

**FINAL SPECIFICATIONS AFTER PRE-BID MEETING**

Item Name & Specifications	Payment mode	Estimated Unit Price	Total Quantity
<p><b>ECG Machine</b></p> <p>Six channel ECG on at least 3-5 inches LCD display.            Display of six channel ECG simultaneously.            Automatic Operation            Variable gain: 1/2, 1, 2 cm/mV            Thermal recorder for printing out of Six channels simultaneously            Interpretation Software.            Recording Trace speed: 10, 25 and 50 mm/sec            Muscle artifact and AC (50Hz) interference filters            Defibrillator protection            Built in AC Supply and battery operation with backup 30 minutes            Paper size: 100-110mm            Built-in AC interference, Noise filter and Baseline correction.            Capability to interface with LAN/WLAN for data transfer</p> <p><b>Accessories:</b>            Complete with standard accessories            Comprehensive Service Manual            Country of Manufacturer: USA / Europe / Japan</p> <p>Equipment should have at least two certification from FDA 510K, CE, JIS/MHLW</p>	CIF	0.2 M	23

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<p><b>Defibrillator</b>          Biphasic transthoracic (external) defibrillator with LCD colour display          Synchronized output with ECG.          Energy selection &amp; delivery on control panel and paddles for external defibrillation.          Energy selection and delivery on control panel for internal defibrillation.          Charging Indicator          The energy range should be adjustable for peds and adults up to 200Joules.          Charging Time for full energy should be less than 07 sec          Screen Size of approx. 5 inch colored.          Display of HR, ECG through paddles and Lead I,II &amp; III patient cable.          Built in recorder for printing of full summary on standard 50mm paper.          Alarms for High and low Heart rate,          low battery warning.          Built-in Rechargeable battery with charger for minimum 50 shocks at max energy.          Auto tester/selfcheck.          External Paddles (Adult, Paed, Neonate)          AED facility with cable          Pacing facility          AC 220V / 50Hz operated  <b>Accessories:</b>          Complete with standard accessories, including reusable type Adult, Paediatric &amp; Neonatal          sensors, Comprehensive Service Manual          Country of Manufacturer: USA / Europe / Japan          Dual Certification:          Equipment should have at least two certification from FDA 510K, CE, JIS/MHLW</p>	CIF	0.8 M	20
<p><b>Optional:</b>          Internal Paddles for Adult &amp; Paeds          Defibrillator Analyzer  <b>Electrosurgical Unit:</b>          Microprocessor based electrosurgical unit for normal and under water cutting usages</p>	CIF	0.7 M	5

<p>Automatic self-test function  Operation in radio frequency range  Controls for cutting, coagulation, spray and blends  Monopolar cutting power of 300 watts  Bipolar cutting power of 80 watts  Mono polar coagulation power of 100 Watts  Bipolar coagulation power of 50 Watts  Spray coagulation mode  Different gradations of blending of cutting and coagulation power  Digital display of all controls and set values of cutting and coagulation power  Audio and visual alarms  220V, 50 Hz  <b>Accessories:</b></p> <ul style="list-style-type: none"> <li>• Monopolar handle withcord.</li> <li>• Bipolar forceps withcord</li> <li>• Attachment for monopolarcoagulation.</li> <li>• Bipolar coagulationforceps.</li> <li>• Double paddle foot switch, explosionproof</li> <li>• Comprehensive Service Manual</li> </ul> <p>Country of Manufacturer: USA / Europe / Japan</p>	CIF	45.00 M	As mentioned in specifications
<p>Demonstration Mandatory  <b>CENTRAL STERILE SUPPLY DEPARTMENT</b>  <b>HEAVY DUTY STEAM STERILIZER (Qty 02)</b>  High pressure Steam Sterilizer each with external steam supply as primary source with integrated steam generator as backup.  Fully automatic, programmable, microprocessor type. Touch screen colored display and integrated printer. Automatic motorized/pneumatic two doors pass through system. Time cycled, working pressure 32 psi. Safety interlock. Temperature &amp; Pressure recorder. Chamber pressureindicator.Cycleindicator to determine the phase of sterilization cycle. Program/Cycle selection. Complete with standard accessories and removable shelves, capable of taking both packets and containers of all standard sizes. Chamber capacity 8STU, rectangular shape. Chamber, jacket and doors made</p>			

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<p>of AISI 316 L/Ti. The system complete with built-in water saving system, automatic heat exchanger and Air detector. Two loading / unloading trolleys and two loading carts compatible with system. UPS of suitable capacity with minimum 15 minutes for Controller cum display for monitoring and controlling parameters during power shedding provided/installed by the manufacturer.</p> <p><b>MEDIUM STEAM STERILIZER (Qty 01)</b></p> <p>High pressure Steam Sterilizer each with external steam supply as primary source with integrated steam generator as backup.</p> <p>Fully automatic, programmable, microprocessor type. Touch screen colored display and integrated printer. Automatic motorized/pneumatic single door system. Time cycled, working pressure 32 psi. Safety interlock. Temperature &amp; Pressure recorder. Chamber pressure indicator. Cycle indicator to determine the phase of sterilization cycle. Program/Cycle selection. Complete with standard accessories and removable shelves, capable of taking both packets and containers of all standard sizes. Chamber capacity 06 STU, rectangular shape. Chamber, jacket and doors made of AISI 316 L/Ti. The system complete with built-in water saving system, automatic heat exchanger and Air detector. Two loading / unloading trolleys and one loading carts compatible with system. UPS of suitable capacity with minimum 15 minutes for Controller cum display for monitoring and controlling parameters during power shedding provided/installed by the manufacturer.</p> <p><b>REVERSE OSMOSIS SYSTEM (qty 01)</b></p> <p>RO system should be compatible with the CSSD equipment requirement and in accordance with the quality of the local water where it is being installed. It should have imported parts that may be locally assembled.</p> <p><b>PAPER SEALING MACHINE (Qty 01)</b></p> <p>Microprocessor controlled automatic heat sealer for sterilization bags and pouches. Stainless steel body with printing mechanism. Adjustable temperature up to 200 degree Centigrade, Speed approx. 10m/min.</p> <p><b>CUTTING DEVICE (Qty 01)</b></p> <p>For storage and preparation of paper/Plastic bags in rolls. The cutting knife is made of tempered stainless steel and is self-grinding, Size 700-1000mm.</p> <p><b>TRANSPORT AND DISTRIBUTION TROLLEY (Qty 02)</b></p> <p>Distribution trolley, 03 shelves made of stainless steel, size 700x500x800mm<sup>3</sup>. (WxDxH).</p> <p><b>Terms &amp; Conditions for CSSD Equipment:</b></p> <ul style="list-style-type: none"> <li>For CSSD installation; copper/SS pipes will be used as per standards. The complete flooring of CSSD with</li> </ul>	
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<p>PU anti-bacterial sheet, ceramic tiles on walls, dumpa false ceiling will be installed. The partitioning will be made with 2mm Aluminum sheet where required. Renovation of the CSSD department will be the responsibility of the successful bidder.</p> <ul style="list-style-type: none"> <li>Country of manufacturer &amp; origin for all Sterilizers &amp; Washer disinfectors will be USA/Europe/Japan, however for remaining equipment / furniture etc. will be imported / local.</li> <li>The bidder will provide a comprehensive warranty of five years from the manufacturer exclusively for Faisalabad Institute of Cardiology, Faisalabad.</li> <li>The bidder will provide a declaration from the manufacturer exclusively for Faisalabad Institute of Cardiology, Faisalabad for the availability of spare parts for five years after warranty period.</li> </ul> <p><b>Optional:</b>  <b>WASHING / DISINFECTION / DRYING UNIT</b>  Microprocessor controlled automatic powered vertical down sliding two glass doors type. Washing chamber, washing arms, preheating tanks and water filters made of high quality stainless steel AISI 316 L., Light inside of chamber, Frame made of stainless steel AISI 304</p> <p>Touch screen/panel display on loading and display on unloading side with integrated printer. External steam heated for Automatic rinsing, washing, disinfecting and drying including integrated electrical elements as backup heating. Capable of washing internal and external surface of items such as instruments, glassware, tubing, syringes, hollow wares etc. Stainless Steel construction. Floor model chamber size 15-18 IN basket Capacity. 2 dosing pumps of chemical products complete with flow meters and sensor. 8-10 standard pre-set cycle programs, 5 service programs and Fast/short cycle disinfection program (around 30 min).</p> <p>The unit should be complete with baskets, trays, and stands for washing /disinfection of the items mentioned above. The unit should have complete exhaust air condenser for outgoing air with condensate drain. Operation 380-400V.</p> <p><b>ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>A.N Wash Cart including tubes-7 sets</li> <li>MIS/Lap instrument cart</li> <li>Instrument trays for OP Cart</li> <li>Rack for 25 shoes</li> <li>Wash cart for instrument containers</li> </ul>		
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<ul style="list-style-type: none"> <li>Transfer trolleys forcart.</li> </ul> <p><b>Intra Aortic Balloon Pump</b>  Self contained Fiber optic based intra aortic balloon pump having mobile console with ECG, Amplifier with possible selection 5 leads arterial blood pressure amplifier, Discriminative Triggering circuit to command balloon actions on patient's ECG arterial blood pressure curve or internal simulator 80 BPM. Color graphic displays at least of 10" for display of arterial and pressure heart rate balloon volume used and alarm conditions with trouble shooting procedures. Wave form displays for ECG, arterial pressure and balloon pressure on three channel memory type oscilloscope. Fall safe system. V Pacing switch. Progressive viewing sequence. Integrated battery power supply to take patient to catheterization labs, operating theatre or other hospital: 60 minute autonomy. CO2 / helium tank wrench. 5 lead ECG cable, male connector pressure, transducer, adapter, chart recorder.</p> <p>System should be complete to display all the parameters.</p> <p><b>Accessories:</b>  Complete with standard accessories, One spare set of patient cable, Reusable sensors qty 05</p> <p><b>Optional:</b>  Automatic in vivo calibration, Automatic helium refilling, Control of deflation point in automatic mode</p> <p>The bidder will provide a comprehensive warranty of three years from the manufacturer exclusively for Faisalabad Institute of Cardiology, Faisalabad.</p>	CIF	20.00 M	02
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<p><b>ULTRASONIC NEBULIZER</b>          Ultrasonic energy for uniform and highly dense 1-5 microns Medication cup with replaceable diaphragm</p> <ul style="list-style-type: none"> <li>• Made of highly resistant Sterilizable resin</li> <li>• Stand with solution bottle for safety</li> <li>• Nebulizing rate: 4 ml / min or greater</li> <li>• Mist particle size: Approx. 1-5 microns</li> <li>• Nebulizing time setting: 1-30 min or moreadjustable</li> <li>• Medication cup capacity: 150 ml or better</li> </ul> <p>Accessories :          Solution bottle 500 ml for approximate 4 hours continuous operation          Solution bottle support Water Level controller</p>	FOR	0.30 M	20
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<p><b>Ventilator</b></p> <p><b>VENTILATION:</b></p> <ul style="list-style-type: none"> <li>▪ Microprocessor controlled powerful ventilation system mounted on trolley.</li> <li>▪ LCD/TFT color touch screen 12" Minimum.</li> <li>▪ Patient Range: Pediatrics and Adult</li> <li>▪ Breathing classification: Pressure control, Volume control Pressure control with set Volume Breath.</li> <li>▪ Autoclaveable reusable patient tubing circuit for paed and adult (01 each)</li> </ul> <p><b>MODES OF VENTILATION:</b></p> <ul style="list-style-type: none"> <li>▪ Volume control</li> <li>▪ Assisted CMV</li> <li>▪ Pressure control PC</li> <li>▪ Assist Pressure Control</li> <li>▪ CPAP</li> <li>▪ SIMV+ Pressure support</li> <li>▪ Noninvasive ventilation</li> <li>▪ Bi-level /APRV/BI-PAP Ventilation</li> </ul> <p><b>CONTROL:</b></p> <p>Set &amp; measured parameters simultaneously.</p> <p><b>MEASUREMENT RANGE/ SPECIFICATION:</b></p> <ul style="list-style-type: none"> <li>▪ Inspiratory tidal volume: 5ml to 2000ml Neonatal Mode.</li> <li>▪ Respiratory frequency: 5 to 120bpm</li> <li>▪ SIMV breath frequency: 1 to 50bpm</li> <li>▪ Inspiratory pressure: 10 to 80cmH2O</li> <li>▪ Inspiratory flow: 80 L/Min or cmH2O.</li> <li>▪ I : E ratio : 1:4 /4:1</li> <li>▪ PEEP: 3 to 30cmH2O</li> <li>▪ FiO2/ O2 delivery: 21 to 100% (Through paramagnetic Sensor non-consumable)</li> </ul> <p><b>Monitoring parameters for set and measured value simultaneously:</b></p> <ul style="list-style-type: none"> <li>▪ Total breath rate.</li> </ul>	CIF	3.5 M	10
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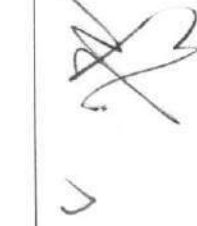



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<ul style="list-style-type: none"> <li>▪ Oxygen concentration FIO2</li> <li>▪ Expired minute volume</li> <li>▪ Peak expiratory flow</li> <li>▪ I : Eratio</li> <li>▪ Peak Pressure</li> <li>▪ Mean pressure</li> <li>▪ Lung Mechanics with pressure and volume loops.</li> <li>▪ Others control and functions:</li> <li>▪ Back up ventilation</li> <li>▪ Pause time INSP</li> <li>▪ Microprocessor gas delivery system</li> <li>▪ Breath circuit Compliance Compensation</li> <li>▪ Expiratory hold/ Inspiratory hold</li> <li>▪ Pressure / Volume and flow trigger sensitivity</li> <li>▪ Trigger sensitivity indication</li> <li>▪ Trend Data</li> <li>▪ The waveform should be displayed on ventilator's screen.</li> </ul> <p><b>ALARMS:</b></p> <ul style="list-style-type: none"> <li>▪ Apnea</li> <li>▪ AC power failure</li> <li>▪ High and low Expired minute volume</li> <li>▪ High and low peak air way pressure</li> <li>▪ High and low breath rate</li> <li>▪ FiO2 variation</li> <li>▪ Low and high base line pressure</li> <li>▪ Gas supply source failure</li> <li>▪ Low battery</li> </ul> <p><b>NEBULIZER:</b></p> <ul style="list-style-type: none"> <li>▪ Built in nebulizer of the patient during ventilation</li> <li>▪ Supply requirements: Electric 220 V 50Hz</li> </ul>	
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<p><b>BATTERY BACKUP:</b></p> <ul style="list-style-type: none"> <li>▪ With internal battery backup of onehour.</li> </ul> <p><b>COMPRESSED AIR SUPPLY:</b></p> <ul style="list-style-type: none"> <li>▪ The ventilator should be driven on external compressor for powerful ventilation and should have the capability to connect with central medical pipeline system of thehospital.</li> </ul> <p><b>HUMIDIFIER:</b></p> <ul style="list-style-type: none"> <li>▪ Automatic compensation (Servo) controlled heated humidifier with temperature monitoring at air way and Humidification camber with alarm for low/ high limits with water tarp in the patientcircuit.</li> </ul> <p>Note: The warranty of equipment will be including batteries, oxygen sensor, all kind of sensors and flow sensor.  Equipment should have at least two certification from FDA 510K, CE, JIS/MHLW  Country of Manufacturer &amp; Origin: USA / Europe / Japan  Comprehensive Service Manual</p>			
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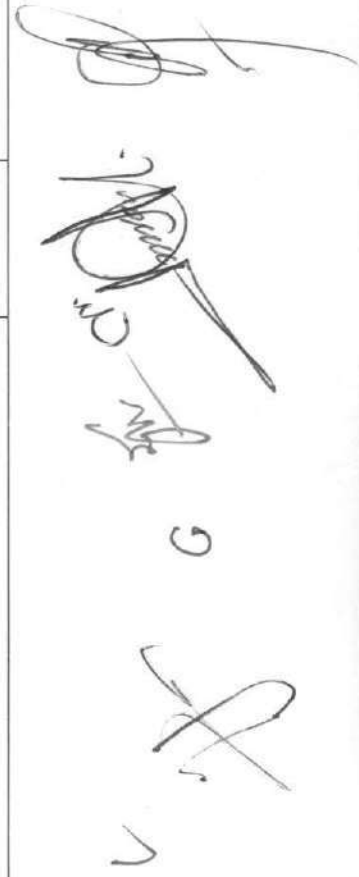
<p><b>Optional:</b></p> <ul style="list-style-type: none"> <li>▪ AirCompressor</li> <li>▪ Capnography module to monitor carbon dioxide of thepatient.</li> </ul>	CIF	8.0 M	01
<p><b>Mobile X-Ray</b></p> <p>Mobile Microprocessor based X-Ray Unit  High frequency, 30KW X-Ray Generator  300 mA at 100 kV  Digital display of all set parameters  Rotating anode x-ray tube, with dual focus / Single Focus  Anode heat storage capacity of at least 107 KHU or more  Electronic timer with exposure time of 1-3 m sec  Automatic over-load protection device and automatic line compensation  The unit should be battery supported for exposure and movement (Motorized).  220 V, 50 Hz.  Equipment should have at least two certification from FDA 510K, CE, JIS/MHLW  Comprehensive Service Manual  Country of Manufacturer &amp; origin: USA / Europe / Japan</p>	CIF		
<p><b>Blood Storage Cabinet</b></p> <p><u>Detailed Requirement:</u>  Stainless Steel Interior  Automatic closing of the door  Controlled fan cooling  Key operated power switch  Safety door lock  Interior lighting  Integrated RS485/USB interface  LAN Converter  220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u>  Gross volume:400L</p>	FOR	2.0 M	02

<p>Net capacity : minimum 240 blood bags of 450ml  Non modifiable temperature set point of +4°C  200-250 min hold over time at +25C ambient temperature  Safety thermostat</p> <p><b>Displayed Parameters:</b>  Digital temperature display  Temperature recording and online monitoring  Acoustical and visual alarm for temperature and power failure  Alarm system with battery backup  low and high alarm Door opening alarm</p> <p><b>Accessories:</b>  Complete with standard and operation accessories</p> <ul style="list-style-type: none"> <li>• Seven day chartrecorder</li> <li>• Servo Controlled Voltage Stabilizer with surge protection facility</li> <li>• Operating Manual with a SoftCopy</li> <li>• Service Manual with a SoftCopy</li> </ul> <p>Country of Manufacturer: USA / Europe / Japan</p>			
<p><b>Hypo Hyper Thermia Unit</b>  The Hyper hypothermia unit designed to supply temperature controlled water to oxygenator heat exchangers and cooling blankets.  The feed water temperature selected on a temperature controller in the range 5-40 °C One/ Two external circuits can be connected each with its own flow control  The flow is maintained by a built in pump  The temperature control is obtained by a three way motor valve Selecting water from a cooling or a heating vessel as required,  In the cooling vessel a temperature of +2 °C is constantly maintained by a refrigeration system Heating vessel contains an electrical heater which is automatically switched, as and when required. Hermetically sealed compressor ½ HP. Temperature accuracy: +/-0.5 deg/ C. Initial cooling capacity 2100 kj/h (500 Kcal/h), Continuous cooling cap 2800 kj/h (670 Kcal/h), Circulating system: Pump, Flow capacity (Total) 10-16 liters/min. Unit should be FDA approved</p>	CIF	12.00 M	2

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<p><b>Accessories:</b> System should be complete with all standard accessories <b>Optional:</b> Blanket</p>				
<p><b>Motorized Bed</b> Bed Length: 7 ft approx. Bed Width: 3 ft approx. Bed width side rails: 3.5 ft approx. metal/ABS side rails Height Electrically: 1.5 – 2.5 ft approx. Maximum load capacity: 200 kg or more Castor: 12.5 cm or more Five positions: High, Low, Trendelenburg, Anti-Trendelenburg, Cardiac Chair Trendelenburg: 12 - 16 deg and CPR position (Auto Button &amp; Manual Control) Anti-Trendelenburg: 12 - 16 deg Four section bed: 4-section X-ray cassette Holder: As per same manufacture specification IV Hanger Rod: As per same manufacture specification Conductive Mattress: As per same manufacture specification Central Locking System: As per same manufacture specification Country of Manufacturer &amp; origin: USA / Europe / Japan</p>	CIF		0.45	160


  
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<p><b>Optional:</b></p> <ol style="list-style-type: none"> <li>1. Over bed table: As per same manufacture specification</li> <li>2. Bed side locker: As per same manufacture specification</li> <li>3. Oxygen Cylinder Holder: As per same manufacturer specification</li> <li>4. Hand Remote Control (not mandatory to quote)</li> </ol>	CIF	0.18 M	150
<p><b>Syringe Pump</b> Syringe pump for fluid administration.</p> <ul style="list-style-type: none"> <li>▪ Flow Rates: 0.1 - 400 ml/hr. (Approx.)</li> <li>▪ Digital display of set parameters.</li> <li>▪ Universal Syringe acceptance capability for disposable, Plastic, Size, 10, 20, 50, 60 ml.</li> <li>▪ Drive Accuracy. ±3%</li> <li>▪ Display of drug name, Infusion rate, infused volume and volume to be infused.</li> <li>▪ Automatic adaptation of controls according to syringe /infusion set.</li> <li>▪ Quick feed/rapid infusion facility.</li> <li>▪ Rechargeable battery and mains operated 220V, 50Hz.</li> <li>▪ Safety alarm audible and acoustic for occlusion end of infusion, low battery.</li> <li>▪ Battery back up 3 to 4Hours.</li> <li>▪ Should be compatible with docking station.</li> </ul> <p>Country of Manufacturer: USA / Europe / Japan</p>			
<p><b>Optional:</b></p> <ol style="list-style-type: none"> <li>i)- Docking station of four</li> <li>ii)- Docking station of six</li> <li>ii)- Docking station of eight</li> </ol>			


  
Perfusionist  
FIC, Faisalabad

  
Electronic Equipment Care Taker  
FIC, Faisalabad

  
DMS (Purchase)  
FIC, Faisalabad

  
Director Finance  
FIC, Faisalabad


Addl: Medical Superintendent (Admin)  
FIC, Faisalabad



Addl: Medical Superintendent (Purchase)  
FIC, Faisalabad

  
HOD Cardiac Surgery  
FIC, Faisalabad

  
Medical Superintendent  
FIC, Faisalabad

  
Executive Director  
FIC, Faisalabad