free spontaneous breathing. 3. The air passed through the compressor or turbine shall be cleaned by a HEPA filter before delivering to patient. 4. Ventilator shall come with non-invasive ventilation 5. Inlet gas pressure: air 3-5bar, O2: 3-6bar 6. Microprocessor controlled gas delivery system with integrated air pump or a matching medical air compressor, which will automatically switch on when medical air from the central supply is cut off. 7. With integrated electronic air-oxygen mixture control. 8. Battery back-up time: Approximately 120 min 9. Ventilation mode: A/C, SIMV, CPAP, PSV, BIPAP, Apnoea ventilation, SPONT 10. Ventilation frequency: approximately 2 - 80 bpm 11. Inspiratory flow range: 6 to 150 l/min 12. Triggering mechanism: flow triggering, preferably with pressure triggering. 13. Inspiration time: approximately 0.2-10s 14. Tidal volume: approximately 0.05-2l 15. Inspiratory pressure: approximately 0 - 100mBar 16. Oxygen concentration (FiO2): 21-100 volume % 17. In case of oxygen failure, the ventilator must be able to provide ventilation with room air. 18. PEEP/ intermittent PEEP: approximately 0-35mBar 19. Triggering sensitivity: flow triggering: not more than 1-15l/min, in the case if pressure triggering is included: -20- -0.1cmH2O 20. Automatically calculate inspiratory and expiratory triggering points 21. With leak compensation to NPPV and pressure support (PSV) in SMIV and CPAP modes 22. Pressure support Ventilation (PSV): approximately 0-35mBar 23. The ventilators shall have volume-controlled and pressure-controlled modes that can be used to provide both full and partial ventilatory support. 24. Volume controlled: Assist/Control, IMV (Intermittent mandatory ventilation) and SIMV (Synchronized Intermittent Mandatory Ventilation) 25. Pressure controlled: Assist/Control, IMV (Intermittent mandatory ventilation) and SIMV (Synchronized Intermittent	2007 for Medical Devices **AND** CE (93/42 EEC Directives) or USFDA approved product certificate. 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.		

				Mandatory Ventilation) 26. With Spontaneous pressure support mode 27. With Apnoea-backup ventilation mode 28. Volume Support (Volume supported ventilation), synchronized support ventilation with volume guarantee 29. CPAP (Continuous Positive Airway Pressure) 30. The ventilator shall also have combination modes, combine volume- and pressure-controlled ventilation to ensure that a minimum volume is delivered with an initial flow that matches patient demand 31. SIMV (Volume Control) (Synchronized Intermittent Pressure Support Mandatory Ventilation based on volume controlled ventilation with pressure support) 32. Ventilator off / Battery charging 33. Trigger bias flow: - Paediatric flow triggering - Adult flow triggering 34. Pre-set Tidal Volume: approximately 20- 2 000mL 35. Pre-set Minute Volume: approximately 0.2 - 20 L/min 36. Oxygen breaths: 37. 100% for 20 breaths or max 3min 38. Patient range: 39. Paediatric / Adult Monitoring and Alarms: 40. Standard monitoring of the following parameters: Pressures, flow, volumes, time, frequency, real time waveforms, trends, oxygen percentage. 41. Must contain all standard operator-adjustable as well as special audible as well as visual alarms for all the vital ventilation parameters like volumes, pressures, frequencies, oxygen percentage, Apnoea and also its technical status. 42. Apnoea alarm time approximately 15 - 60 sec 43. With internal flow sensor 44. With bacterial filter, able to filter at least 99.97% of all 0.3 microns particles, at both inspiration and expiration terminal 45. The expiration bacterial filter is preferably housed in a heating device to reduce condensation in the filter 46. Expiration sensitivity regulation 47. Auxiliary equipment port. Bidder shall indicate details here			

				48. It shall be able to work with O2 concentrator in delivering oxygen to patient.			
30	Cardiotocograph (Foetal Monitor)	External foetal monitoring system, shall work on mains electric supply.	Cardiotocogrpah (CTG) Monitor with complete accessories	1. It shall have ultrasonic transducer to measures foetal heart rate (FHR). 2. Facility of calculation of FHR base line, variability, accelerations and decelerations. 3. Facility of audio-visual alert on loss of signal. 4. Shall have pressure-sensitive transducer records uterine contractions (UC). 5. Monitor fit with remote switch for event marking. 6. Monitor can be used for twins. 7. System automatically recognizes specific transducer. 8. Self-test is performed each time the device is switched on. 9. Large alphanumeric display provides with: FHR 1, FHR 2 and UC 10. FHR range, approximately 50 to 240bpm, minimal graduation 1bpm. 11. UC range, relative: 0 to 100 units, minimal graduation 1 unit. 12. System reports, with audio-visual alert: operational status, malfunctions (transducers), out-of-paper. 13. **Printer:** · Built-in high-resolution thermal printer, paper width approximately 150mm. · Automatic and manual print-out mode. · Prints FHR 1, FHR 2 and UC, displayed parameters and marked events. · Printer resolution, approximately 1bpm (FHR) and 1 unit (UC). · Paper speed, adjustable: 1, 2 or 3cm/min. · Print-out on z-folded thermo-reactive paper. · Paper graduation: FHR 25bpm/cm and UC 25 units/cm. 14. Shall have data communication interface: RS232, BNC, USB or equivalent. 15. Monitor shall be compact and ergonomic design, smooth finishing allows for easy cleaning.	Must submit ISO13485:2003/AC: 2007 for Medical Devices **AND** CE (93/42 EEC Directives) or USFDA approved product certificate. Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.		1

Annex –II
Technical Specification Form

1. Vacuum Extractor

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Vacuum Extractor Set, Electrical			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Equipment to assist delivery of babies through attachment of suction cup to baby's head.			
2	**Operational Requirements**			
2.1	Electrical type vacuum extractor set.			
3	**System Configuration**			
3.1	Vacuum Extractor/Suction – Electrical type with complete accessories.			
4	**Technical Specifications**			
4.1	Microprocessor controlled vacuum extractor for safe extraction cup parturition and also suitable as suction unit for freeing the respiratory tract, for suction curettage and as breast pump in case of milk congestion.			
4.2	Automatic vacuum generation and reduction with freely preselectable parameters, hydrophobic bacterial filter with filter change indication.			
4.3	Electronic filling level control with over-sucking protection.			
4.4	Vacuum preselection by key press; high resolving display with indication of desired/actual vacuum value in MBR or KPA and time progress with audible action signals.			
4.5	Air flow rate of pump 36±2 L/Min.; Vacuum –90 KPA/675mmHg.			
4.6	The unit equipped with reusable and autoclaveable:			
	· Polycarbonate Jar 1.5 litre with lid and double socket nipple			
	· Inline filter			
	· Hose for extraction cups			
	· Hose holder			
	· Medical Grade Silicon Cups – one each of 50mm and 60mm			
	· Bacterial Filter – 5 nos.			
	· Vapour sterilizeable (up to 136 0C) 6mm inner-diameter			
	- silicone suction tube – 5 metre			
5	**Accessories, spares and consumables**			

5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 V AC, 50Hz fitted with appropriate plug.			
	The power cable must be at least 3 metres 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.			
8	**Installation and Commissioning & User Training**			
8.1	Must supply preassembled unit, ready to use			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

2. Wheelchair with Oxygen carrier

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Wheel Chair (with oxygen carrier)			
	Manufacturer			
	Brand			

	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Basic wheelchair for transportation of patients who are unable to stand/walk.			
2	**Operational Requirements**			
2.1	Basic foldable/unfold able wheelchair for adult use.			
3	**System Configuration**			
3.1	Wheel Chair (with oxygen carrier)			
4	**Technical Specifications**			
4.1	Heavy carriage mounted on 4 ball-bearing wheels.			
4.2	Front wheels free rolling, 360 degrees swivel.			
4.3	Both rear wheels with brake.			
4.4	Foot lever, integrated in frame, facilitates tilting the wheelchair.			
4.5	Two handles at the rear fit with plastic rims.			
4.6	Swing-away foot and arm supports for easy stepping on/off.			
4.7	Armrests seat and back are upholstered.			
4.8	**Materials:**			
	· High resistance to corrosion (tropical environment).			
	· Frame: Chrome-plated tubular steel.			
	· Upholstery: Plastic, flexible highly tear resistant, anti-static, flame retardant, disinfectant- and liquid proof, washable.			
	· Tires: Heavy duty solid rubber.			
4.9	**Dimensions, Approx. + 10%:**			
	· Overall: 450 x 500 x 870mm (d x w x h).			
	· Back support: 500 x 400mm (w x h).			
	· Frame, diameter: 23mm.			
	· Wheels, diameter: Front 200mm, Rear 600mm.			
	· Carrying capacity: Approximately 150kg.			
4.10	Attached with an oxygen cylinder carrier (small cylinder) to be moved freely with the wheelchair			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 AND			
7.2	CE or USFDA approved product certificate.			

8	**Installation and Commissioning & User Training**			
8.1	Must provide ready to use unit			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	List of important spare parts and accessories with their part numbers and costing.			
11.3	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

3. Examination Bed

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Couch, Examination (Examination Bed)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Examination couch for use of health checkup and treatment of patients.			
2	**Operational Requirements**			
2.1	An examination couch with upholstered top in two pieces. Adjustable headrest			
3	**System Configuration**			
3.1	Examination couch with mattress.			
4	**Technical Specifications**			
4.1	The examination couch shall be made of a solid steel sheet and plate construction with anti-corrosive and antirust treated epoxy powder coating with upholstered top.			
4.2	All 4 legs of the bed shall be capped with heavy duty rubber footings.			
4.3	Overall size of the table must not be less than 1890mm L x 600mm W x 825mm H			
4.4	Strong Mild steel tubular construction epoxy powder coated treated.			
	The top base of machine pressed double bent Mild steel sheet epoxy powder coated treated finish			
4.5	Adjustable backrest of approx. size 450mm L x 310mm H with upholstered top.			

4.6	Upper section with drawers lower section comprises of cabinet with lockable sliding door.			
4.7	Swinging tray must be attached near headrest for BP apparatus and/or other health checkup minor equipment.			
4.8	The mattress shall be foldable and shall be designed to bend with the positioning of the bed when the backrest of the bed is adjusted. Bidder shall indicate the weight capacity and the total weight of the mattress in kilogram (kg)			
4.9	The mattress shall have mid-firmness, with foam density of approximately 0.55kg/ cubic foot, to avoid that the patient would sink down into foam with antibacterial, antistatic, acid resistance, waterproof and washable vinyl or vinylized nylon cover.			
4.10	The joints must be smooth and neat finish.			
5	**Accessories, spares and consumables**			
5.1	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer. Bidders shall specify, in a separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specifications Form.			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 **AND**			
7.2	CE or USFDA approved product certificate.			
8.	**Warranty & Maintenance Service During Warranty Period**			
8.1	Comprehensive warranty for 1 year after acceptance.			
8.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
9	**Authorization**			
9.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
10	**Installation and Commissioning & User Training**			
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	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.			

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

4. Oxygen concentrator

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Portable Oxygen Concentrator			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Portable device used to provide oxygen therapy to patients at substantially higher oxygen concentrations than the levels of ambient air, smaller in size and more mobile.			
2	**Operational Requirements**			
2.1	Electrically operated Portable device to produce substantially higher oxygen concentrations of oxygen than the levels of ambient air is required.			
3	**System Configuration**			
3.1	Oxygen contractor Minimum flow 5L per min with complete accessories.			
4	**Technical Specifications**			
4.1	Shall have Semi automatic operation.			
4.2	Oxygen Density at 5 LPM should be at least 95%±2% V/V.			
4.3	Oxygen delivery pressure should be between 3 to 7 PSI			
4.4	Compact structure design, light weight, easy to move.			
4.5	Advanced oil-free compressor			
4.6	24 hours continuous working available, Minimum 15000 hours working time warranty			
4.7	Big LCD Screen easy to operate			
	Remote control with timing setting			
	Power off alarm, abnormal voltage alarm			
	Time setting, times keeping and time counting			
	Running Noise note more than 50dB.			
4.8	Dimensions: 390x340x610 mm Approx Gross Weight: not more than 10Kg			
4.8	Power consumption not more than 400W			

5	**accessories.**			
5	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 specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	Thesystem offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220-2300 V 50 Hz fitted with appropriate plug to meet purchaser's country requirements. The power cable must be minimum 3 meters long			
7.	**Standards and Safety Requirements**			
7.1	Must submit ISO 13485:2003/ AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.1	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English.			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

5. Anesthesia Workstation with cardiac monitor

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Anaesthesia Workstation with cardiac monitor			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Anaesthesia Machine is used for delivering anaesthesia agents to the patients during surgery. The complete unit also monitors the vital signs and ventilates the patients.			
2	**Operational Requirements**			
2.1	It shall be suitable to be used for adult and paediatric patients.			
3	**System Configuration**			
3.1	Anaesthesia workstation with circle absorber, two vaporizers, Ventilator and Monitoring and with complete accessories.			
4	**Technical Specifications**			
4.1	It must be pneumatically or electrically powered and electronically controlled			
4.2	Must be compact, ergonomic & easy to use			
4.3	Must have provision for delivery of oxygen, nitrous oxide and medical air with pressure gauges.			
4.4	Machine must provide electronic gas mixing.			
4.5	Multi-colour TFT display of at least 12” size, with virtual flow meters for O2, N2O or Air.			
4.6	Dual flow sensing capability at inhalation and exhalation ports.			
4.7	Must have back-up O2 control which provides an independent fresh gas source and flow meter control in case of electronic failure.			
4.8	Gas regulators shall be of modular design/ graphic display			
4.9	Two Pin index yokes for connecting cylinders each for O2, N2O.			
4.10	Separate Pipeline inlet for Oxygen , Nitrous Oxide and Air			
4.11	Oxygen and Nitrous oxide must be linked either mechanically or pneumatically to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture.			
4.12	Must have audio-visual oxygen failure warning system.			

4.13	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.			
4.14	**Flow Meter:**			
	· It shall come with 6 flow meter columns; 2 flow meter columns for each kind of gas (N2O, O2, Air); 1 column approximately from 0 to 1 L/min and the other column approximately from 1 to 10 L/min (OR equivalent digital flow meter)			
4.15	**Breathing system:**			
	· Latex free fully autoclave able.			
	· Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect.			
	· Sensor must not require daily maintenance.			
	· Bag to vent switch shall be bi-stable and automatically begins mechanical ventilation in the ventilator position.			
	· Adjustable pressure limiting valve shall be flow and pressure compensated.			
4.16	Non-return cum pressure relief valve when pressure exceeds 120cmH2O.			
4.17	Battery backup for not less than 90 minutes of operation.			
4.18	Must provide with oxygen flush switch.			
4.19	Must have low flow anaesthesia technique.			
4.20	All circuits shall be detachable, washable and Autoclave able at most with steam of 134 0C.			
4.21	**Standard Circle Absorber System:**			
	Must have a bag/ventilator selecting valve integrated onto the absorber.			
	Must be suitable to use low flow techniques			
	Facility to attach oxygen sensor.			
	Must have CO2 absorbent chamber canister			
	Autoclaveable			
	Bidder shall specify the capacity of soda lime (in kg) will be supplied.			
4.22	**Vaporizers:**			
	New generation vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.			
	Precision vaporizers (Temperature, pressure and flow compensated) for Halothane, Isoflurane and Sevoflurane.			
	Must be easy to mount and dismount from the back bar.			
	Must have a standard filling port with keyed filling device.			
	Must be designed for transport with liquid in vaporizer chamber with protection against tipping and shaking Maintenance free vaporizer			
	Come with 2 sets of concentration calibrated type vaporizers and two sets of compatible fillers: one for isoflurane and one for halothane.			

	Ventilator:			
	The workstation must have integrated Anesthesia Ventilator system.			
	Microprocessor based electrically powered and electrically controlled ventilator			
	Ventilator must have Volume Control and Pressure Controlled and SIMV modes.			
4.25	Ventilator must have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow.			
	· Ventilator must be capable of at least 120-150 L/min peak flow to facilitate rapid movement through physiologic "dead space" in the Pressure Control mode.			
	· Tidal Volume: approximately 50 - 1200 ml			
	· Breathing frequency: approximately 5 - 60 breath/min			
	· Inspiratory flow: approximately 5 - 70 L/min			
	· Pressure limitation : approximately < 70 cm H2O			
	· PEEP (positive end-expiratory pressure): approximately 0-20 cm H2O			
	Anaesthesia Monitoring Specifications:			
	Monitoring of vital parameters: ECG, NIBP, SPO2 and Invasive Blood Pressure.			
	Twin temperature measurement with skin and rectal probes- Two sets with each monitor			
	Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor			
	Neuromuscular Transmission Monitoring with all accessories. One set with each monitor			
4.26	Cardiac Output measurement facility by thermo dilution technology with all accessories- one set for three monitors.			
	24hrs of graphical and numerical trending			
	Must have Hemodynamic, Oxygenation and Ventilation calculation package			
	Must include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anaesthesia event using standardized			
	menu based entries.			
	Facility to store snapshots during critical events for waveform review at a later stage			
	Audio visual and graded alarming system			
	Display of Ventilator:			
	Tidal volume (VT)			
4.27	Inspiratory/expiratory ratio (I:E)			
	Inspiratory pressure			
	Pressure limit			
	Positive End Expiratory Pressure (PEEP)			
5	**Accessories, spares and consumables**			
5.1	**Accessories:**			
	Vaporizer Halothane -01			

	Vaporizer Isoflurane -01			
	Adult and Pediatric autoclave able medical grade silicon breathing circuits -02 each			
	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			
	Connecting hose with regulator/ flow meter or probe for connection to N2O cylinder or N2O wall outlet, at least 5 meter length, 1 set			
	connection to air cylinder or wall outlet, at least 5 meter Connecting hose with regulator/ flow meter or probe for length, 1 set			
	· Medical grade silicon test lung adult and child size, 1 set each			
	· Medical grade silicon rubber anesthesia face masks for adult and pediatric, 2 set each.			
	· O2 sensor, 1 set			
	· Disposable domes-10			
	· Temp probe Skin reusable- 02			
	· Accessories for Cardiac Output module- 01 set			
	· Disposable Adult & Pediatric circuits- 5 each.			
	· Vital Parameter Accessories-01 Set			
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length.			
6.3	UPS of suitable rating shall be supplied for minimum 30 min. backup for the entire system			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC-60601-1-2:2001General Requirements of Safety for Electromagnetic Compatibility.			
7.4	Shall be compliant with IEC 60601-2-13-Medical Electrical Equipment part 2-13: Particular requirements for the safety of Anaesthesia Workstations.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty**			

	Period			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

6. Electrosurgical Unit

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Diathermy Machine (Electrosurgical) 300W with Vessel Sealing			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Functions**			
1.1	Electrosurgical units or Cautery are required to provide cutting and coagulation electrically during surgery and for controlling bleeding by causing coagulation (haemostasis) at the surgical site.			
2	**Operational Requirements**			
2.1	A 300W diathermy machine (electrosurgical unit) with vessel sealing system.			
3	**System Configurations**			
3.1	Diathermy Machine (Electrosurgical) approx. 300W with Vessel Sealing and with complete accessories.			
4	**Technical Specifications**			
I	**Electrosurgical Unit:**			
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.			
II	**Electrosurgical Vessel Sealing System:**			
4.22	The unit shall also come with an integrated electrosurgical vessel sealing system.			
4.23	Vessel sealing systems can offer an effective alternative method for sealing blood vessels and tissue bundles replacing established surgical techniques such as suturing, surgical clips and staples.			
4.24	It shall be able to use with accessories (forceps or clamps) suitable for vaginal hysterectomy.			
4.25	Vessel sealing system shall have user control mechanism so that surgeon can decide for a repeat seal before actually cutting it or even not cutting it.			

4.26	The system shall be able to seal vessels or tissue bundles preferably within 2 to 4 seconds.			
4.27	Vessel sealing system shall be able to seal artery, veins up to 7mm, sealed vessels shall withstand up to 3 times the systolic blood pressure.			
4.28	Thermal spread or collateral tissue damage must be minimal.			
4.29	Auto stop after vessel sealed with audible visual alarm.			
4.30	Shall have minimum two different modes for vessel sealing.			
4.31	In case of vessel / tissue is not sealed properly machine shall give re-grasp audio visual alarm.			
4.32	Vessel sealing system shall be compatible with Argon Coagulator.			
4.33	The complete 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. 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.			
5.3	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			
5.5	Universal adapter to fit and use with most common electrosurgical instruments/ hand pieces x 1 set. Bidder shall indicate the brand of which the adapter is compatible with			
5.6	Come with reusable standard mono-polar pencil/ handle with 2 button switch - 1 unit. Bidder must specify the type, size of pencil offered			
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. Bidder must specify the type, size of electrodes offered.			
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			

5.14	Vessel sealing reusable laparoscopic probe – 1 no.			
5.15	Single Pedal vessel sealing footswitch-1 no.			
	Forceps/ clamps for vaginal hysterectomy:			
	1 complete unit of forceps/ clamp for open and vaginal hysterectomy which consist of, but no limiting to, connecting cable to electrosurgical unit, electrode, switch and other accessories.			
	· The forceps/ clamp shall be reusable and autoclaveable.			
	· Length of forceps/ clamp: approximately: 210 - 230 mm			
	· The forceps/ clamp jaw: smooth or ridged or serrated surface, about 25-30 degree curved			
5.16	· Sealing surface of forceps/ clamp: approximately 3-5mm width x 25mm length			
6	**Operating Environment**			
6.1	The product offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 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 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	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			

11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

7. OT Table (Electric)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	O.T. Table			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Operating tables provide an elevated surface that supports the patient's body during surgical procedures, stabilizing the patient's position and providing optimal exposure of the surgical field.			
2	**Operational Requirements**			
2.1	Shall be electro-hydraulic type surgical table/bed.			
3	**System Configuration**			
3.1	O.T. Table for surgical procedure and with complete accessories.			
4	**Technical Specifications**			
4.1	Approx. dimensions: Length 1800-1900mm, Width 800-850mm, Height 630-810mm			
4.2	Cushions-White/grey with cover foldable arm rests, head piece and adjustable back piece and lower leg piece.			
4.3	The electric and mechanical drive for height adjustment.			
4.4	Seat adjustment, folding of the head end, foot end and supported by a powerful hydraulic cylinder.			
4.5	Foldable head rest, adjustable roller feet for satiability and mobility.			
5	**Accessories, Spares and Consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices			

	AND			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall be certified to be meeting safety standard IEC 60601-2-46- PART-2 Particular requirements for the safety of operating tables.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance 9.2 and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

8. Shadow Less OT Light (Ceiling, double dome)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Operating Light Ceiling Type (Double Dome)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Operation theatre lights provide cool, shadow free light and have special technology and filters to provide the same.			
2	**Operational Requirements**			
2.1	Ceiling mount operating light with two large domes			
3	**System Configuration**			
3.1	Operating light ceiling type having double large domes with all standard accessories.			

4	**Technical Specifications**			
4.1	Lower/upper adjustment of dome, approximately 1.50m.			
4.2	Diameter of dome, approximately 0.60m or better.			
4.3	Minimun luminous intensity for the light: For major dome: at least 1,50,000 lux For satellite dome: at least 1,40,000 lux depth of illumination not less than 100cm			
4.4	Color temprature must be between 4200k to 4500K			
4.5	Color rendering index not less than 95			
4.6	Type of bulbs: LED bulbs with life not less than 40,000 hours			
4.7	Rotation: 360 deg.			
4.8	depth of illumination not less than 100cm			
4.9	Field-of-view diameter, approximately 0.40m, with focus control.			
4.10	Removable autoclave able handle for dome.			
4.11	It shall design with minimal air resistance.			
	Installation Kit			
	The followings items shall also be included:			
	• Ceiling mounting plate/ bracket or equivalent and works and materials to make good the ceiling after installation.			
4.12	• Other materials needed for the installation on the items above.			
5	**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 specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			

9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

9. Arthroscope with shaver

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Arthroscope, Basic			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Arthroscopy is the examination of a joint with a device called an arthroscope inserted through a small incision in the skin. An arthroscope is a small, illuminated camera at the end of a narrow tube. It is connected to a monitor to allow for examination, diagnosis and repair of joint problems.			
2	**Operational Requirements**			
2.1	It shall operate on AC power supply.			
3	**System Configuration**			
3.1	Basic Arthroscopy, complete unit with all standard accessories.			
4	**Technical Specifications**			
4.1	Wide angle or ward-oblique telescope 30° enlarged view, diameter 4mm, length 18cm, autoclaveable, fibre optic light transmission incorporated.			
4.2	Arthroscope Sheath, diameter 6mm, working length 12cm, with 2 rotatable stopcocks and automatic lock-in coupling mechanism, autoclaveable, for use with Hopkins Telescope 30°, diameter 4mm, length 18cm. Coupling between the telescope and sheath must be possible in absolutely any position.			

4.3	Blunt Obturator: Autoclaveable; for use with arthroscope sheath diameter 6mm, working length 12cm.			
4.4	Hook and Retractor: Graduated, autoclaveable, diameter 3.5mm, working length 8.5cm. length of hook 2mm.			
4.5	Suction Punch: Autoclaveable, shaft diameter 4.8mm, working length 13cm.			
4.6	Through Cut Punch: Autoclaveable, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws.			
4.7	Through Cut Punch: Autoclaveable, angled 15° upwards, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws.			
4.8	Through Cut Punch: Autoclaveable, angled 90° left, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws.			
4.9	Through Cut Punch: Autoclaveable, angled 90° right, cutting width 2.7mm, shaft diameter 3.5mm, working length 13cm; must have an ergonomic handle and flat construction of jaws.			
4.10	Autoclaveable Scissors: straight, shaft diameter 3.5mm, working length 13cm. Scissors with two piece design having a handle and working attachment will be preferable.			
4.11	Autoclaveable Biopsy Forceps: straight, shaft diameter 3.5mm, working length 13cm. Biopsy Forceps with two piece design having a handle with ratchet and working attachment will be preferable			
4.12	Autoclaveable Biopsy Forceps: straight, shaft diameter 3.5mm, working length 13cm. Biopsy Forceps with two piece design having a handle with ratchet and working attachment will be preferable			
4.13	Cleaning adaptor for hand instruments.			
4.14	**Camera:**			
	Digital single chip camera			
	Colour system: PAL with camera head.			
	High horizontal image resolution of more than 450 lines.			
	Integrated optical par focal zoom lens through which the image can be zoomed in or out without changing the focus.			
	Automatic exposure control (1/50-1/10000s PAL).			
	Automatic white balance with memory functions for 2 settings.			
	RGB - video output.			
	Integrated universal power supply.			
	Can be adapted directly to an operating microscope.			
	Integrated title generator.			

	Camera system compatible with Communication Computer system for remote controlled operation of the various features of the camera along with other equipment so as to function as an integral part of the digitally controlled Operating Room under the command of the operating Surgeon.			
	Camera System having an Autoclaveable Camera Head and Programmable buttons on the camera head itself will be highly desirable.			
4.15	**Light Source:**			
	Halogen (15V, 250W) light source having optimum light power with colour temperature around 3400K. Compact and light in design with manual light intensity control preferably in steps. The light source must have an in-built infra-red filter for heat and a system for over-heating protection. The light source must also have automatic backup operation in case of lamp failure.			
4.16	Fibre Optic Light Cable for Cold Light Fountains with Straight Connector: Diameter 3.5mm, length 180cm.			
4.17	**Hardcopy Devices:**			
	Printer to take print out of the images from monitor screen.			
	CD/DVD writer to record the procedure video for records and documentation.			
5	**Accessories, Spares and Consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240V AC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
6.3	Suitable UPS with maintenance free batteries, voltage regulation and spike protection for minimum 30 min. back-up shall be supplied with the system.			
7	**Standards and Safety Requirements**			
7.3	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.4	CE (93/42 EEC Directives) 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.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			

8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

10. Bone Drill & Saw

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Drill & Saw, Electrical			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Drilling machines are used in a number of orthopaedics surgical procedures, for example, in making holes in bones for bone screws and in drilling out the medulla or marrow areas of bones.			
2	**Operational Requirements**			
2.1	Electric driven, autoclave able, versatile, forward & reverse mode with oscillating saw hand pieces.			
3	**System Configuration**			
3.1	Electric Operated Drill & Saw, complete unit.			
4	**Technical Specifications**			
4.1	Driving unit shall include motor, sturdy stand with wheels.			
4.2	Flexible shaft: Minimum length, 2 metres, autoclave able quick connection.			
4.3	**Hand Piece for Drill:**			
	· Cannulated autoclave able pistol type.			
	- Speed-1200 to 1500RPM.			
	- Jacob chuck.			

	· Quick coupling chuck (Synthesis type).			
	- Hudson's chuck.			
	· Chuck for K-wire.			
	· Forward & reverse options.			
4.4	**Hand Piece for Reamers:**			
	· Cannulated autoclave able pistol type.			
	· Speed-400RPM, non-damaging to the bone endosteal blood supply.			
	· Chuck for cannulated reamers.			
	· Forward & reverse options.			
4.5	**Sagittal Saw:**			
	· Autoclave able pistol type.			
	· Easy Attachments of blades (without Instrument).			
	· 2 Blades each of different size routinely used in Orthopaedic surgery (Total nos. 10).			
	· ACL Blades for commonly used sizes.			
5	**Accessories, Spares and Consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include Power Supply, climate, temperature and relative humidity.			
6.2	Power supply: 220 – 240V AC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	**Standards and Safety Requirements**			
7.7	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.8	CE (93/42 EEC Directives) 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.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
	Warranty & Maintenance Service During Warranty Period			
9.1	Comprehensive warranty for 1 year after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			

10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

11. C Arm Machine

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	C-Arm with image intensifier and Fluoroscopy system			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Mobile C-Arm X-ray for continuous fluoroscopy, image storage and retrieval			
2	**Operational Requirements**			
2.1	It shall operate on single phase AC power supply			
3	**System Configuration**			
3.1	Mobile C-Arm X-ray, two monitors and a memory unit			
4	**Technical Specifications**			
4.1	**X-ray Generator:**			
	Microprocessor based, high frequency inverter generator of at least 30 KHz			
	Anatomical Programmable Radiography Mode to optimize the system setting for better life of X-ray tube			
	Generator output : not less than 3 KW at 100KV			
	Fluoroscopic / Radiographic KV range			
	Lower limit shall not exceed 40 KV			
	Higher limit shall not be less than 110KV			
	Upper limit of Fluoroscopic mA must be at least 9mA			
	Radiographic Range should be approx.(10 to 150) mAs or more			
4.2	**X-ray Tube:**			
	High Frequency Stationary anode tube type			
	Focal spots range : Small focus hall not be less than 0.5mm2 and large focus shall not be more than 1.8mm2			
4.3	**Collimator**			
	Operator controlled fixed collimator with a pair of semi-transparent shutters can be rotated 360°.			

4.4	**C-Arm**			
	Orbital movement shall be approx. 125°			
	Vertical travel at least 400 mm			
	Horizontal travel at least 200 mm			
	Swivel range shall be approx. 12°			
	Axial Rotation shall be approx ±180°			
4.5	**Image Intensifier**			
	At least 9", Triple field image input screen with direct coupling with camera			
	Camera shall have at least 100 LPI			
	Noise reduction, scattered light trap for high contrast dynamics			
	Shall have CCD camera technology with AGC and ABC control			
4.6	**TV Monitor**			
	2 units LCD monitor side by side for live and reference image			
	Shall be at least 17" size with automatic brightness control			
	Trolley for 2 display screens with either a keyboard or mouse included - High resolution			
4.7	**Imaging Modes**			
	Fluorscopy mode shall have the following facilities · Continuous fluoroscopy with last image hold · Pulsed fluoroscopy with last image hold · Last image hold with at least two frames image memory			
	Digital image processing capabilities : Filtration, summation and noise reduction			
	Digital image rotation with subsequent processing			
	Positive/Negative and left/right and top/bottom image reversal			
	Image storage capacity of at least 1000 images			
	Shall have facility of CD/DVD or USB or integrated DICOM			
	storage options for external memory			
	Come with one unit of B/W video printer printing on 110mm width			
	thermal paper resolutions more than 300 dpi, 256 grey level. The			
	video printer should have space to be kept in the monitor trolley.			
5	**Accessories, Spares and Consumables**			
5.1	Accessories:			
	· Lead aprons, light weight – 4 nos			
	· Thyroid guards – 4 nos			
	· LED / Fluorescent View box – 2 nos			
	· Thermal paper 110 mm width for B/W video printer – 5 rolls			
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item			

	included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include climate, temperature and relative humidity.			
6.2	Power supply: 220 -240V AC, 50 Hz single phase fitted with appropriate plug 3 pin round type. The power cable must be minimum 3 meters long.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 13485:2003/ AC:2007 for Medical Devices			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate			
	Shall meet IEC 60601-1-3 Part 1: General Requirements for safety			
7.3	Collateral Standard: General requirements for Radiation Protection in Diagnostic X-Ray Equipment OR any Radiation safety standard certificates from corresponding country's regulatory board.			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

12. Fracture Table (Traction Bed)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Fracture Table (Hanging Attachment for OT Table)			

	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	These are the hanging orthopaedic attachment to support orthopaedic procedure inside the Operation Theatre			
2	**Operational Requirements**			
2.1	Attachment compatible to the OT Table			
3	**System Configuration**			
3.1	All accessories required for orthopedic procedure			
4	**Technical Specifications**			
4.1	Attachment must be compatible to any OT table			
4.2	Must include all accessories for orthopaedic procedure including Arm board, shoulder support, lateral support, hand rest, knee crutches and anaesthesia screen			
4.3	Extension must allow selective positioning of the leg according to the surgeon's direction			
4.4	Attachments must be made from acid proof, anti-rusted stainless steel 304 G			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer.			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include climate, temperature and relative humidity.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 13485:2003/ AC:2007 for Medical Devices			
8	**Warranty & Maintenance Service During Warranty Period**			
8.1	Comprehensive warranty for 1 year after acceptance.			
9	**Authorization**			
9.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
10	**Installation and Commissioning & User Training**			
10.1	Supplier must accomplish proper commissioning of equipment onsite.			
11	**Documentation**			
11.1	User (Operating) manual in English.			

13. Cervical Dilator set

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Cervical Dilator Set			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.3	Cervical dilator set is used for the opening of the cervix, the entrance to the uterus, during childbirth, miscarriage, induced abortion, or gynaecological surgery.			
2	**Operational Requirements**			
2.3	Stainless steel, reusable cervical dilator set.			
3	**System Configuration**			
3.1	Cervical Dilator Set of different sizes.			
4	**Technical Specifications**			
4.1	Hegar, Cervical Dilator set, double enclosed.			
4.2	Material: High grade fully stainless steel, corrosion resistance.			
4.3	**Sizes:**			
	· 1 x 2 mm			
	· 3 x 4 mm			
	· 5 x 6 mm			
	· 7 x 8 mm			
	· 9 x 10 mm			
	· 10 x 11mm			
	· 12 x 13mm			
	· 13 x 14mm			
	· 15 x 16 mm			
4.4	Autoclaveable/Sterilizeable.			
4.5	To be supplied in a wooden velvet livid box.			
5	**Accessories, Spares and Consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include Power Supply, climate, Temperature and relative humidity.			
7	**Standards and Safety Requirements**			
7.13	Must submit ISO 9001 or ISO13485:2003/AC:2007 for Medical Devices			
7.14	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	Warranty for 1 year after acceptance.			
10	**Maintenance Service during Warranty Period**			
11	**Installation and Commissioning**			
11.1	Must supply preassembled unit, ready to use.			
12	**Documentation**			
12.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

14. Delivery Bed

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Bed, Delivery			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Function**			
1.1	Delivery bed is used for Baby Delivery and must incorporate ideal blend of the patient's comfort and the professional needs of the delivery team, focusing on the aesthetic and functional design of the entire product.			
2	**Operational Requirements**			
2.1	Manually operated delivery bed.			
3	**System Configuration**			
3.1	Delivery Bed with complete attachments and accessories.			
4	**Technical Specifications**			
4.1	It must have manual adjustments for height and back positions.			
4.2	It must have collapsible side rails.			
4.3	It must have three sectional mattress and seat section must have large perennial cut.			
4.4	It must have headboard which can be detached.			
4.5	Must have wheels provided with locking system.			
4.6	Must have retractable foot section so as to convert bed into table.			
4.7	Must have infusion rods, which have adjustable heights, quick release and attaches to all corners of bed.			
4.8	Must have adjustable leg rests.			
4.9	Must have push grip handles.			
4.10	Must have sliding stainless steel bowl at perennial part of table.			

4.11	It must have catheter bag holder, which can be attached, on either side of bed.			
4.12	It must be able to give trendelenburg, reverse trendelenburg and 70 degree sitting position.			
4.13	It must have adjustable foot supports.			
4.14	It must be easy to maintain clean and sterilize (especially blood stains).			
4.15	Frame must be of epoxy powder coated (washable) steel.			
	Dimensions (approx.):			
	- Length: 180cm			
	- Width: 75cm			
	· Load capacity: 150kg or more			
5	**Accessories, Spares and Consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include Power Supply, climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz Single Phase fitted with appropriate plug. The power cable must be at least 3 metre in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC 60601-2-46 Medical Electrical Equipment - PART 2-Particular Requirements for the Safety of Operating Tables.			
8	**Standards and Safety Requirements**			
8.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 **AND**			
8.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
9	**Installation and Commissioning & User Training**			
9.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
9.2	Must provide user training (including how to use and maintain the equipment)			
10	**Warranty & Maintenance Service During Warranty Period**			
10.1	Comprehensive warranty for 2 years after installation			
10.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
11	**Authorization**			

11.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
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 numbers and costing.			
12.4	Certificate of calibration and inspection from factory.			
12.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

15. Surgical Instrument set (VH, TAH & CS set)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	CS Set			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.4	CS Set is composed of operating room grade instruments which are made from stainless steel.			
2	**Operational Requirements**			
2.4	CS Set for Surgery			
3	**System Configuration**			
3.1	CS Set, complete set			
4	**Technical Specifications**			
4.1	Masson Needle Holder 10 1/2" 1 pcs			
4.2	TC Heaney Needle Holder Cvd 8 1/4" 1 pcs			
4.3	Foerster Sponge Serr Str 91/2" 1 pcs			
4.4	Mayo Dissecting Scissors Str 9" 1 pcs			
4.5	Mayo Dissecting Scissors Cvd 9" 1 pcs			
4.6	Phaneuf Forceps Angular 8" 2 pcs			
4.7	Jackson Vaginal Retractor 1 pcs			
4.8	DeLee OB Forceps 12" 1 pcs			
5	**Accessories, Spares and Consumables**			
5.1	Not applicable			
6	**Standards and Safety Requirements**			
6.1	Must submit ISO 9001 or ISO13485:2003/AC:2007 for Medical Devices			
6.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7	**User Training**			
7.1	Not applicable			
8	**Warranty**			

8.1	Warranty for 1 year after acceptance.			
9	**Installation and Commissioning**			
9.1	Must supply preassembled unit, ready to use.			
10	**Documentation**			
10.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

TAH Set

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	CS Set			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.5	Hysterectomy set for hysterectomy procedure, complete set, stainless steel			
2	**Technical Specifications**			
2.1	Scalpel Handle 3L-1 pcs			
	Mayo Dissecting Scissors Cvd 6 3/4"-1 pcs			
	Rochester-Ochsner Forceps Cvd 8"-4 pcs			
	Rochester-Ochsner Forceps Str 8"-8pcs			
	Russian Tissue Forceps-1pcs			
	Heaney Needle Holder-2pcs			
	Allis Tissue Forceps 5 x 6 Teeth 9 1/2"-2 pcs			
	DeBakey Tissue Forceps- 1pcs			
	Mixter Right Angle Forceps- 2 pcs			
	Metzenbaum Scissors Cvd- 1pcs			
	Deaver Retractor 1" x 9" -1pcs			
	Deaver Retractor 1" x 12" -1pcs			
	Deaver Retractor 1 1/2" x 12"- 1pcs			
	Schnidt Hemostat Cvd- 1pcs			
	Foerster Sponge Forceps Str 9 1/2"-2 pcs			
	Heaney Clamp- 2-pcs			
	Heaney-Ballantine Clamp Str- 6pcs			
	Heaney-Ballantine Clamp Cvd- 2 pcs			
3	**Accessories, Spares and Consumables**			
3.1	Not applicable			
4	**Standards and Safety Requirements**			
4.1	Must submit ISO 9001 or ISO13485:2003/AC:2007 for Medical Devices			
4.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
5	**User Training**			

5.1	Not applicable			
6	**Warranty**			
6.1	Warranty for 1 year after acceptance.			
7	**Installation and Commissioning**			
7.1	Must supply preassembled unit, ready to use.			
8	**Documentation**			
8.1	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

16. Microscope

SN	Purchaser's Specifications	s Compliance (Yes / No)	Reference Page No.	Remarks
	Binocular Microscope (LED)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	A microscope fitted with double eyepieces for vision with both eyes is a Binocular Microscope. The purpose in dividing the same image from a single objective of the usual compound micro-scope is to reduce eyestrain and muscular fatigue which may result from monocular, high-power microscopy			
2	**Operational Requirements**			
2.1	System complete with illumination system and research quality optics is required.			
3	**System Configuration**			
3.1	Binocular Microscope (LED) with all the necessary adapters and power cords.			
4	**Technical Specifications**			
4.1	**Optical System:** Infinitely corrected optics par focal, plan achromatic lenses with anti-fungal properties.			
4.2	Magnification must be 40X – 1000X.			
4.3	**Illumination:** Built in transmitted Koehler illumination. The Illumination must be modular type with LED illumination having life time more than 20,000 hours of operation.			

4.4	**Focusing:** • Fine drive: 0.3mm /rotation. • Coarse drive: 44mm/rotation. • Total travel range is 15mm. • Stage height movement by roller guide (rock & pinion). • Upper limit stopper. • Tension adjustable on coarse focus. • Adjustment knob.			
4.5	Revolving nosepiece, Quintuple.			
4.6	**Observation tube:** • Observation tube must be Binocular compensation free with Side & top of design with two working heights at 385 & 425 mm with an ergonomic head inclination at 30º. • Inter-pupillary distance adjustment must be from 48-74mm.			
4.7	**Stage:** • Mechanical stages must be low positioned coaxial control knobs: X-Y travelling area 140 x 135mm.			
	• Travel range 75x30mm having graduated scale. • Must have filter holder and must be equipped with Blue, Green Yellow filters. • Must have rounded edges of the stage corners.			
4.8	**Condenser:** • Type – Abbe condenser. • N.A. – 0.9/ 1.5 • Aperture iris diaphragm – built-in.			
4.9	Base must be metallic, supplied with field lens unit, rubber feet and with external power adapter.			
4.10	The Objectives must be antifungal Plan Achromatic Objectives, 4x/0.1, 10x/0.25, 40x/0.65, 100/1.25 Oil immersion and 40x & 100x Objectives spring loaded. Ocular and Objective must have an antifungal coating with 4- position reverser, the inclined ocular tube at a ergonomically height of 30º (for convenient and fatigue free observation).			
4.11	Eye Pieces must be WF-10X/18.			
4.12	The Microscope must have provision of connection of Plano Concave mirror unit.			
4.13	LED light intensity must be displayed on both sides of the stand.			
5	**Accessories, spares and consumables**			
5.1	**Accessories:** • Dust cover with integrated handle.			

5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to store and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220-240V/ 50 Hz AC Single phase fitted with appropriate plugs to meet purchaser's country requirements. The power cable must be minimum 3 metres long. Power Consumption: approx. 50 watt.			
6.3	Shall be supplied with suitable voltage stabilizer to give constant output of 220-240V AC.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC: 2007 **AND**			
7.2	CE or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

17. Deionisation plant for water treatment

SN	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Deionisation plant for water treatment			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Water softener system			
2	**Operational Requirements**			
2.1	Water Treatment			
3	**System Configuration**			
3.1	Water Treatment			
4	**Technical Specifications**			
4.1	Water deioniser / RO plant of capacity 20L/hr			
4.2	Shall supply with storage tank of 200L			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the			
	equipment, including all standard tools and cleaning and lubrication			
	materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the			
	conditions of the purchaser's country. The conditions include Power			
	Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 V AC, 50Hz fitted with appropriate plug. The			
	power cable must be at least 3m in length.			
7	**Standards and Safety Requirements**			
7.1	The supplier must prove that their design and production facilities are accredited to ISO 9001/EN46001 or ISO 9002/EN46002 or internationally acceptable equivalent			
7.2	CE or USFDA approved product certificate.			
8	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			

9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

18. Washing Machine (21 kg)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes /	Reference Page No.	Remarks
	Washing Machine (21 KG)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Washing Machine with Dryer used to wash all the linens used in the hospital in daily basis so as to maintenance the cleanliness inside the hospital.			
2	**Operational Requirements**			
2.1	Washer and Dryer work together to wash and dry the clothes			
3	**System Configuration**			
3.1	Washing Machine with dryer and complete accessories			
4	**Technical Specifications**			
4.1	Must be capable of wash and spin two loads at same time.			
4.2	Automatic washing with various in-built wash programmes (At least 15 wash programs)			
4.3	Washer Capacity : At least 21 kg			
4.4	Dryer Capacity : At least 12 kg			
4.5	LCD/LED display for observing the status of the system			
4.6	Facility to control and monitor the laundry remotely			
4.7	Spin speed up to 1000 RPM, at least 6 motion motor			
4.8	Must be vibration free and noise free			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and			

	lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 certificate			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	Drive motor must have warranty of 10 years after installation.			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

19. Table for folding

SN	Purchaser's Specifications		Compliance (Yes / No)	Reference Page No.	Remarks
	Iron with folding table				
	Manufacturer				
	Brand				
	Type / Model				
	Country of Origin				
1	**Description of Function**				
1.1	Electric Iron for laundry along with the table for folding clothes				
2	**Operational Requirements**				
2.1	Electric Iron to be used in hospital laundry				
3	**System Configuration**				
3.1	Electric Iron and foldable table for folding ironed clothes, complete set				
4	**Technical Specifications**				

4.1	Materials need to be stainless steel			
4.2	Power consumption of at least 2KW approx..			
4.3	Appropriate table which can be used to perform the function of iron and also for folding the clothes			
4.4	Table should be foldable and at least 5 different adjustable height position.			
5	**Accessories, spares and consumables**			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Must work on 220-240V/ 50 Hz AC Single phase or 3 phase fitted with appropriate plugs and sockets. The mains cable minimum 3 meter long.			
7	**Standards and Safety Requirements**			
7.1	ISO Certified			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 1 year after acceptance			
	During warranty period supplier must ensure preventive maintenance			
9.1	and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer’s Authorization or Local Distributor Authorization (Manufacturer’s Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

20. Autoclave (Horizontal) - double door 200L

SN	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	CSSD autoclave shall be able to sterilize wrapped instruments, unwrapped			
	instruments, linen, glassware, liquids.			
2	**Operational Requirements**			
2.1	Microprocessor controlled horizontal electrically heated autoclave is required.			
3	**System Configuration**			
3.1	Autoclave, Horizontal, Single Door, 200 litres, with complete accessories.			
4	**Technical Specifications**			
4.1	Shall have both fully automatic operation mode and manual mode.			
4.2	The sterilizer shall be pneumatically (Compressed Air) operated			
4.3	The autoclave shall be designed to operate on various pre select programs such			
	as pre-vacuum cycle, gravity cycle, porous load cycle, liquid cycle and two			
	standard Bowie Dick test and vacuum leak cycle.			
4.4	Autoclave shall work up to 121-136 ^{o}C temperature.			
4.5	It shall come with vertical sliding door, a trolley, a steam generator and a			
	dedicated air compressor.			
4.6	**Construction:**			
	Jacket shall be constructed of heavy duty 304L grade stainless steel.			
	Door shall be constructed of heavy duty 304L grade stainless steel.			
	Chamber shall be constructed of heavy duty 316L Ti grade stainless steel.			
	All the pipes and fittings are made of stainless steel and Brass.			
4.7	Chamber constructed of heavy duty 316L grade stainless steel shall have			
	following features:			
	Chamber shape: Horizontal cylindrical design			
	Chamber volume: approx. 200 litres.			
4.8	Shall come with safety features such as:			
	Door must not open in case chamber is pressurized.			
	Safety valves for chamber/jacket, current overload relays and contactors for vacuum pump.			
	Shall have at least two limit switches at the end of door-			

	close position.			
4.9	On the front panel of autoclave there are different pressure gauges for depiction of actual pressure in chamber, jacket and pressure on gasket.			
4.10	It shall be high speed microprocessor control for accurate progression of sterilization cycle.			
4.11	Keypad/touchscreen shall be provided which is used for selecting the cycle and to adjust and feed alphanumeric data. Multiple password access levels (specify number) shall be provided to control access/operation of the machine preventing unauthorized access. These access levels shall be user selectable.			

4.12	Approx. 7” touch screen multi-colour LCD display for preselect program information. The information must include cycle stage, chamber temperature, chamber pressure, jacket pressure along with the information about failures and interrupts. It shall have storage capacity of approx. 200 cycles built-in memory.			
4.13	Documentation: The system shall come with real time built-in printer which gives/prints the real time event during the propagation of cycle such as time in hour, minute, second along with date, load no., operator etc. Any failure is indicated via audio-visual alarm and a print out.			
4.14	Shall come with heat condensation device that cools the condensate emitting from autoclave during the exhaust.			
4.15	Shall have fully automatic steam generator made of more than 60L chamber to feed steam to autoclave jacket and gasket groove. Water reservoir, water sensing electrodes, pressure switches and safety valve must be part of steam generation unit. It shall come with heating element of 10-20KW made of stainless steel.			
4.16	Exhaust air filtration with condensate sterilization for emission-free sterilization of infectious pathogens, equipped with filter cartridge of 0.2 µm pore size, with easy access for replacement.			
4.17	Air compressor: Shall come with air compressor for all pneumatic operation.			
4.18	Even with a total control failure, all mechanical safety features must be left intact.			
4.19	RS 232/USB interface for direct connection to a personal computer (PC), and programs for conforming documentation, diagrams, storage, and printout.			
5	**Accessories, spares and consumables**			
5.1	**Accessories:** • Spare heating element- 2 set • Spare air filters: 5 nos. • Spare door gaskets: 2 nos. • Water level glass : 2 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. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser’s Country. The conditions include Climate, temperature and relative humidity.			
6.2	Power supply: 380-440 V (3 Phase), 50Hz fitted with appropriate plug to meet purchaser’s country requirements. The power cable must be minimum 3 metres long.			

7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC 61010-2-040 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	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

21. Breath alcohol analyser

22. Plaster station

23. Goniometer measuring tape

24. Pneumatic torniquet (Automatic)

S.N.	Purchaser's Specifications		Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Tourniquet Electronic (Automatic)				
	Manufacturer				
	Brand				
	Type/Model				
	Country of Origin				
1	**Description of Function**				
1.1	Tourniquet used to control venous and arterial circulation to an extremity for a period of time.				
2	**Operational Requirements**				
2.1	Electronic automatic tourniquet with cuffs for paediatric & adult size.				
3	**System Configuration**				
3.1	Electronic automatic tourniquet with cuffs for paediatric & adult size.				
4	**Technical Specifications**				
4.1	Shall have facility to use single and dual cuff tourniquet.				
4.2	Shall not require any external high pressure air.				
4.3	Must have continuous and bright display for actual cuff pressure, set pressure and time.				
4.4	The cuff pressure must not be released on power failure.				
4.5	Must be possible to increase and decrease the set cuff pressure online				
4.6	Must have facility to release cuff pressure without disconnecting the cuffs from the machine.				
4.7	Must have a cuff pressure from 10 to 400 mmHg.				
4.8	Must have a timer setting from 10 minute to 3 hours.				
4.9	Must have audible and visual alarm for pressure increase and decrease from the set value.				
4.10	Must have audible and visual alarm for reaching the set time.				
5	**Accessories, spares and consumables**				
5.1	**Accessories:** • Two sets of good quality cuffs (Upperlimb-2, Lower limb-2) for paediatric and adult size				
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).				
6	**Operating Environment**				
6.1	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.				
6.2	Power supply: 220 – 240 V AC, 50Hz Single Phase fitted with				

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	appropriate plug. The power cable must be at least 3m in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC 60601-1 general requirements of electrical safety.			
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 warranty period supplier must ensure corrective/breakdown maintenance whenever required.			
11	**Installation and Commissioning**			
11.1	Supplier must accomplish proper installation and commissioning of the equipment on site.			
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 numbers and costing.			
12.4	Certificate of calibration and inspection from factory.			

25. Oxygen compressor and filling unit

S.N.	Purchaser's Specifications		Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	Deionisation plant for water treatment				
	Manufacturer				
	Brand				
	Type / Model				
	Country of Origin				
1	**Description of Function**				
1.1	CSSD autoclave shall be able to sterilize wrapped instruments, unwrapped instruments, linen, glassware, liquids.				
2	**Operational Requirements**				
2.1	Microprocessor controlled horizontal electrically heated autoclave is required.				
3	**System Configuration**				
3.1	Autoclave, Horizontal, Single Door, 200 litres, with complete accessories.				
4	**Technical Specifications**				
4.1	Shall have both fully automatic operation mode and manual				

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	mode.			
4.2	The sterilizer shall be pneumatically (Compressed Air) operated			
4.3	The autoclave shall be designed to operate on various pre select programs such as pre-vacuum cycle, gravity cycle, porous load cycle, liquid cycle and two standard Bowie Dick test and vacuum leak cycle.			
4.4	Autoclave shall work up to 121-136 ^{o}C temperature.			
4.5	It shall come with vertical sliding door, a trolley, a steam generator and a dedicated air compressor.			
4.6	**Construction:** • Jacket shall be constructed of heavy duty 304L grade stainless steel. • Door shall be constructed of heavy duty 304L grade stainless steel. • Chamber shall be constructed of heavy duty 316L Ti grade stainless steel. • All the pipes and fittings are made of stainless steel and Brass.			
4.7	Chamber constructed of heavy duty 316L grade stainless steel shall have following features: • Chamber shape: Horizontal cylindrical design • Chamber volume: approx. 200 litres.			
4.8	Shall come with safety features such as: • Door must not open in case chamber is pressurized. • Safety valves for chamber/jacket, current overload relays and contactors for vacuum pump. • Shall have at least two limit switches at the end of door-close position.			
4.9	On the front panel of autoclave there are different pressure gauges for depiction of actual pressure in chamber, jacket and pressure on gasket.			
4.10	It shall be high speed microprocessor control for accurate progression of It shall be high speed microprocessor control for accurate progression of			
4.11	Keypad/touchscreen shall be provided which is used for selecting the cycle and to adjust and feed alphanumeric data. Multiple password access levels (specify number) shall be provided to control access/operation of the machine preventing unauthorized access. These access levels shall be user selectable.			
4.12	Approx. 7" touch screen multi-colour LCD display for preselect program information. The information must include cycle stage, chamber temperature, chamber pressure, jacket pressure along with the information about failures and interrupts. It shall have storage capacity of approx. 200 cycles built-in memory.			
4.13	Documentation: The system shall come with real time built-in			

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
	printer which gives/prints the real time event during the propagation of cycle such as time in hour, minute, second along with date, load no., operator etc. Any failure is indicated via audio-visual alarm and a print out.			
4.14	Shall come with heat condensation device that cools the condensate emitting from autoclave during the exhaust.			
4.15	Shall have fully automatic steam generator made of more than 60L chamber to feed steam to autoclave jacket and gasket groove. Water reservoir, water sensing electrodes, pressure switches and safety valve must be part of steam generation unit. It shall come with heating element of 10-20KW made of stainless steel.			
4.16	Exhaust air filtration with condensate sterilization for emission-free sterilization of infectious pathogens, equipped with filter cartridge of 0.2 µm pore size, with easy access for replacement.			
4.17	Air compressor: Shall come with air compressor for all pneumatic operation.			
4.18	Even with a total control failure, all mechanical safety features must be left intact.			
4.19	RS 232/USB interface for direct connection to a personal computer (PC), and programs for conforming documentation, diagrams, storage, and printout.			
5	**Accessories, spares and consumables**			
5.1	**Accessories:** • Spare heating element- 2 set • Spare air filters: 5 nos. • Spare door gaskets: 2 nos. • Water level glass : 2 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. Bidders must specify the quantity of every item included in their offer (including items not specified above).			
6	**Operating Environment**			
6.1	The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 380-440 V (3 Phase), 50Hz fitted with appropriate plug to meet purchaser's country requirements. The power cable must be minimum 3 metres long			
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.			

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No.	Remarks
7.3	Shall meet IEC 61010-2-040 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-040: Particular requirements for sterilizers and washer-disinfectors used to treat medical materials.			
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 corrective/breakdown maintenance whenever required.			
11	**Installation and Commissioning**			
11.1	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.			
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.			
12.4	Certificate of calibration and inspection from factory.			
12.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

26. Defibrillator Machine

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Defibrillator (with Monitor)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.			
2	**Operational Requirements**			
2.1	Used in emergency & critical care departments to meets various resuscitation and monitoring needs.			
3	**System Configuration**			
3.1	Defibrillator must be Biphasic, light weight and latest model with complete accessories.			

4	**Technical Specifications**			
4.1	Shall have both AED (automated external defibrillator) and Manual capabilities.			
4.2	System shall be user friendly, lightweight and easily transportable.			
4.3	The defibrillation shock is delivered using biphasic waveform which delivers a lower range of energy shocks ranging from 2 to 260 joules. For internal defibrillation, the energy is limited to 50 joules. Bidder to indicate the range of energy proposed			
4.4	Shock delivery can be via hands-free multifunction defibrillator electrode pads or paddles.			
4.5	Able to perform synchronized cardioversion and non-invasive pacing therapy.			
4.6	The AED must be able to start analysis automatically or prompt the operator to press "start analysis". In automatic analysis mode, the analysis of the ECG data shall not be more than 14 seconds.			
4.7	When not in the analyze mode, the AED must provide both audible and visual indication of the presence of, or a change to a potentially shockable rhythm.			
4.8	Can be used for neonatal/paediatric and adult defibrillation.			
4.9	The defibrillator using defibrillation pads shall be used on adults. For paediatric/neonates, it shall use the paediatric/neonate Energy reduced energy defibrillation electrodes.			
4.10	Shall have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation.			
4.11	Shall have 3-lead ECG monitoring capability.			
4.12	Shall include a removable data card for storing ECG data (patient heart rhythm and defibrillation events) with capacity of at least 8MB or not less than 4 hrs of recording.			
4.13	Shall have capability to download ECG data to a PC-based data management program.			
4.14	Operates on AC power supply or internal battery.			
4.15	Shall have battery back-up facility			
4.16	Shall have rechargeable battery back-up facility. Fully charged battery shall deliver approximately 50 discharges. Bidder to specify the type of battery used.			
4.17	Shall have integral thermal printer with paper speed of 25mm/sec			
4.18	Must comply with AHA & ACLS requirements.			
4.19	**Control Panel**			
	· Control panel shall have a high-resolution LCD with bright back-light display.			
	· Bidder to specify size of LCD screen and the no. of waveforms which can be displayed.			
	· Audio and visual alarms shall be provided.			
	· Audible indication shall be available during AED mode.			
	· Must be able to display ECG, HR indicator, battery status, shock indicator.			
	· HR limit and shockable rhythms alarms shall be provided.			
4.20	Energy dischargeable buttons shall be provided on the unit.			
4.21	Charge shall not be held longer than 10 secs before discharge.			
4.22	Must have an electrode contact-quality indicator to minimize the risk of ineffective defibrillation.			

5	**Accessories, spares and consumables**			
5.1	Disposable self-adhesive defibrillator pads for adults complete with cable and connector x 10 sets			
5.2	Disposable self-adhesive reduced energy defibrillator pads (as required) for neonate/paediatric complete with cable and connector x 3 sets			
5.3	3 wire ECG cable (lead II) x 1 set for ECG monitoring.			
5.4	Disposable ECG electrodes x 50 pcs			
5.5	Carry Bag/case x 1 set			
5.6	Printer (built-in) x 1 set			
5.7	Thermal paper x 10 rolls/sets			
5.8	Power cord x 1 set			
5.9	Rechargeable Battery x 1 set			
5.10	External Paddles for Adult & Children x 1 set			
5.10	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 specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include following operating condition			
	Power Supply : 220- 240 VAC			
	Grounding Condition : 10-20 V (N-E)			
	Average Temperature : 10 - 30 °C			
	Humidity Range : Approx. 70-85%			
6.2	Must work on 220-240V/ 50 Hz AC Single phase fitted with appropriate plugs and sockets. The mains cable minimum 3 meter long.			
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	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.	**Warranty & Maintenance Service During Warranty Period**			
8.1	Comprehensive warranty for 2 year after acceptance.			
8.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
9	**Authorization**			
9.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
10	**Installation and Commissioning & User Training**			
10.1	Supplier must accomplish proper commissioning of equipment onsite.			

10.2	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.			
11	**Documentation**			
11.1	User (Operating) manual in English.			
11.2	Service (Technical / Maintenance) manual in English.			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

27. ECG Machine 12 channel

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	12 Channel ECG Machine with Interpretation			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	ECG Machine is primary equipment to record ECG Signal in various configurations. 12 channels with interpretation are required for recording and analysing the waveforms with special software.			
2	**Operational Requirements**			
2.1	The ECG Machine must be able to acquire all 12 Leads simultaneously and interpret them.			
3	**System Configuration**			
3.1	12 channel ECG machine with interpretation, rechargeable battery and other complete accessories.			
4	**Technical Specifications**			
4.1	Must acquire simultaneous 12 lead ECG for both adult and paediatric patients			
4.2	Must have Real time Colour display of ECG waveforms with signal quality indication for each lead			
4.3	Must have Artifact, AC, and low and high pass frequency filters.			
4.4	Must have a storage memory of at least 100 ECGs with easy transfer by optional modem and data card.			
4.5	Must have full screen preview of ECG report for quality assessment checks prior to print.			
4.6	Must have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and paediatric patients.			
4.7	Must have alphanumeric Keyboard for patient data Entry (virtual or hard keys)			
4.8	Must have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer using thermal sensitive paper.			

4.9	Must have report formats of 3x4; 6x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.			
4.10	Must have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge.			
4.11	Must be able to be connected to HIS /LAN/Wireless LAN (optional)			
4.12	Must display ECG on LCD/TFT Display of 640x480 pixel resolution.			
4.13	USB Support (optional) for Storage on external portable memories.			
4.14	Multimode of ECG Storage capability on USB device and shall have internal storage memory of at least 150 ECG			
5	**Accessories, spares and consumables**			
5.1	**Accessories:**			
	· Patient Cable -02 sets.			
	· Chest Electrodes Adult-(set of six) -02 sets.			
	· Chest Electrodes Paediatric-(set of six) -02 sets.			
	· Limb Electrodes (set of 4)- 02 sets			
	· Thermal Paper A4 Size for 500 patients.			
5.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240V AC, 50Hz fitted with appropriate plug. The power cable must be at least 3m in length.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices AND			
7.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.3	Shall meet IEC-60601-1-2:2001 General Requirements of Safety for Electromagnetic Compatibility.			
7.4	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.			
8.	**Installation and Commissioning & User Training**			
8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.1	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			

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

28. Semi Fowler Bed

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Semi Fowler Bed			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Function**			
1.1	Semi Fowler 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.			
2	**Operational Requirements**			
2.1	It shall have anti-corrosive and antirust treated baked hard epoxy powder coating, with two section.			
3	**System Configuration**			
3.1	Semi Fowler bed, two sections with mattress.			
4	**Technical Specifications**			
4.1	Dimensions approx.: 208Lx920Wx600H mm (without mattress).			
4.2	The main frame shall be made from 60mmx30mmx16G ERW rectangular tubes.			
4.3	Two sections top shall be made from 18G CRCA sheets uniformly perforated and shall be suitably fitted to the main frame.			
4.4	All adjustments for fowler position must be obtained from crankshaft, manually operated with stainless steel foldable handle on both the shaft.			
4.5	Bed frame must be sturdy and stable to support weight of at least 150 kg.			
4.6	The finished bed must be rust proof, pre-treated and treated with washable epoxy polyester antimicrobial powder coated to increase the bacteriostatic property.			
4.7	The bed shall have a pair of swing down type full length side rails, mild steel (MS), washable epoxy powder coated with self-locking.			
4.8	It shall have easily removable head and foot panels made up of stainless steel (SS) or ABS moulded with four corner buffers.			
4.9	There must be suitable buffer mechanism to avoid hitting of the bed to the wall.			

4.10	Bed frame fitted with non-rusting, noiseless, non-marking 360 deg. swivel heavy-duty castor wheels of 125mm dia, 2 with brakes and 2 without brakes.			
4.11	It must have provision of fixing suitable rod for hanging intravenous / irrigation fluid bottle on both sides at head end and foot end.			
4.12	It must have hooks on bed frame on both sides for holding urine /drainage bag (at least 4 nos.).			
4.13	Shall provide with one dual hook 304-grade stainless steel telescopic IV rod.			
4.14	**Mattress:**			
	Shall provide with one no. four section mattress of dimensions at least (2000mm L x 900mm W) with washable cover of good quality.			
	The mattress must be made of high density PU foam of 100mm thickness.			
4.15	The colour of the paint or coating shall be finalised during contract agreement.			
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 must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include climate, Temperature, Humidity, etc.			
7	**Standards and Safety Requirements**			
7.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 AND			
7.2	CE or USFDA approved product certificate.			
8	**Warranty & Maintenance Service During Warranty Period**			
8.1	Comprehensive warranty for 1 year after acceptance.			
8.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
9	**Authorization**			
9.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
10	**Installation and Commissioning & User Training**			
10.1	Supplier must accomplish proper commissioning of equipment onsite.			
10.2	Must provide user training by company engineer (including how to use and maintain the equipment).			
11	**Documentation**			
11.1	User (Operating) manual in English.			
11.2	Service (Technical / Maintenance) manual in English.			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

29. ICU Ventilator

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	ICU Ventilator			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Functions**			
1.1	A pneumatic dedicated adult and paediatric ventilator for use in intensive care unit with CPAP mode.			
2	**Operational Requirements**			
2.1	It shall operate from the mains supply with central oxygen supply and oxygen cylinder.			
3	**System Configurations**			
3.1	Ventilator unit, 1 unit.			
3.2	Trolley, 1unit.			
3.3	Accessories, 1set.			
4	**Technical Specifications**			
4.1	It shall be an electronically controlled pneumatic ventilator.			
4.2	The pneumatics must be designed such that the patient is always permitted for free spontaneous breathing.			
4.3	The air passed through the compressor or turbine shall be cleaned by a HEPA filter before delivering to patient.			
4.4	Ventilator shall come with non-invasive ventilation.			
4.5	Inlet gas pressure: air 3-5bar, O2: 3-6bar			
4.6	Microprocessor controlled gas delivery system with integrated air pump or a matching medical air compressor, which will automatically switch on when medical air from the central supply is cut off.			
4.7	With integrated electronic air-oxygen mixture control.			
4.8	Battery back-up time: Approximately 120 min			
4.9	Ventilation mode: A/C, SIMV, CPAP, PSV, BIPAP, Apnoea ventilation, SPONT			
4.10	Ventilation frequency: approximately 2 - 80 bpm			
4.11	Inspiratory flow range: 6 to 150 l/min			
4.12	Triggering mechanism: flow triggering, preferably with pressure triggering.			
4.13	Inspiration time: approximately 0.2-10s			
4.14	Tidal volume: approximately 0.05-2l			
4.15	Inspiratory pressure: approximately 0 - 100mBar			
4.16	Oxygen concentration (FiO2): 21-100 volume %			
4.17	In case of oxygen failure, the ventilator must be able to provide ventilation with room air.			
4.18	PEEP/ intermittent PEEP: approximately 0-35mBar			

4.19	Triggering sensitivity: flow triggering: not more than 1-15l/min, in the case if pressure triggering is included: -20- -0.1cmH2O			
4.20	Automatically calculate inspiratory and expiratory triggering points			
4.21	With leak compensation to NPPV and pressure support (PSV) in SMIV and CPAP modes			
4.22	Pressure support Ventilation (PSV): approximately 0-35mBar			
4.23	The ventilators shall have volume-controlled and pressure-controlled modes that can be used to provide both full and partial ventilatory support.			
4.24	Volume controlled: Assist/Control, IMV (Intermittent mandatory ventilation) and SIMV (Synchronized Intermittent Mandatory Ventilation)			
4.25	Pressure controlled: Assist/Control, IMV (Intermittent mandatory ventilation) and SIMV (Synchronized Intermittent Mandatory Ventilation)			
4.26	With Spontaneous pressure support mode			
4.27	With Apnoea-backup ventilation mode			
4.28	Volume Support (Volume supported ventilation), synchronized support ventilation with volume guarantee			
4.29	CPAP (Continuous Positive Airway Pressure)			
4.30	The ventilator shall also have combination modes, combine volume- and pressure-controlled ventilation to ensure that a minimum volume is delivered with an initial flow that matches patient demand.			
4.31	SIMV (Volume Control) (Synchronized Intermittent Pressure Support Mandatory Ventilation based on volume controlled ventilation with pressure support)			
4.32	Ventilator off / Battery charging			
4.33	Trigger bias flow: - Paediatric flow triggering - Adult flow triggering			
4.34	Pre-set Tidal Volume: approximately 20- 2 000mL			
4.35	Pre-set Minute Volume: approximately 0.2 - 20 L/min			
4.36	Oxygen breaths:			
4.37	100% for 20 breaths or max 3min			
4.38	Patient range:			
4.39	Paediatric / Adult			
	Monitoring and Alarms:			
4.40	Standard monitoring of the following parameters: Pressures, flow, volumes, time, frequency, real time waveforms, trends, oxygen percentage.			
4.41	Must contain all standard operator-adjustable as well as special audible as well as visual alarms for all the vital ventilation parameters like volumes, pressures, frequencies, oxygen percentage, Apnoea and also its technical status.			
4.42	Apnoea alarm time approximately 15 - 60 sec			
4.43	With internal flow sensor			
4.44	With bacterial filter, able to filter at least 99.97% of all 0.3 microns particles, at both inspiration and expiration terminal.			
4.45	The expiration bacterial filter is preferably housed in a heating device to reduce condensation in the filter.			
4.46	Expiration sensitivity regulation			
4.47	Auxiliary equipment port. Bidder shall indicate details here.			

4.48	It shall be able to work with O2 concentrator in delivering oxygen to patient.			
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. 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.			
5.3	HEPA filter, 5 sets for 5 replacements			
5.4	Silicon Autoclaveable breathing circuit for adult and child, 2 complete sets each.			
5.5	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			
5.6	Calibration manometer, Test.			
5.7	Hexagonal wrench 5mm			
5.8	O2 cell with O-ring.			
5.9	Silicon test lung adult and child size, 1 set each			
5.10	Nipple connector 15-10 mm			
5.11	Trolley,1 unit			
5.12	Breathing gas Humidifier, x 2 sets, with following parameters. (a) Adjustable temperature regulation. (b) Safety valves. (c) Display for operating status and Humidifier Accessories including: (1)Clamp set (2) Temperature sensor (3) Humidifier bracket (4) Patient hoses (5) Water traps (6) Y pieces (6) Catheter connector and etc.			
5.13	Patient humidifier, 1 pc			
5.14	Humidifier bracket, 1 pc			
5.15	Hinged arm, 1 pc			
5.16	Temperature sensor, 1 unit			
5.17	Flow sensors, 5 pcs			
5.18	Inspiration bacterial filter, able to filter 99.97% of all 0.3 microns particles, 5 pcs			
5.19	Expiration bacterial filter, able to filter 99.97% of all 0.3 microns particles, 5 pcs			
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**			
	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.1	CE (93/42 EEC Directives) or USFDA approved product certificate.			
7.2	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.			
8	**Installation and Commissioning & User Training**			

8.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
8.2	Must provide user training (including how to use and maintain the equipment)			
9	**Warranty & Maintenance Service During Warranty Period**			
9.1	Comprehensive warranty for 2 years after installation			
9.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
10	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
11	**Documentation**			
11.1	User (Operating) manual in English			
11.2	Service (Technical / Maintenance) manual in English			
11.3	List of important spare parts and accessories with their part numbers and costing.			
11.4	Certificate of calibration and inspection from factory.			
11.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

30. Cardiotocograph (Foetal Monitor)

S.N.	Purchaser's Specifications	Bidder's Compliance (Yes / No)	Reference Page No	Remarks
	Monitor, Cardiotocogrpah (CTG)			
	Manufacturer			
	Brand			
	Type / Model			
	Country of Origin			
1	**Description of Function**			
1.1	CTG monitor is used in health facilities for routine assessment of foetal heart rate (FHR) and uterine contractions (UC), during labour and throughout delivery.			
2	**Operational Requirements**			
2.1	External foetal monitoring system, shall work on mains electric supply.			
3	**System Configuration**			
3.1	Cardiotocogrpah (CTG) Monitor with complete accessories.			
4	**Technical Specifications**			
4.1	It shall have ultrasonic transducer to measures foetal heart rate (FHR).			
4.2	Facility of calculation of FHR base line, variability, accelerations and decelerations.			
4.3	Facility of audio-visual alert on loss of signal.			
4.4	Shall have pressure-sensitive transducer records uterine contractions (UC).			
4.5	Monitor fit with remote switch for event marking.			

4.6	Monitor can be used for twins.			
4.7	System automatically recognizes specific transducer.			
4.8	Self-test is performed each time the device is switched on.			
4.9	Large alphanumeric display provides with: FHR 1, FHR 2 and UC.			
4.10	FHR range, approximately 50 to 240bpm, minimal graduation 1bpm.			
4.11	UC range, relative: 0 to 100 units, minimal graduation 1 unit.			
4.12	System reports, with audio-visual alert: operational status, malfunctions (transducers), out-of-paper.			
4.13	**Printer:**			
	· Built-in high-resolution thermal printer, paper width approximately 150mm.			
	· Automatic and manual print-out mode.			
	· Prints FHR 1, FHR 2 and UC, displayed parameters and marked events.			
	· Printer resolution, approximately 1bpm (FHR) and 1 unit (UC).			
	· Paper speed, adjustable: 1, 2 or 3cm/min.			
	· Print-out on z-folded thermo-reactive paper.			
	· Paper graduation: FHR 25bpm/cm and UC 25 units/cm.			
4.14	Shall have data communication interface: RS232, BNC, USB or equivalent.			
4.15	Monitor shall be compact and ergonomic design, smooth finishing allows for easy cleaning.			
5	**Accessories, Spares and Consumables**			
	Shall come with:			
	· 1 x Contraction transducer.			
	· 2 x Foetal heart ultrasonic sensor.			
	· 1 x Remote switch event marker with cable.			
	· 2 x Transducer belt 5 x 150cm, length adjustable.			
	· 1 x Box of thermal recording paper, total 100 z-folded sheets.			
	· 2 x Bottle of ultrasound gel, approximately 250ml.			
	· 1 x set of fuse.			
	· 1 x Plastic protective dustcover.			
5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specifiy the quantity of every item included in their offer (including items not specified above)			
6	**Operating Environment**			
6.1	The system offered must be designed to store and be operated normally under the condition of the purchaser's country. The conditions include Power Supply, climate, Temperature, Humidity, etc.			
6.2	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.			
	Power consumption, approximately 50W.			
7	**Standards and Safety Requirements**			
7.9	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
7.10	CE (93/42 EEC Directives) 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	**Standards and Safety Requirements**			
8.1	Must submit ISO 9001 or ISO 13485:2003/AC:2007 **AND**			
8.2	CE (93/42 EEC Directives) or USFDA approved product certificate.			
9	**Installation and Commissioning & User Training**			
9.1	Supplier must accomplish proper installation and commissioning of the equipment onsite.			
9.2	Must provide user training (including how to use and maintain the equipment)			
10	**Warranty & Maintenance Service During Warranty Period**			
10.1	Comprehensive warranty for 2 years after installation			
10.2	During warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required			
11	**Authorization**			
10.1	Manufacturer's Authorization or Local Distributor Authorization (Manufacturer's Authorization to the main Distributor is also required in case of Local Authorization)			
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 numbers and costing.			
12.4	Certificate of calibration and inspection from factory.			
12.5	Shall accomplish all the Qualification Criteria of the bidder mentioned in the main bid document			

Annex - III

Bid Submission Form (Medical equipment and furniture)

SN	Name of Equipment/ Furniture	Unit	Quantity	Brand Name	Unit Rate Including VAT	Total Amount in Figure NRs.	Specification form filled?	Detail catalog/manual of product attached?	Standard and safety related document attached?	Authorization document attached?
1.	Vacuum Extractor	Pcs	1							
2.	Wheelchair with Oxygen carrier	Pcs	1							
3.	Examination Bed	Pcs	5							
4.	Oxygen concentrator	Pcs	4							
5.	Anesthesia Workstation with cardiac monitor	Pcs	3							
6.	Electrosurgical Unit	Pcs	3							
7.	OT Table (Electric)	Pcs	2							
8.	Shadow Less OT Light (Ceiling, double dome)	Pcs	3							
9.	Arthroscope with shaver	Pcs	1							
10.	Bone Drill & Saw	Pcs	1							
11.	C Arm Machine	Pcs	1							
12.	Fracture Table (Traction Bed)	Pcs	1							
13.	Cervical Dilator set	Set	1							
14.	Delivery Bed	Pcs	5							
15.	Surgical Instrument set (VH, TAH & CS set)	Set	3							
16.	Microscope	Pcs	1							

17.	Deionisation plant for water treatment	Pcs	1							
18.	Washing Machine (21Kg)	Pcs	2							
19.	Table for folding	Pcs	2							
20.	Autoclave (Horizontal) - double door 200L	Pcs	1							
21.	Breath alcohol analyser	Pcs	1							
22.	Plaster station	Pcs	1							
23.	Goniometer measuring tape	Pcs	1							
24.	Pneumatic torniquet (Automatic)	Pcs	1							
25	Oxygen compressor and filling unit	Pcs	1							
26	Defibrillator Machine	Pcs	2							
27	ECG Machine 12 channel	Pcs	2							
28	Semi Fowler Bed	Pcs	24							
29	ICU Ventilator	Pcs	1							
30	Cardiotocograph (Foetal Monitor)	Pcs	1							