STANDARD LIST OF MEDICAL EQUIPMENT & THEIR TS

Item No	*Name*	*Quantity*	*Technical Specifications and Standards*
1	X-Ray Film processor tabletop	1	Processing machine for X-ray films from 13x18 cm. 18x24 cm.24x30 cm.30x40cm.35.6x35.6 cm. 35x43cm. Capacity at least 60 films per hour Standard Equipment: Processor + set of 3 replenish bottles Accessories: Water supply connection with shut-off valve , Filter , Light-tight cover , Processor stand Automatic stand-by mode. Automatic film detection Power Requirements : 220 VAC ±10 % 50 Hz .
2	X-ray Film Viewer	8	X-ray Film Illuminator (Viewer) . 2 Fields . Wall-Mount Diffuse, uniform, flicker free illumination Transparent Spring-loaded film Retainers shall grip lightly and firmly without obscuring top edge details Screen shall be recessed into the cabinet to help keep the interior dust free and eliminate side light spill The film retainers shall always operate effectively maintaining an even pressure across the full width of the illuminator. Direct Starting , Luminous Source : Daylight Command and Control on Front Side. Bipolar Switch with Pilot lamp Wall Fixations shall be provided for . Cord , Local Plug Power Supply : 220V/50Hz CE; EC Marked US FDA; ISO certification
3	X-Ray Unit Universal	1	Universal, Remote controlled Universal Unit Processor controlled, Mixed Cassette's Radiography and Digital Fluoroscopy screening System. Overhead Tube on the freely moving Tube Arm without floor mounted column. The System to be suitable for Standard Skeletal and Radiographic Examinations, Including Lateral Exposures and Oblique Beam Projections Fully Automatic Under Table Spot Film Device for Cassette Radiography with Extensive Range of Cassettes, Grids and Attachments for Image Intensifier. Free Cassette Exposures on Table, Floor, Wheelchair or Gurney. **Table.** Tilt: Motor Driven, +90º to -15º, automatic stop in horizontal position Height: approximately 85 cm. Tabletop Outside Dimensions: length approximately 200cm,Width approximately 80cm Radiolucent: not less than 190cm x 55cm. Longitudinal Travel: Motor Driven, at least 160 cm Transverse Travel: at least 20 cm Patient Weight: at least 200 kg. **Tube Assembly**. Max. exposure voltage : 150 kV Anode heat dissipation rate at least 30 kW for small focus and 60 kW for large focus Anode heat storage capacity at least 500 kHU Dual focus 0.6 mm and 1 mm Complete filtration W ≥ 2.5 mm Al Focus-Film Distance (SID) Fixed Variable : 115cm / 150cm. 115cm and 150cm must be set by Motor Driven with Adjustment Speed Oblique Projections: max.-40º-+40º (SID 115cm.) and -35º-+35º (SID 150cm), Automatic Parallax Compensation Between Cassette and Image Intensifier Input Screen in Central Ray.

			Tube Assembly Swivel: Manually in the Range +90º to -90º with Stops max. every 10º and -90º to 180º with stops max. every 30º. **Spot Film Device**. Front loading, automatically drawing in and out, centering and format sensing for Cassettes, of the Formats 18x24cm (8"x10") to 35 x 43cm (14"x17"), Standardized According to IEC, ANSI and DIN Automatic Format Collimation: must be Selected Separately According to Format Height/Width for Cassette Spot filming; Automatic Formatting for Bucky Exposures, Object-related Collimation. Film Segmentation: Minimum 4 on 1., in Multiple Segmentation According to Cassettes Program Inward Movement Time: Park to Exposure position not more than 1sec. Time Interval: Fluoroscopy/Radiography ≤1.0 sec. without grid movement. Scattered Radiation Grid: Stationary 17:1, 70 Lines/cm, Fo=125cm., Excursion: minimum 105cm, Remote-controlled. **Compression Device.** Radio transparent, Remotely Controlled, Detachable and Replaceable Cone minimum 3 Shapes. Compression Force range: from 5 to 155N, Movement Blockage starting from 50N Force Indication: Digital at the System Remote Control Console. Projection Angle: -30º-+30º. **Image Intensifier and TV System** 3 Image Fields 13 to 23 cm Visual resolution: Mean Value 5.2; 5.8; 6.4 Lp/mm Television System Standard: Line Frequency 50Hz; 625 Lines with 50Hz. TV Technology : CCD sensor, noise suppression, LIH function Automatic Dose Stabilization (ADR) Monitor: 44cm or more, Frame Rate at least 50 Hz. **X-Ray Generator** High Frequency, Multipulse Up to 150 kV, ≥50kW. Automatic System: 1-Point Technique with Continuously Falling Load; 2 -,3- Point Technique with Constant Load; 3-Point Technique with AEC Organ Programs: minimum 20 Organ Programs must be generated and stored. Number of Workstations: not less than 5 of with 1 Fluoroscopic Workstation Fluoroscopy working range: minimum 40kV/ 0.5mA up to maximum 110kV≤10mA. Fluoroscopic Mode Selectable: Fluoroscopy Under Manual Control / Automatic Control Fluoroscopy Under Manual Control: manual select kV but mA must be calculated from Anti-isowatt, curve Fluoroscopy Under Automatic Control: Minimum 2 required Characteristic Curve must be selected for Automatic Dose Rate Control : us Minimal Dose/ Contrast Litho (or other according customer ordering) Tube Connection: minimum 2 Double-Focus Tube Assembly. 3 field Automatic Exposure Control Primary Collimator: Inherent Filtration 1.0mm Al; additional Filters 0.1mm Cu, 0.2mm Cu, 0.3mm Cu. **Ambient Conditions** Operation: +10Cº to 35Cº; 20% to 75% relative humidity, non-condensing; 70kPa to 106kPa Storage and Transport: -20Cº to+70Cº; 10% to 95% relative humidity, non-condensing; 70kPa to 106kPa **Power Connection** Nominal Voltage: 3/N/PE, 380V±10% Nominal Frequency: 50Hz. **Completeness:** Lead glass, radiation protection window 80x100cm. ±10 % , 2,1 Pb equiv X-ray protection: 1x Coat apron, 0.35 Pb, size medium, 110cm. X-ray protection coat apron for general examinations. 1x Gonad protection apron 40x37cm, 0.5 Pb. Apron for adults for protection of ovarian and gonad. 1x Gonad protection capsule for boys, 1.0 Pb. - Set of cassettes - Cassette without patient ID window - Fitted with green screen 2x Cassette with green screen, 18 cm x 24 cm

			1x Cassette with green screen, 18 cam 43 cm 2x Cassette with green screen, 24 cm x 30 cm 2x Cassette with green screen, 35 cm x 43 cm 1x Cassette with green screen, 35 cm x 35 cm
4	X-Ray Mobile	1	Exposure range at least 0.5–200 mAs Shortest exposure time: not more than 10ms. Max. exposure time: not less than 5 sec. Tube head must be rotatable in all planes. Adjustable collimator and light marker Easy to use and to move. Non automotive Two point technique – kV and mAs. High- frequency X-ray generator with multipulse voltage provider. The touch-screen keys and digital display of kV and mAs values. Output: not less than 2.5kW. 120 kV, 40mA. Focal spot not more than 1 mm. Collimator: rotatable ± 90° Max. horizontal extension at least 800mm Power Requirements 220 V ±10%, 50Hz
5	Ultrasound (3 probes)	1	Wide Dynamic Range Digital Front-end The 12-bit A/D converter Multi-beam processing. **Image Display Modes** B: gray-scale imaging, M,D: Spectral Doppler (PW,HPRF PW), Flow: Color Doppler and Power Flow imaging, Dual B, B and M, B and D, B(Flow), Dual B (Flow), M(Flow), B(Flow) and M(Flow), B(Flow) and D, Triplex mode: B, Flow and PW Doppler simultaneous real-time display, Dual Dynamic Display (DDD): B and B (Flow) simultaneous real-time display, TDI (Tissue Doppler Imaging)-Available on electronic scanning probes. Request function: In multi-mode display, it is possible to select one image for full screen display. **DMS** (Integrated Data Management System) **Measurement and Analysis.** General measurements On B-mode image On M-mode image On spectral Doppler On B/D-mode image On B(Fiow) mode image Obstétrical measurements & calculations Gynecological measurements & calculations Peripheral vessels analysis Urological measurements & calculations Abdominal measurements Report Functions Data Communication Function Preset Function Characters and graphic displays **Probe connectors** Standard Active connectors: 2 connectors Dummy connector for rest: 1 connector **Viewing Monitor** 15-inch diagonal color Liquid Crystal Display with brightness and contrast controls **Acoustic Power** 0 to 100%, changeable **Environmental Requirements** Temperature: +10 to +40 degrees C Relative Humidity: 30 to 75% Power Requirements: 220V / 50 Hz. **Probes** General abdomen OB/GYN 2.5-6.0 MHz. Small parts, PV (steered linear) 5.0-10.0 MHz. Adult heart (harmonic echo) 2.1-3.8 MHz.
6	Gastroscope (With halogen light source)		Optical System : Field of view: at least 100°° Depth of field: at least 4 to 100 mm

		1	Distal end : Outer diameter: not more than 10mm. Bending Section Range of tip bending: not less than Up 210°, Down 90°, Right 100°, Left 100° Insertion tube : Outer diameter: not more than 13.3mm Working length: not less than 1025mm. Length markings Instrument channel : Inner diameter: not less than 2.8mm. Light source Halogen technology shall provide a high light intensity of at least 150W. Variable light intensity. Fast and easy bulb change during operation : In case of a bulb failure immediate switch to the second bulb with the reverser shall be possible.Adjustment of brightness and power with buttons and switches on the front panel. Shall be connectable with conventional telescopes, fiberscope. Shall be adaptable to all endoscopic procedures Optionally , an automatic built-in swivel mechanism will bring the spare halogen bulb into working position. Technical Data : Halogen , 150 watts , Halogen, 2 pieces Manual switch , 2 x 150 W , 24 V Power Supply : 220 VAC 50 Hz . Standards CE; EC Marked US FDA; ISO certification
7	Colonoscope (With halogen light source)	1	Optical System : Field of view: at least 120° Depth of field: 5 –÷100 mm. Distal end : Outer diameter: not more than 13mm. Bending Section Range of tip bending: not less than Up 180°, Down 180°, Right 160°, Left 160° Insertion tube : Outer diameter: not more than 13.3mm Working length: not less than 1680mm. Instrument channel Inner diameter: not less than 3.2mm. Light Source Halogen technology shall provide a high light intensity of at least 150W . Variable light intensity Fast and easy bulb change during operation : In case of a bulb failure immediate switch to the second bulb with the reverser shall be possible Adjustment of brightness and power with buttons and switches on the front panel. Shall be connectable with conventional telescopes, fiberscope, Shall be adaptable to all endoscopic procedures Optionally , an automatic built-in swivel mechanism will bring the spare halogen bulb into working position. Technical Data : Halogen , 150 watts , Halogen, 2 pieces Manual switch , 2 x 150 W ,24 V Power Supply : 220 VAC 50Hz . Standards CE; EC Marked US FDA; ISO certification

8	Electrocardiograph 3 channels	3	Recording ECG Leads: 12 standard Leads Recording Channels: 3/1 user selectable LCD display of ECG Lead switching: manual and automatic. Sensitivity, mm/mV: 5, 10, 20. Calibration signal: automatic and manual. Diagnostic frequency range 0.67–150 Hz or better Filters for mains frequency, low frequency, muscle artefact, high frequency Recorder: Recording method: thermal paper Recording speed, mm/sec: 25/ 50 user selectable Channels acquired simultaneously:1/ 3 user selectable Channels printed simultaneously:1/ 3 user selectable Other features: Portable Mains and internal rechargeable battery operation Battery operating time, minimum: 90 min. Power requirements: 220 V, 50 Hz Accessories: 1. Patient cable 2. 6 chest limb electrodes 3. 4 limb electrodes 4. 4 strap electrodes 5. 6. 1 bottle ECG Gel 7. 2 rolls of paper or Z-Fold 8. Carry bag Standards CE; EC Marked US FDA; ISO certification
9	Operating theatre light (5 spotlights)	3	Surgical Lighthead with five Projectors , Ceiling Suspended Light intensity (Ec) at least150 000 lx Color rendering index (general) Ra 96 Color rendering index (red) R9 89 Light field size 15 – 30 cm. Colour temperature 4200º Kelvin Working range without focusing approximately 70 – 140 cm Power supply 220 VAC, 50 Hz Adjustable light intensity Power Supply , 220V/50 Hz. Power Stabilizer shall be supplied This equipment shall be supplied with all necessary fixation gears to the Building structure Replacement Bulbs (5) and Sterilizable Handles (5) shall be supplied Standards CE; EC Marked US FDA; ISO certification **Accessories/Spares :** 5 Bulbs per unit 2 Handles per unit
10	Operating Table (Trauma/Multifunction, electric/hydraulic driven		Operating table designed for carrying out treatments, dressing interventions and operations of general surgery and traumatology All exposed metallic parts shall be made from stainless, acid proof steel. The table base shall be mobile and shall have central brakes Back rest and leg rest inclination angle, kidney elevator, Trendelenburg and reverse-Trendelenburg positions and height adjustment of the table top shall be

		1	activated by electro - hydraulic system The table top shall be translucent for x-rays with 5 separate Sections Table top length approximately 2000 mm Table top width approximately 600mm Minimal height of the table 750mm Maximal height of the table 1100mm indicatively Trendelenburg at least 25 Reverse Trendelenburg at least 25º Lateral tilt at least 18º Back rest inclination angle at least +55º to -25º Head rest inclination angle at least 45º up Head rest inclination angle at least 20º down Power requirements 220 VAC ±10 % , 50Hz Accessories: Anaesthetic Screen with clamp with telescopic tubes : 1 Body restraint Strap with clamp : 1 Padded Shoulder supports : 2 Padded Leg support with swivel type clamp : 2 Padded arm Rests 450 -500 mm long with two arm Clamps : 2 Padded Lateral support with universal attachment Clamp : 2 Padded rubber mattresses with Anti Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean and maintain and of at least of 1" thickness : 2 X5 Sections Head rest , I.V drip Stands attachable to the table Environmental factors: The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90% The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90% Accessory for traumatology are optional and shall be listed separately Standards CE; EC Marked US FDA; ISO certification
11	Operating Table (Multifunction, electric/hydraulic driven)	2	Operating table for carrying out treatments, dressing interventions and operations of general surgery (3-4 surgeries daily). All exposed metallic parts shall be made from stainless, acid proof steel. The table base shall be mobile and shall have central brakes Back rest and leg rest inclination angle, Trendelenburg and reverse-Trendelenburg positions and height adjustment of the table top shall be activated by electro - hydraulic system The table top shall be translucent for x-rays with 5 separate Sections Table top length approximately 2000 mmTable top width approximately 600mm Minimal height of the table 750mm Maximal height of the table 1100mm indicatively Trendelenburg at least 25º Reverse Trendelenburg at least 25º Lateral tilt at least 18º Back rest inclination angle at least +55º to -25º Head rest inclination angle at least 45º up Head rest inclination angle at least 20º down Power requirements 220 VAC ±10 % , 50Hz Accessories: Anaesthetic Screen with clamp with telescopic tubes : 1 Body restraint Strap with clamp : 1 Padded Shoulder supports : 2 Padded Leg support with swivel type clamp : 2 Padded arm Rests 450 -500 mm long with two arm Clamps : 2 Padded Lateral support with universal attachment Clamp : 2 Padded rubber mattresses with Anti Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean and maintain and of at least of 1" thickness : 2 X5 Sections Head rest , I.V drip Stands attachable to the table Environmental factors:

			The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90% The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90% Standards CE; EC Marked US FDA; ISO certification
12	Anesthesia trolley (anesthesia machine with ventilator and monitor)	3	Anesthesia Machine used for delivering anesthesia Agents to Patient during Surgery Procedures. The complete set-up shall also ventilate the Patient Patient monitoring system ECG, $EtCO_2$, Pulse Oximeter and airway pressure, NIBP, rectal/&skin Temperature. The full System shall be completed with : Anaesthesia gas delivery system, O2/N2O/Compressed Air . Circle absorber system. Precision vaporiser for halothane Anaesthesia ventilator Patient Circuit Anesthesia gas delivery system: Shall have provision for delivery of oxygen, nitrous oxide and medical air with pressure gauges. Oxygen and Nitrous oxide should be linked either mechanically or pneumatically to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture. Shall have audio-visual oxygen Failure Warning System with Nitrous oxide cut off. Shall have back bar ISO pin type to attach Vaporizer easily. Flowmeter oxygen : 0÷2; 2÷10 litres/min, minimum range Flowmeter N2O : 0÷2; 2÷10 litres/min, minimum range with safety mechanism (hypoxic link) or similar Flowmeter , Medical Air 0÷10 litres/min. Shall be supplied with necessary Attachments for use of the breathing Circuits (Ruben , Bains, Jackson-Rees or Magill) Construction : Shall have top Shelf to keep monitors and a Tabletop with Drawers to keep anaesthetic drugs, equipments etc. Castor wheels should be durable , moisture resistant and antistatic The Anaesthesia machine frame shall be made of rust proof material/Stainless steel or sheet Steel protected with Epoxy-Paint Standard Circle Absorber System Shall have adjustable pressure limiting Valve, breathing circuit pressure measuring device. Shall have a Bag/Ventilator selecting Valve integrated onto the Absorber. Facility to attach oxygen sensor Shall have CO2 absorbent Chamber Canister (Soda Lime) Precision Vaporizers (Temperature, Pressure and Flow compensated) for Halothane Should be easy to mount and dismount from the back bar. Vaporisers shall have ISO pin type (Selectatec) Mounting and Vaporiser interlocking facility Shall have a standard filling port with keyed filling device Should be designed for transport with liquid in Vaporiser Chamber with protection against tipping and shaking Maintenance free Vaporiser Ventilator Shall be a bag in bottle anaesthesia Ventilator with standing (ascending/Piston) Bellows Shall be supplied with adult and paediatric Bellows Shall be able to set Tidal Volume, Respiratory rate and I:E ratio Ventilator should have audible alarms for ventilator failure, low oxygen supply Pressure, inadequate volume delivery, disconnection alarm, and power supply failure. Ventilation mode: CMV-SV – manual , Minute volume: 2 – 30 l/Mn Tidal volume: approx.50 – 1400ml , Breathing frequency: approx.6-60 times/min

			Flow rate range: 5 – 60 l/min High pressure relief valve Power supply 220VAC, 50Hz Accessories : Accessories required for Ventilator : Resuscitators , Adult / Child : 1 Each Set of face masks , 3 Sizes : 2 Each Corrugated hoses and tubing set for Pipeline O2 : 2 Sets Corrugated hoses and tubing set for Pipeline Air : 2 Sets Accessories required for Anaesthesia Machine : Hose assembly for piped Oxygen supply : 2 Sets Hose assembly for piped Nitrous Oxide supply : 2 Sets Hose assembly for piped Air supply : 2 Sets Regulator and manometer for the pipe pressure hose (60 psig) : 1 Set Connection from ventilator to anaesthetic apparatus , autoclavable/reusable : 1 Set Test bag, 1 litre : 2 Peak Flow Meter : 1 Power cord with grounding wire : 1 Dust cover : 1 Bellows assembly, adult / Children : 2 Each Patient Circuit , Magill Type , Complete , Adult / Children . . Shall be Reusable : 2 Each Spirometer (Peak Flow Meter for Anaesthesia procedures) Consumables for anaesthetic unit for 2 years operation: Battery cell (as appropriate) Soda lime for circle absorber (5Kg/pack) : 10 Packs for 1 unit Standards CE; EC Marked US FDA; ISO certification
13	Syringe pump	4	Syringe Driver for Parenteral Infusions , in Wards, OP, ICU's and during Transportation/Transfer Single Channel. Shall accept Up to 60cc Syringes , Non-Captive Self checking of Electronics with audible call back on locked-out Controls Tamper and fluid resistant Design . ABS Casing (Impact-Resistant) Shall be fitted with IV Rod, Adjustable Height with 4 Hooks.Mobile on 5 Star Stand with Castors Internal rechargeable battery Rate: 0.1 to 99.9 ml (in 0.1 ml steps) indicatively Total volume infused: 0.1 to 999.9 ml Precision : +/-3%.Stipulated Syringes Occlusion release shall give minimum Bolus effect Syringes : 10 Types at least of LuerLock Type 10/60mL.Syringes,+ Specific Choice Pause infusion facility Alarms/Safety Infusion nearly complete Infusion complete Occlusion System malfunction Syringe unlocked Plunger disengaged Low battery Protection against Leakage Current:Type CF.Equipment Protection against Electric Shocks:Class II.Equipment Safety features: Error coding (event log) Rate change through Audible Stop Switch Audible Call back on locked-Out-Controls Automatic detection of Syringe Volume Minimum bolus on Occlusion Release at any selected Rate Communication : RS232C Interface Electrical: Electrical: Class II (double insulated)

			Bat.Autonomy : 8 Hrs.Minimum Power supply: 220 VAC.50.60Hz External transformer . Stabilizer Environmental factors Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMCdirective. The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90% The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90% Accessories Coupler between 2 units Mobile floor stand IV stand clamp Rail clamp Standards : IEC601.1/IP33 Safety: IEC 601 / 1. CF. Compliance with EN 60601.1 and PrEN 60601-1-24. CE 0459 marking in compliance with EEC 93/42 Medical Products directive. Comply with EN60601-1-2, EN60601-2-24 EN ISO 9001:2000, EN ISO 13485:2000; EN 46001:1996
14	Electrosurgical Unit (Monopolar-bipolar)	3	HF electrosurgical unit shall be used to execute monopolar and bipolar surgery in many fields of application where high precision and reliability are essential Outputs of cut, coagulate and blend Maximum output 300 W for monopolar cut Activation : Double pedal switch which may be used for the monopolar and bipolar functions . Hand-switch handle Bipolar electrode with pedal switch or with automatic Start/Stop system (for coagulation only) Control The Unit shall stop automatically in case of internal error which shall be identified on Display and with audible alarm Memorization : User shall be able to use at least 4 working programs Safety : Neutral plate safety circuit shall control connections and contacts of Neutral Plate with Tissues: Defective Contact shall be notified with visual Alarm and immediate reducing of power Output circuit : floating - protected against defibrillator interferences . Shall have HF leakages less than 150mA through each electrode Power Supply : 220VAC, 50Hz Cooling: convection without fan Accessories : Single-use two button Handle , Autoclavable Handle shall be provided with a 3 Pins socket that shall fit majority of bipolar electrosurgical units Operative Foot-switch (usable as alternative to handle) Reusable neutral Plate Kit of 10 short autoclavable Electrodes Electrode wire - straight Electrode wire - angled 45° Electrode bend - 0 4 - straight Electrode bend - 0 8 - straight Electrode hook - angled 45° Electrode wire 1 mm.- angled 45° Electrode straight slip-knot - straight Electrode angled slip-knot - straight Electrode ball point - 0 3 mm. - angled 45° Electrode ball point - 0 3 mm. – straight Bipolar Forceps : 6 Forceps shall be provided with a standard European connection Straight Forceps - 18 cm. (7")

			Curved Forceps - 18 cm. (7") Curved Forceps - 20 cm. (7 3/4") Bayonet Forceps - 18 cm. (7") Bayonet Forceps - 20 cm. (7 3/4") Straight Forceps - 20 cm. (7 3/4") Cable, Bipolar Adaptor, Bipolar Cable User Manual Standards CE; EC Marked US FDA; ISO certification
15	Suction Pump	2	Suction Unit for Major Surgery Procedures . Mains-powered , mobile on 4 antistatic Castors, ABS Casing and 2 graduated Canisters of 2,000ml each made of Polycarbonate autoclavable at 121°C and disposable suction bags Shall require no maintenance nor lubrication Oil-free pump, maximum suction of at least 500 mm Hg Free flow rate at least 25 l/min Main Switch with Pilot Lamp . Fuses Pedal Action Shall be equipped with a protective thermal cut-out relay. Shall be equipped with motor-protection cap that totally prevents aspirated liquids or secretions from reaching and damaging the vacuum pump Suction command with continuous adjustment , Vacuometer 2X2,000ml Canisters with airproof screwing-cap with independent Overflow devices . Fast Connectors and silicone Tubing Power Supply : 220VAC.50Hz. Ventilation Fan for overheating Sound level: Shall be not more than 55 dBA Accessories Silicone Tubing , sterilizable Transparent Cannula Holder, Sterilizable Anti-Bacterial Filters (4) Set of 4 canulaes with Holder : Yankhauer , Soft Universal Yankhauer Diameter : 8.0/6.0mm with anti-sticking Lumen and High Suction Lumen Universal Soft Canulaes diameter : 6.0/4.0mm Frazier Canulaes (Fergusson) diameter :1,5/2.0/3.0/4.0mm Jackson Canulaes : 35x3 /45X3/25X4/35X4/45X4/55X4/60X4cm Standards CE; EC Marked US FDA; ISO certification
16	Operating instrument set	2	1 Operating Scissors, 170 mm, straight, blunt-blunt points 1 2 Operating Scissors, 140 mm, straight, sharp-blunt points 1 3 Operating Scissors, 140 mm, curved, sharp-blunt points 2 4 Dissecting Scissors, curved, for deep surgery, 230 mm 2 5 Operating Scissors, 140 mm, curved, blunt-blunt points 4 6 Operating Scissors, curved, blunt-blunt points, 170 mm 2 7 Operating Scissors, 140 mm, curved, hardened, blunt-blunt points 1 8 Sharp Tips Scissors, curved, 160 mm 1 9 Dressing Forceps, standard pattern ΠΑ 150x2,5 6 10 Dressing Forceps, standard pattern ΠΑ 200x2,5 4 11 Surgical Forceps, 150x2,5 8 12 Surgical Forceps, 1 x 2, 200x2.5 mm 4 13 Abdominal Depressor, 285 mm, blade 70 mm wide 1 14 Tissue Forceps, 265 mm, straight 5 15 Tissue Forceps, 256 mm, curved 5

			16	Hemostatic Forceps, curved, atraumatic (160 mm)	6
			17	Hemostatic Forceps, curved, 1x2 teeth, serrated, size 2, (160mm)	6
			18	Hemostatic Forceps, curved, serrated, size 2 , (196 mm)	6
			19	Hemostatic Forceps, curved, serrated, (240 mm)	6
			22	Hemostatic Forceps, straight, 1x2 teeth, serrated, size 1 , (150 mm)	3
			23	Hemostatic Forceps, curved, 1x2 teeth, serrated, size 1, (150mm)	6
			24	Hemostatic Forceps, curved, 1x2 teeth, serrated, size 1, (200mm)	6
			25	Hemostatic Forceps for deep surgery, child size, size 2, (225mm)	6
			26	Rake Retractor, 2 sharp prongs, (200 mm)	2
			27	Rake Retractor, 3 sharp prongs, (200 mm)	2
			28	Rake Retractor, 200 mm, 4 sharp prongs, style 2	2
			29	Rake Retractor, 2 blunt prongs, 200 mm	3
			30	Rake Retractor, 220 mm, 4 blunt prongs, style 2	4
			31	Rake Retractor, 6 sharp prongs, (200 mm)	2
			32	Abdominal Retractor	2
			33	Needle Holder,(200 mm)	2
			34	Needle Holder, (250 mm)	2
			35	Vascular Needle Holder , 160 mm	2
			36	Vascular Needle Holder, 200 mm	2
			37	Intestinal Forceps, non-crushing, curved, child size, (192mm)	2
			38	Intestinal Forceps, non-crushing, curved, adult size, (235mm)	2
			39	Tongue Spatula, straight, 20x16mm, (180 mm)	2
			40	MOSQUITO Hemostatic Forceps, serrated, curved on edge, $6^{1}/10$" (154 mm)	6
			41	Intestinal Forceps, non-crushing, straignt, adult size, (240mm)	2
			42	Abdominal Retractor (60 mm)	2
			43	Abdominal Retractor (100 mm)	2
			44	Liver Speculum (100 mm)	2
17	Suction Pump	1	Suction Unit for Emergency procedures , fitted with single 1000ml capacity Polycarbonate Canister , mobile on 4 Castors and carrying handle The Unit shall enable operation from either mains supply, or independently from an internal 12V rechargeable battery The unit shall recharge when plugged into the mains An indicator on the casing shall indicate the status of the battery . A Vacuometer shall indicate the suction value Maintenance free diaphragm pump Overflow safety device The Unit shall be capable to generate 500mm Hg at least Free flow rate at least 25 litres per min Shall be fitted with easily replaceable anti-bacterial filter with 5 spare Shall provide over 30 minutes of full vacuum from a fully charged battery Fitted with rechargeable battery Operating mains voltage: 220 V - 50 Hz Recharging is by trickle charge and shall take eight hours maximum to restore full charge Accessories : Hand piece with regulator and appropriate probes shall be supplied as well as an additional Canister Standards CE; EC Marked US FDA; ISO certification		
18	Defibrillator	2	The following specifications define a portable, lightweight ; battery or accumulator operated automated external to treat Patients requiring basic Life Support Weight of complete unit, excluding batteries or accumulator , shall permit easy Transport . The overall Dimensions shall enable easy storage and portability		

			The Casing shall be constructed to withstand the standard operating Conditions in a Physician's office and/or Hospital. The device must also with stand the harsh operating conditions associated with Ambulance use. The unit shall be safe to use both for the operator and the patient. Defibrillator The device shall utilize Biphasic waveform technology as the primary energy delivery option and shall include automatic and manual modes The biphasic waveform shall allow for escalating energies up to at least 200 Joules Safety: Internal discharge of energy if no discharge is effected. Internal self-testing and fault recognition. Required power 200-240V 50/60 Hz Weight not more 10kg Accessories : Full Standard Accessories Set-Up shall be supplied Standards CE; EC Marked US FDA; ISO certification
19	Ventilator ICU	2	Intensive care ventilator, for use on Pediatric/Infant- Adult patients With Graphics Display Monitor. Breath Types: VC, PC, VTPC Modes (in each breath Type): A/CMV, SIMV, SPONT, Spontaneous Breath Choices: PS, VTPC. Features: Inspiratory time at least 0-3 sec with optional pause Inspiratory flow at least 3-140 l/min Pressure support: at least 0 to 45cm H2O/mbar Tidal Volume: at least 10-800ml Resp.Rate: at least 6-150b/min Pressure Limit: 0 to 80cmH2O/mbar I:E Rate: 1:4 to 4:1 Trigger pressure or flow FiO2: 0.21 to 1.00 PEEP/CPAP: 0 to 45 cmH2O/mbar Leak Compensation Standby Condition: Allows setting to be preset and Circuit Check tests to be performed prior to starting Ventilation Open Exhalation Valve (BPRV): On/Off for Biphasic Pressure Release Ventilation Event History Log: Records 1000 events; alarm & settings Compliance Compensation: On/Off Graphical display of respiratory parameters Must be mounted over the Mobile Medical Air Compressor. Power requirements 220 VAC ±10%, 50Hz. Internal rechargeable Battery provides an minimum. 60 minutes for complete ventilator function. Accessories : Medical Air Compressor Humidifier 1 Tube set, adults 1 Tube set, Children 1 Humidifier chamber O2-connecting Tube 5.0 m 1 Air-connecting Tube 5.0 m Humidifier : Heating power with safety thermostat and indication of operating status 1 Circuit , Adults with patient Tubes , water traps, Y-Piece,mask elbow, catheter connector 1 Circuit , Children with patient Tubes, water traps, Y-Piece,mask elbow, catheter connector 1 Carriage Articulated Bracket for rail O2-cell without housing

			Sensors 5 pcs set Temperature Sensor Humidifier Bag- test-lung Standards CE; EC Marked US FDA; ISO certification
20	Pulsoximeter	2	Real-time SpO2% Oxygen Saturation Range (%SpO2) Measurement range at least 70-99% Accuracy (%SpO2) ±2% at100%~80%, ±3% at 80%~70% Real-time heart rate (BPM) Pulse Measurement range 30-250 bpm Accuracy ± 1 bpm at 30~250 bpm Display SpO2,Pulse rate, Pulse signal wave, Max/Min setup (SpO2% / BPM) Power Requirements internal rechargeable battery providing an operating time of at least 8 hours Compact design for easy transportability Accessories: 3 rolls of paper Operation manual 1 adult reusable finger Sensor 1 Neonate Sensor Standards CE; EC Marked US FDA; ISO certification
21	Patient Monitor, ICU	7	Patient monitor that shall draw Cardiograms, measures Blood Pressure (invasive or not-invasive type), Respiration values, Temperatures at two spots, Oxygen Saturation in arterial blood (SpO2), and Pulse rate (HR) . May be used to Monitor Patients on the transportation by using batteries, and the measured information on patient's condition shall be displayed in wave forms along with numerical values. Display/Screen Display : Colour TFT display , screen diagonal Curves and measured values : not less than 25.00cm . Up to 6 Curves as well as numerical fields Brightness: can be manually adjusted Sweep Speed : Shall adjuste to 6.25, 12.5, 25 and 50 mm/s Display pixels: at least 1024x768 Monitor Interfaces R-SYNC: for defibrillator , Each R-wave shall be clearly identified , Staff call: Remote alarm via alarm adapter RS-232: as computer interface Mains/Battery Operation Mains operation: shall be via built-in Power Supply Battery operation: via integrated battery or Charging console . Battery operating time: approx. up to 4 hrs at least Power Supply : 220 V AC ±10%, automatic change-over Power failure buffer : for trend values, System Expansion Software updates via interfaces Monitoring parameters shall include : ECG, RESP, IBP, NIBP, SPO2, PULSE RATE , DUAL-TEMP S-T segment synchronized detection and analysis Graphic and tabular trends of all parameters for at least 96 hours 20-Mn minimum ECG real time waveform and parameters storage and review Shall be able to be connected with a Central Monitor Station

			Inner high-definition thermal dot matrix recorder optional, which can output waveforms and characters ECG : Input : Whole-lead ECG cable, standard AAMI cable connector Sweep speed: 12.5, 25, 50mm/s 0.5~40Hz(for monitor or operation) Calibration signal: 1mV , Protection: Against electrosurgical interference and defibrillation **Heart Rate: Measuring range: 30~250bpm , Alarm mode: Audible and visualAlarm** **Respiraton Measurement Range: at least 0~60 bpm** **Oxygen Saturation(SPO2) Meas. Range: at least 70~100%** **NIBP : Method: Oscillometric , Mode: Manual, Auto , Resolution: 1 mmHg** Shall have Over-pressure protection: (Adult 300mmHg ; Child 220mmHg Temperature : Meas. Range: at least 20~50C , Resolution: 0.1 C , Accuracy: +/- 0.2 C Operation Environment : Temperature: 0~45C , Humidity: 30~85%(non-condensing) Accessories Electrode cable for disposable electrode (3 leads) NIBP cuff for adults NIBP cuff for children Hose for NIBP cuff Respiration Sensor Power cord Disposable electrode (5 pcs) Temperature sensor - Adult (rectal) SpO2 sensor reusable Console / Bedside Holding Device Standards CE; EC Marked US FDA; ISO certification
22	Patient Monitor, anesthesia	2	Patient monitor that shall draw Cardiograms, measures Blood Pressure (invasive or not-invasive type), Respiration values, Temperatures at two spots, Oxygen Saturation in arterial blood (SpO2), and Pulse rate (HR) , End Tidal CO2 (etCO2) . May be used to Monitor Patients on the transportation by using batteries, and the measured information on patient's condition shall be displayed in wave forms along with numerical values. Display/Screen Display : Colour TFT display , screen diagonal Curves and measured values : not less than 25.00cm . Up to 6 Curves as well as numerical fields Brightness: can be manually adjusted Sweep Speed : Shall adjuste to 6.25, 12.5, 25 and 50 mm/s Display pixels: at least 1024x768 Monitor Interfaces R-SYNC: for defibrillator , Each R-wave shall be clearly identified , Staff call: Remote alarm via alarm adapter RS-232: as computer interface Mains/Battery Operation Mains operation: shall be via built-in Power Supply Battery operation: via integrated battery or Charging console . Battery operating time: approx. up to 4 hrs at least Power Supply : 230 V AC ±10%, automatic change-over Power failure buffer : for trend values, System Expansion Software updates via interfaces Monitoring parameters shall include : ECG, RESP, NIBP, SPO2, PULSE RATE , DUAL-TEMP and etCO2 S-T segment synchronized detection and analysis Graphic and tabular trends of all parameters for at least 96 hours 20-Mn minimum ECG real time waveform and parameters storage and review

			Shall be able to be connected with a Central Monitor Station Inner high-definition thermal dot matrix recorder optional, which can output waveforms and characters ECG : Input : Whole-lead ECG cable, standard AAMI cable connector Sweep speed: 12.5, 25, 50mm/s 0.5~40Hz(for monitor or operation) Calibration signal: 1mV , Protection: Against electrosurgical interference and defibrillation Heart Rate: Measuring range: 30~250bpm , Alarm mode: Audible and visual Alarm Measurement Range: at least 0~60 bpm Oxygen Saturation(SPO2) Meas. Range: at least 70~100% NIBP : Method: Oscillometric , Mode: Manual, Auto , Resolution: 1 mmHg Shall have Over-pressure protection: (Adult 300mmHg ; Child 220mmHg Temperature : Meas. Range: at least 20~50C , Resolution: 0.1 C , Accuracy: +/- 0.2 C End Tidal CO2 (etCO2) Module , Non Dispersive Infrared Spectroscopy Method Mainstream or sidestream Displayed Data : Waveform labels and annotations , etCO2, inC02 and respiration rate values etCO2 Alarm Limits Operation Environment : Temperature: 0~45C , Humidity: 30~85%(non-condensing) Accessories Electrode cable for disposable electrode (3 leads) NIBP cuff for adults NIBP cuff for children Hose for NIBP cuff Respiration Sensor Power cord Disposable electrode (5 pcs) Temperature sensor - Adult (rectal) SpO2 sensor reusable EtCO2 Mainstream or Sidestream accessories , Transducer , Lines , Filters Console / Bedside Holding Device Standards Classification: CF, defibrillation-proof, CE; EC Marked US FDA; ISO certification
23	Oxygen Concentrator	1	Compact and easy to transport oxygen concentrator (Mobile on Castors) The Oxygen Concentrator shall feature a dual-head Compressor. One head producing. Capacity : 1 to 5 l/Mn of O2 at 90% minimum at maximum flow Pressure-compensated Flowmeter shall permit use of long canula while maintaining accurate flow setting. Safety Alarms: Audible and visual : Power Failure , Restricted Flow , , Low O_2 Pressure-relief Valve and thermal protection of the Compressor Double-insulated Unit , Two-prong plug Flame-retardant Cabinet Sound Level (ANSI): 50 dB average Fixed humidifer Port and Recess shall prevent bottle and connector breakage Power Requirements: 220 VAC,50 Hz **Accessories :** O2 Tubing , 3 Face Masks (Adult , Infant , New Born), Humidifier , Set of Filters Standards CE; EC Marked US FDA;

			ISO certification
24	Couch, Gynecology	4	Manufactured from chrome plated steel tube, three sections with independent manual controls and Trendelenburg position. Top is upholstered with washable plastic material and flame retardant. Complete with padded Goepel leg-holders and S.S. bowl. Knock down construction.
25	Delivery Bed	2	Manufactured from reinforced epoxy-painted steel tube Three sections with independent manual controls. Trendelenburg position. Third section extensible. Top is upholstered with washable plastic material flame retardant. Complete with S.S. tray, and two adjustable knee crutches, padded shoulder rest, handgrips, leg-holders.
26	Examination Lamp	3	Lamp , Examination . Mobile on 5 Castors , 5 star-shaped Heavy and stable Stand . Halogen Type Height of LampHead shall be adjustable Light Intensity shall be at least 15000 Lux with a Field radius of 17cm Minimum Color Intensity : 4300 °K. Single Reflector of 150mm Minimum Power rating : 1X40W Minimum . 220VAC/50Hz . Transformer , 24V DC shall be included Accessories /Spares : 5 Halogen Bulbs Standards CE; EC Marked US FDA; ISO certification
27	Uterine Aspiration Set	1	Stainless steel with handle for suction regulation. Cannule ø mm. 6/8/10/12/14
28	Fetal Monitor	1	CTG or Fetal monitor for recording and analyzing the fetal heart rate (FHR) on beat-to-beat basis and the uterine contraction with Doppler -US transducer and taco transducer. Portable handheld CTG monitor. Compact and battery operated, shall allow Patients to be continuously monitored anywhere . Color display shall show the CTG data presented in standard format for easy interpretation. Fetal signals shall be easily located using the wide angle transducers with contractions stress being monitored by an external pressure transducer. Audio signals of each fetal heart are available on selection by the user through the built in Audio system. The user will have control over the audio volume, audio fetal channel, chart recorder speed, toco zero, and event mark via the units front panel push buttons. Directional and watertight Ultrasound and TocoGraph with color-coded transducers for Single and Twins Transducer: Multi element wide angle Range: 30 to 240 bpm Power output: < 20mW/cm2 Toco Transducer: Real Time uterine Activity (contractions) trace on standard scale format Digital autocorrelation shall provide accurate and reliable FHR traces A pre-cut, non-fray elasticised belt with Buckle shall enable easy Transducer positioning for more accurate traces in difficult monitoring situations Clinical Event marker & automated foetal movement detection . Trace annotation Comprehensive patient database Shall store over 500 patient records (30 minutes traces) in internal memory of FHR, Toco , Fœtal Movements with unlimited data storage on plug-in PCMCIA memory Cards Computer interface 3 wire RS232 Thermal printer for common CTG paper Speeds: 1,2,3, cm/min Paper: z-fold pre-printed chart scale The grid and the FHR/UA trace shall be printed simultaneously , ensuring printing accuracy and preventing potential errors in interpretation due to paper drifting or pen

			jitter Power Supply :220 V AC and DC battery operated Accessories: 1. Belts : 1 Original + 1 Spare Set 2. Buckles 3. IUP Starter Kit 4. Multicrystal transducer 5. Toco Transducers 6. Event marker Consumables: 7. CTG printer paper : 20 Packs 8. Fetal scalp electrodes 9. Ultrasound gel 10. IUP catheters Standards CE; EC Marked US FDA; ISO certification
29	Scale for newborn children	3	Capacity-0-15 kg Graduation-10 gr. Precision-+/- 10 gr. Washable surface
30	Microscope Binocular	1	Body with 6V 20W Halogen for 220V, 50 Hz. Quadruple revolving nosepiece. Sturdy,base with supportive rubber feet. With low position, coaxial coarse and calibrated fine focus control, with graduation reading 2 microns per division. Total focusing 40 mm. Condenser adjustable. Built-in Power supply , halogen bulb adjustable. Double layer mechanical specimen stage. Dust cover, blue filter, immersion oil and instruction manual included. 2 pcs. 6V 20W halogen bulbs included. Binocular Head, 30° inclined, 360° rotatable, Interpupillary Distance 55 – 75 mm Objectives: ACHRO 4x/0.10 ACHRO 10x/0.2 ACHRO 40x/0.65, spring loaded ACHRO 100x/1.25, Oil, spring loaded
31	Microscope Monocular	1	Microscope with metal base with 360° rotatable monocular tube, 45° inclined 3-fold objective nosepiece separated coarse and fine focus Stage focus control (protection of sample!) Objectives: ACHRO 4x/0.10 ACHRO 10x/0.25 ACHRO 40x/0.65 spring Objective 100x/1.25 oil, attachable mechanical stage, etc. Abbé condenser n.A. 1.25 with iris diaphragm, variable at height Stage with stage clips Blue filter. Built-in illumination 6V/20 Watt Halogen, adjustable Daylight mirror for outdoor-use Dust cover. Packed in styrofoam case Power Requirements: 220V / 50 Hz.

32	Analyzer Hematology	1	To provide accurate and precise hematology results with WBC 3 parts differential. Principle method of detection: volumetric impedance, electrical impedance, laser flow cytometry, hydrodynamic focusing or equivalent. It should be able to provide precise measurement of 1) White Blood Cells count (WBC): Precision (CV, coefficient of variation) < 3.5% 2) Red Blood Cells (RBC) : Precision (CV) < 2% 3) Platelets (PLT) : Precision (CV) <6.0%, linearity range: 10 - 950x10^9/L 4) Hemoglobin (Hgb) 5) Hematocrit (HCT) 6) Mean corpuscular volume (MCV) 7) Mean corpuscular hemoglobin (MCH) 8) Mean corpuscular hemoglobin concentration (MCHC) 9) Red blood cell distribution width coefficient of variation (RDW-CD) 10) Mean platelet volume (MPV) 11) Lymphocyte (L% & L#) 12) Monocyte (M% & M#) 13) Granulocyte (G% & G#) 14) Others Please indicate all parameters included in the offer here Minimum WBC 3 parts differential Minimum 3 histograms Shall have dual sampling mode of both whole blood as well as capillary vascular Efficient work flow control with patient selective testing Shall be an open system to accept generic reagents and/ or local made reagents All reagents shall be cyanide free With build-in printer With quality control function and reporting With programmable automatic cleaning and maintenance Accept samples with any anticoagulant including EDTA, heparin and citrate acid Data storage of approximately 300 samples. Approximately 60 samples/hour With operation menu, reporting Possible with interfacing capabilities to external PC, Built-in Printer, LIS software or Network 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. Please declare in detail compliance of this item offered with any relevant quality and safety standards. RS232 Power Supply : 220VAC.50Hz. Accessories : Start-up Reagents as per Manufacturer
33	Urinalysis System	1	Compact semi-automated urinalysis instrument with a throughput of 50 tests/h Shall have individual setting of concentration ranges, grades and units Automatic urine colour determination Memory capacity of 150 results at least Interface ports for connection to PC , bar-code reader and external printer Results based upon test strips Shall have long period calibration stability Automatic compensation of intrinsic urine colour avoiding false positive results Power Supply : 220VAC.50Hz . Accessories: Strips , 1000 pcs Calibration Testing Trips Standards CE; EC Marked US FDA; ISO certification
34	Chemistry Analyzer Semi- Automatic		At least 100 tests/hr Including end point and kinetic measurement Capable of analysing serum, plasma, urine and CSF

		1	Automatic calibration Indication of abnormal values Computer interface Analysis of Albumin, ALP, ALT, AST, BUN, Ca++, Cholesterol, CK, Cl-, CO2, Creatinine, Direct and total bilirubin, Glucose, Inorganic phosphorus, Iron, K+, LDH, Mg, Na+, Total protein, Triglycerides, Urea, Uric acid and others
35	Coagulometer	1	Coagulometer with 2 independent operating channels , Semi automatic operation Tests performed: PT, APTT, Fibrinogen, cofactors II, V, VII, VIII, IX, X Optical detection with magnetic stirring used to detect clots Temperature regulated at 37ºC ± 0.1ºC Automated test calculation following addition of reagent, automatic compensation for blanks Straight forward input of test parameters, incubation period, tolerance for test performed in double, reagent data (ISI, unit) Automatic calibration/self test system Capability to store calibration curves, presenting results in different units (second, %, ratio, g/l or mg/ml. Capacity PT: 60 in duplicate/per hour, APTT 45 in duplicate/per hour LCD/LED display Incubator capacity: 10 tubes RS 232 interface for transferring results to PC or printer Power supply: 240VAC, 50Hz . Accessories : Thermoprinter Starter kit consisting of 100 pcs of cuvettes with magnetic stirs Consumables: PT tests APTT tests Fibrinogen tests Printer paper 20 meter rolls Reagent cuvettes, 100 **pcs** Magnetic stirrers, 10 pcs Standards CE; EC Marked US FDA; ISO certification
36	Water Bath	1	Precise Temperature Control up to 99 ºC Model with Capacities : 6 L Seamless Stainless Steel Bath Range Ambient +5ºC to 99ºC Temperature Accuracy ± 0.5ºC Uniformity ± 3.0ºC Power Requirements: 220VAC / 50 Hz.
37	Water Still	2	Productions rate: not less than 4 L/Hr Standard equipment includes low water cut-off protecting heating elements from burnout when water supply is interrupted Drainage Tap Power Requirements: 220V / 50 Hz.
38	Centrifuge		Centrifuges are required in the Laboratory to separate various components of Blood for analysis. Operational Requirements : Table top version Technical Specifications: Tube Capacity :No. 24 – 36 : Size 5 – 15 ml Should have a digital timer

		1	Body should be made of strong fabricated & corrosion resistant steel Control panel – for start/stop switch, dynamic brakes, step less speed regulator with zero start switch & speed indicator with timer and protective fuses. Door interlock Maintenance-free brushless drive motor with exact speed pre-selection and display. Speed range 100 to 5000 rpm and above, accuracy 1 rpm. System Configuration Accessories, spares and consumables Centrifuge complete with Swing and basic rotors , 8 seats , and buckets Tube Holders as appropriate , 15 ml Tubes Environmental factors : Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90% The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 80% Power Supply : Power input to be 220-240VAC, 50Hz . Standards CE; EC Marked US FDA; ISO certification
39	Incubator laboratory	2	Incubator 37° C - Outer case, inner case and front door manufactured with 18/10 stainless steel, insulated with high grade glass wool. Door with silicon gasket and lock key. Front see-through inspection window. Heating elements shielded with 18/10 stainless steel. Adjustable mesh shelves manufactured with 18/10 stainless steel. Forced air ventilation. Thermostat Thermometer with analogical dial. Safety thermostat. Possibility of continuous running : 0-120 min. Capacity not less than 60 liters Power Requirements - 220 ± 10% V. 50 Hz.
40	Refrigerator	3	For medicine storage. Upright Type Internal volume not less than 250 lt. / freezer - 40÷50 lt. Temperature controlled within the range of +2°÷ +8° C. Number of shelves – 3 or 4. With defrosting system Power Requirements: 220 ± 10% V. 50 Hz.
41	Autoclave	2	Horizontal autoclave, benchtop Type for CSSD, Laboratory , OutPatient/Wards Sections Self-contained ,front-loading and fully automatic Unit with integrated Steam Generator . The Unit shall be single Manual Door Type Stainless Steel Chamber and Door : Z3CN18/10 Capacity per cycle shall be at least 100L for a Cycle time of not more than 25 Mn.(Sterilization Phase at 134°C). Sterilization shall be enhanced by the use of Vacuum Cycle Digital temperature control and timing , Pressure Control , fully programmable cycle parameters Low Water alarm, Door Safety Locks, Program Cut-Out in case of Power Failure , Automatic Zeroing. Cycle End Alarm During Cycle progress , Door is locked into position by both Temperature and Pressure Interlocks . Rapid single action door closure shall be of concern Electronically-operated Vent valve , Automatic Air Purging , Over Pressure Safety Valve and Low Water Cut-Out with Visual and Audible Alarm indication shall be as standard The Unit shall be equiped with at least 4 Stainless Steel Trays Power Supply: 220VAC.50Hz . Accessories : 4 Stainless Steel Trays

			Standards CE; EC Marked US FDA; ISO certification
42	Hot air sterilizer	3	Electronic Controlled Sterilizing Process Outer case and internal chamber – constructed from stainless steel. Two or three adjustable shelves. Wall and hinged Door Insulated with High Grade Glass Wool. Door with Lock and Flat Key. Temperature: adjustable from +50ºC to +200 ºC ±10 %. Timer Range: 0-250 minutes. ±10 %. Capacity: 50- 60l. Power requirements 220 VAC ±10 %, 50Hz.
43	Scale for Adults	1	Capacity-5-150kg. Graduation-100gr. Precision-25 gr. Washable surface.
44	AMBU emergency case	1	Manual Resuscitator, Autoclavable,with unidirectional Valve The supply of Filters shall permit the use in Toxic Atmosphere Adapted to First Emergencies the unit shall also the complement to all automatic Ventilation Designed for Adults . Shall be supplied with 2 Masks All parts shall be autoclavable up to 134° C. The device shall consist of a self-filling Bag of thin Silicone Rubber which shall transmit adequately the User's Fingertips Action with a high degree of 'feel' indicative of Pressure and Volumes Changes An inflating valve (Transparent Polysulfone) shall be fitted between the orifice of the Bag's Delivery End and 2 Rubber Face Masks shall be supplied Designed Leak shall counteract Inflating Pressure for all Lung's Conditions A pressure relief valve shall be incorporated to comply with BS 6850.1987 Balloon : Silicon 1,5L Safety Pressure : 30 cm H2O Accessories : Balloon , autoclavable Valve, autoclavable Valve Obturator PEP Valve Adaptor 2 Masks vinyl, Adult / Children with Straps Tube for Pressure retake Plastic carrying case Standards: CE; EC Marked US FDA; ISO certification
45	Bacteriological light	15	Bacterial Lamp for Air Sterilization by means of UV Beams , UVC Category or Far UV (200nm< >280nm) with Strong bactericide effectiveness with a maximum strength situated at 265nm (253.7nm Mercury Spectra) UVC shall be emitted thru vacuum ionizing Tube (Weak permeation) Useful power shall be at least 45% of nominal power (30W) LifeTime shall be at least 7500 Hrs Radiation shall be witnessed by means of blue Light emission Encased in Steel Sheet casing , Epoxy-painted. Ceiling or wall fixation Power supply:220V.AC50 Hz. Accessories/Spare Parts: Ionized Tube : 5
46	Infusion fluid holder		

		20	IV Pole , Mobile on Castors Adjustable height 2 Hooks
47	Patient trolley	5	Manufactured from chrome plated steel tube Upholstered fixed Top covered with washable plastic material , Flame Retardant Complete with side Rails and IV Stand Mounted on 4 casters 100 mm two of which with brakes Knock down construction. Length min. –2000 mm. Height - 700 mm.
48	Incubator neonate		Nursing incubator mobile on castors Temperature control by air temperature or skin temperature Temperature control range 20-37 °C Display of temperature Alarms High and low air temperature High and low skin temperature Fan failure Sensor failure Power failure Secondary thermostat Heater power indicator At least 2 hand ports At least 2 tubing ports Provision for oxygen supplementation Provision for humidity supplementation Internal noise < 60 dB(A) Power supply 220 V 50 Hz
49.	Surgical light mobile		Mobile, Stand-type.**Max.** Light intensity (Ec) up to **not less than** 110 000 lx or more Color rendering index (general) Ra **94-**96 Color rendering index (red) R9> 90 Light field size approx. 13-25 cm. Co lour temperature 4200º K **(approx.)** Working range without focusing intensity approx.70 – 130 cm Power supply 220 V, 50 Hz Light source 3 x halogen approx. 23 V /50 W Durability of halogen bulbs 1300 h or more Adjustment of light intensity approx.50 – 100% **(0-100%)** **Sterilizable handle**
50.	Splint set		required
51.	Transportation splint		required
52.	Stretcher		required
54.	Tracheostomy set		required
55.	Fiber bronchoscope		Optical System Field of view: 100°÷ 120° Depth of field: 3÷50 mm. Distal end Bending Section Range of tip bending: not less than Up 180°, Down 130°. Insertion tube Outer diameter: not more than 5.0mm Working length: not less than 600mm. Total lenhgth: not more than 900mm. Instrument channel Inner diameter: not less than 2.0mm. Light Source Mobile Lamp Type:Quartz halogen. Output: 150W. Cooling fan prolongs lamp life not less than 500 hours. Air/Water functions available Power consumption:not more than 250 W. Power Requirements - 220 ± 10% V. 50 Hz. standard network Weight: not more than 6 kg.

56.	Arthroscope		Telescope: 1.2mm , 0º direction of view. Trocar Tube: 1.2mm Trocar spike: 1.2mm Accessories: Adapter with Luer lock male and x-mas tree Telescope holder Light quid, 3.5m with condenser Trocar Tube for surgical instruments 2mm Trocar spike 2mm pointed Trocar spike 2mm blunt Palpation Probe 2 mm straight -4pcs. Palpation Probe 2mm Hook Type -4pcs. Knife 2mm side cutting -4pcs. Knife 2mm front cutting -4pcs. Rasp 2mm -4pcs. Biopsy Forceps 2mm -4pcs. Grasping Forceps 2mm -4pcs. Instruments Tray Shaver System
57.	Duodenoscope		Optical System Field of View: 80º minimum Direction of View: Lateral, Rear-view 15º minimum Depth of Field: 5-60 mm minimum Distal End Outer Diameter: max. 12.0mm Instrument Channel Inner Diameter: minimum 2.8mm Insertion Tube Outer Diameter: max. 11.0mm Working Length: minimum 1235mm Bending Section Range of Tip Bending minimum: UP 120º, Down 90º Right 110º, Left 90º Biopsy Forceps Minimum Visible Distance: 10 mm from Distal End
58.	Laparoscopy system with instrumentation for general surgery		Laparoscopy Surgery Set Including: Forward-Oblique Telescope 300 deg, diameter 10mm, length 31cm, including fiber optic light transmission incorporated. Color code: red. Forward-Oblique Telescope 300 deg, diameter 5mm, length 29 cm, including fiber optic light transmission incorporated. Color code: red. VERESS Pneumoperitoneum Needle with spring loaded stylet LUER-lock, length 13 cm. Trocar 11mm with Cannula and multifunctional valve. Trocar 6mm with Cannula and multifunctional valve. Reducer 11/5mm. Reduction Sleeve, reusable, instrument diameter 3mm, trocar cannula O.D. 6 mm. Reduction Sleeve, reusable, instrument diameter 10mm, trocar cannula O.D. 15 mm. Reduction Sleeve, reusable, instrument diameter 5mm,trocar cannula O.D. 11 mm.color code:green Dissecting and Grasping Forceps, rotating, with connector for unipolar coagulation size 5mm, length 36 cm. KELLY and Grasping Forceps, rotating, with connector for unipolar coagulation size 5mm, length 36 cm. KELLY Forceps insert, long MANHES grasping forceps with connector for unipolar coagulation 5mm, length 36cm METZENBAUM scissors, rotating, with connector for unipolar coagulation 5mm, length 36cm,blades curved, double action jaws, length of blades 12 mm. Insert METZENBAUM scissors Hook Scissors, rotating, size 5mm, length 36cm,single action jaws Coagulating and Dissecting Electrode, L-shaped, with connector pin for unipolar coagulation size 5mm, length 36 cm Coagulating and Dissecting Electrode, spatula-sheaped, blunt with connector pin for unipolar coagulation size 5mm working length Insert Micro-dissecting scissors BLAKSSLEY Forceps insert Suction and coagulation cannula, L-shaper Take-apart Bipolar Coagulating Forceps Insert Forceps Applier for ligating clips (medium large) dismanting, rotating Pilling-Titanium-Clips, medium-large, sterile box with 16 cartridges, 10clipseach Electronic CO2 Endoflator, CO2 bottle empty, power supply, 240 VAC, 50 Hz, CO2/ N2O gas filter for use with Electronic Endoflator High Frequency Surgery Unit, power supply: 200-240 VAC, including: 400 A Mains Cord Adaptor, unipolar HF- output, 4 mm/5 mm

			Connecting Cord, for connecting the neutral electrodes Neutral-Electrode made of conductive silicone, with 1 rubber strap for fastening contact face, surface area approx. 180 sq.cm. Two-Pedal Footswitch, for control of coagulation. Monopolar High Frequency Cord with 5 mm plug for HF-unit, length 300 cm Suction Bottle, 1.5L. Bacterial filter Cold Light Fountain: approx. 175 W power supply: 220-240 VAC, 50 Hz Fiber Optic Light Cable, size: 4.8 mm, length 180 cm Endoscopic video system, color system PAL power supply: 240 VAC, 50 Hz. Cover for use with endoscopic video cameras, size 17 x 242 cm, rolled up. Sterile, in packs of 15. Color Monitor, color system PAL, NTSC screen 45 cm power supply: 240 VAC, 50 Hz including: mains cord Mobile cart for video system: 4 antistatic dual wheels, 2 equipped with locking brakes, 2 fixes shelves, 1 drawer unit with lock, 1 set of non-sliding stands for units, inclusive integrated small cable conduit in both vertical boom, 1 camera mount. Power Box socket board with 12 plugs, 12 grounding plugs Approximate Dimensions: cart: 700mm x 1280mm x 686mm (wxhxd) Shelf 630mm x 480mm (wxd) caster diameter: 125 mm
59.	EEG		Electroencephalograph- analyzer. Based on the personal computer. Routine EEG studies with computerized analysis and topographical mapping, in-depth analysis of EEG/EP activity, analysis of epileptiform activity, long-term EEG monitoring , differential diagnosis 24-EEG inputs. Sensitivity: 0.1 μV to 200 μV. Calibration μV: square (1Hz.) or Sine (5Hz) signal of 5, 10 ,20, 50, 100, 200 and more High frequency filter: **>70 Hz at highest setting)** Low frequency filter: **<0,3 Hz at lowest setting)** AC Rejection filters (50/60 Hz.): 1:1000 or better. Automatic suppression of miographical artifacts: 20 dB (30 Hz.) or better. Digital signal processing: 22-bit ADC Software-controlled Photo and Audio stimulators. Check-up of electrode impendence. Power Requirements - 220 ± 10% V. 50 Hz. standard network Standard set . Set of standard accessories. EEG-gel 2 kg.
60.	CT-scanner		**Gantry** Number of slices per rotation-2 Gantry aperture: at least 65 cm Gantry inclination angle: at least. 20 degrees Complete scanning time: 1.5, 2.0, 3.0, 5.0 sec app. Min. scanning time: app. 1.5 sec **Patient table** Coverage region: 70 cm Table height: 40-90 cm Scanning horizontal range: 120 cm Max patient weight: app. 180 kg Acuracy of horizontal movement +/-: 0,25 mm **Detector** Detector type: Solid body Number of detecting elements: at least 708 per row High-contrast resolution: at least 13 par. line/cm at 0% MTF Low-contrast resolution: less than 4 mm at 0,3% at 20 mGy **X-ray subsystem** X-ray generator capacity: min 24kWt mA range at least 20-250 mA kVp range at least 80-140 kV **Scanning parameters** Max duration of spiral scanning: 60 sec Pitch: 0,1:1 to 3,0:1 Slice thickness: 1,2,3,5,7,10 mm Min slice thickness: 1mm Summary volume of hard discs: min 80GB Monitor: LCD

			Monitor size: min 17'' Power requirements: 380V, 3-phase.
61.	Portable ultrasound scanner		**General Description**: General purpose portable ultrasound scanner, with multiple focus electronic probes. 1. **System Specifications**: PROBES: Electronic 3.5MHz convex Electronic 7.5 MHz linear **Scan Modes: B, M, B+M, B+B Scan Converter**: –Matrix size: min 512x512x8 –Gray-scale levels: min 256 **Software Features:** –Multiple beam focusing –Image preprocessing –Image postprocessing –Zoom –Digital calipers –General analysis: distance, area, circumference –Obstetrics software package**Keyboard:** Alphanumeric keyboard with pointing device (joystick or trackball). **Maximum Display Depth, cm: 22 or more Monitor**: High resolution monochromatic, minimum size: 7-inch **Connections**: -standard video output 625 lines / 50 Hz -image freezing footswitch **Power Requirements**: -Mains: 220V, 50Hz -Rechargeable battery, minimum capacity: 1 hour WEIGHT: maximum 15 kg
62.	Surgical microscope for eye		Type : Galilean Magnification : 4.5X, 7.5X, 11.5X, 18.5X, 29.5X or similar Field of View : Ø 49 mm to Ø 8 mm Illumination : Achromatic shadow free spot Light Source : Cold light through fiber-optic light guide Bulb : Reflector type halogen bulb 15V 150W (24V 250W optional) Illumination field : 48 mm (Ø) Light intensity : 80000 LUX max. Filter : Various filters are available
63.	Infant reanimation centre		Infant Warmer for Intensive Care Procedures, Includes Micro-processed Temperature Control and Orientable Halogen Examination Lamp, with Lateral Movement Allowing Free Access for X-Ray. Crib of Wide Dimensions 55x65 cm approx. with Washable and Hypo-allergic Mattress Tray Apt for X-Rays. Lateral Panels Foldable up to 180º, with Four back IV Ports. Trendelenburg and Fowler Movement of ±15º minimum **Displays**: Digital Skin Temperature Thermometer Resolution ≥ 0.1ºC, Range minimum 20 to 42 ºC Temperature Accuracy ±0.3ºC or better Digital Set Point, Resolution 0.1 ºC, Controllable Range minimum 34 ºC to 38 ºC Heater Power Indicator Skin or Manual Control Mode Indicator **Performance** - Continuous Circuit Monitoring - Self-calibrating Temperature Circuits - Automatic default Set-point of 36 ºC for Skin Temperature and Memory for Control Temperature - Memory for Control Set-point Short Term Energy Failure - Interchangeable Skin Temperature Probes: ±0.1ºC **Alarms** Skin Temperature ±1ºC Patient Alarm: Heater Remains at max. Power for more than 15 Consecutive minutes. Skin Temperature Sensor Failure. Electronic Circuit Failure Power Failure Alarm Reset and other **Accessories**: Skin Temperature Sensor Lateral Rail for Accessories IV Pole X-Ray Cassette Tray Patient Identification Card Holder Monitor Shelf Auxiliary Connection Box Holder for Puls-Oximeter Puls-Oximeter for Infants Lateral Handles for Moving and Instruction Manual

			Phototherapy Lamp Resuscitation System **Power requirements** 220 VAC ±10 % , ≤50W, 50Hz.
64	Cardiotocograph		Twins monitoring capability External ultrasound transducers for measurement of foetal heart rate Detection of foetal heart echo by autocorrelation Foetal heart rate tange at least 50–210 /min Alarms for high and low foetal heart rate External displacement transducer for measurement of uterine activity Digital and graphical display of foetal heart rates and unterine activity Two channel recorder with event marker and annotation capability Power requirement 220 V, 50 Hz
65	Nebulizer		Nebulizer with compressor on mobile stand Aerosol particles in range 1 to 5 micron Flow rate at least 4 ml/minute Liquid/medication container at least 200ml Power requirement 220 V, 50 Hz
66.	Mammograph		High frequency generator kV range at least 22–35 kV with 1 kV increments mA range up to at least 100 mA Time range at least 0.05–86sec mAs range at least 5–500 mAs Automatic exposure control X-ray Tube rotating anode heat capacity at least 300,000 HU heat dissipation rate at least 60,000 HU/min target/filter Mo/Mo, Mo/Rh dual focus 0.1/0.3 mm Breast compression system with automatic, manual and fine adjustment Grid ratio 5:1 Radiation shield with lead glass as required
67.	Coronarography/Angiography system		Single plane angiography system 4-way table top motion Collision prevention system X-ray Generator high frequency 100 kW @ 100 kVp radiographic mA up to 1000 mA radiographic kVp 60–150 kVp radiographic timer up to 1.5 sec fluoroscopic mA up to 10 mA fluoroscopic kVp 60–110 kVp pulsed fluoroscopy cine range up to at least 30 f/sec X-ray tube 80 kW heat storage capacity at least 1,500 kHU heat dissipation rate at least 300 kHU/min dual focus, focal spot size 0.6/1.2 mm or less grid pulsed and cooled Digital dynamic flat detector 23 cm with zoom fields Storage capacity at least 50,000 images at 1,024 × 1,024 At least two 17 inch monitors Digital subtraction angiography Cardiac analysis software package Other software packages to suit user applications DICOM 3 compatibility Radiation shield as required Contrast injector

			Monitoring system Accessories as specified by user Room preparation as required by user
68.	Delivery Couch		Convertible into operating table for emergency Caesarian section Adjustable backrest Removable headboard Leg supports Removable foot section Height adjustable over at least 60-90 cm With castors at least 12 cm dia, at least two diagonally lockable Corner bumpers Removable drain pan
69	Infant warmer		Heat control manual or automatic range includes 34–37 °C heater indicator Temperature display set point temperature skin temperature range includes 30–39 °C Alarms audiovisual sensor disconnect power failure Power requirement 220 V, 50 Hz
70.	Washing machine		Capacity at least 50 kg/cycle Cylinder volume at least 500 litre Stainless steel construction of parts exposed to corrosion Electric heating Adjustable extraction speed including 300–500 rpm Multiple liquid supply and detergent connections Programmable