LOT 7 - RENAL/HEMODIALYSIS

S/No	LOT NO.	EXPECTED EQUIPMENT	QTY	Estimated Units Price	Estimated Total Price
		Dialysis Common Functional areas			
1.	7-1	Dialysis Machine	30		
2.	7-2	Raw Water Reservoir	2		
3.	7-3	RO water supply & drain	2		
4.	7-4	Patient monitor	30		
5.	7-5	Dialysis chairs complete with over-chair tables	10		
6.	7-6	Dialysis Beds Complete with Overbed Tables	20		
7.	7-7	X-ray viewer	1		
8.	7-8	Automated Patient Hoists	1		
9.	7-9	Syringe Pumps	2		
10.	7-10	Continuous Ambulatory Peritonial Dialysis (CAPD) warmers	1		
11.	7-11	Automated Peritoneal Dialysis (APD) Machines	5		
12.	7-12	PD chairs complete with Over-chair tables	5		
13.	7-13	Emergency Trolley	2		
14.	7-14	Portable Suction Units	2		
15.	7-15	Blood sugar machine	1		
16.	7-16	Bioimpedance Analysis Machine	1		
17.	7-17	plasmapheresis Machine	1		
18.	7-18	Prolonged Intermittent Renal	1		

S/No	LOT NO.	EXPECTED EQUIPMENT	QTY	Estimated Units Price	Estimated Total Price
		Replacement Therapy (PIRRT)			
19.	7-19	Weighing Scale	2		
20.	7-20	Drip stand (Portable)	2		
21.	7-21	Emergency oxygen supply	0		
22.	7-22	Procedure Trolleys	10		
23.	7-23	Refrigerator	2		
24.	7-24	Diagnostic Set	2		
25.	7-25	Vital signs Monitor	2		
26.	7-26	Electronic Ear Thermometer	4		

LOT 7: RENAL/ HEMODIALYSIS

LOT 7-1 Dialysis Machine

Item Code No.	Department	Section	Item Description
LOT 7-1	Renal/hemodialysis	Patient Area	Dialysis Machine

1. General Description

Dialysis machine capable of providing hemodialysis, hemodiafiltration and hemofiltration services. The unit should be constructed from material easy to disinfect and should be mobile on castors and with back up internal batteries and connected to a central UPS.

2. Composition

2.1. Machine should have facility for Bicarbonate dialysis
2.2. Can be linked to patient data Management System and should be upgradeable to future development
2.3. Battery backup for at least 30 min to run complete machine with heater supply and connected to a central UPS (TOL)
2.4. Should have Na and UF profiling
2.5. Dialysate temp selectable, between 35-39 degree Celsius.
2.6. Variable conductivity, between 12-15.
2.7. Should have dialysate flow 250-800ml/min.
2.8. Heparin pump with syringe sizes 10 to 50ml and pump rate of 1-10ml/hr.
2.9. Stroke pressure operated short term single needle dialysis.
2.10. UF 0.1-2.5 litre/hr. The in and out fluid circuit must be separated so that there is no chance of contamination in case of membrane ruptures.
2.11. Treatment parameter should be displayed digitally and/or graphically.
2.12. Should have integrated heat and chemical disinfection.
2.13. Should have accurate feedback control conductivity mixing technique.
2.14. Should have drain facility.
2.15. Should have accurate UF control by flow measurement technique.
2.16. Extra facilities like blood volume sensor, Bicarbonate select technique and online clearance, built in monitoring/calculation of clearance.
2.17. All-important data should be present so that the machines can be used anytime without feeding data every time.
2.18. Should have automatic test facility.
2.19. Should have auto on off facility.
2.20. Should have touch button screen.
2.21. Should have in-built Blood Pressure monitoring unit.
2.22. Easy to service, troubleshoot and calibrate.
2.23. Machine can be connected to computer to feed all data and trouble shoot and calibrate.
2.24. Blood pump rate from 20-500ml/min adaptable to all standard AV blood lines.
2.25. Audio visual alarms on limit violation of conductivity, blood leak, air leak, transmembrane pressure alarms, dialysis temp alarms, dialysis can empty alarm, end of disinfection alarm, bypass alarm, and blood pump stop alarm.
2.26. Alarm for reverse Ultra filtration.

Item Code No.	Department	Section	Item Description
LOT 7-1	Renal/hemodialysis	Patient Area	Dialysis Machine

2.27. UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
2.28. Comprehensive training for staff and support services till familiarity with the system.
2.29. User/technical/maintenance manuals to be supplied in English.
2.30. Certificate of calibration and inspection.
2.31. List of important spare parts accessories with their part number and costing.
2.32. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company engineer should be clearly spelt out.

3. Physical characteristics		
3.1. Main unit	Mobile on castors, Robust and compact construction and easy to clean	
3.2. Approximate size	W600 X D 650 X H 1400	
3.2.1.	Power Requirements	Power input 220-240 VAC, 50HZ fitted with BS plug
3.2.2.	Internal back up batteries	Provided, rechargeable type
3.2.3.	Ambient temperature	10^{o} C to 40^{o} C
3.2.4.	Relative humidity	20% to 90%
3.3. Consumables	Provide all Start-up Kits, comprising of Ultrafiltres, Dialyzers, Concentrates, Bloodlines, cartridges and all other required consumables. Machine should be universally compatible with consumables from various suppliers (Open system)	
3.4. Quality standards		
3.4.1.	Manufacturing standards	IEC 60601-1, ISO 9001, ISO 13485
3.4.2.	Conformity to standards	CE and FDA marked
3.5. Installation and Commissioning		
3.5.1.	Supply, Installation, testing and commissioning of the machine to the satisfaction of the user and complete user and Technical training.	
3.6. Warranty	Minimum of two (2) years after commissioning on all parts. And assurance of CMC post warranty period at the amount quoted in the tender document for at least the next 3 years.	

Item Code No.	Department	Section	Item Description
LOT 7-1	Renal/hemodialysis	Patient Area	Dialysis Machine
3.7. Documentation	• Provision of complete sets of Technical and user manuals in both soft and hard copies. • Certificate of calibration and inspection.		

LOT 7-2 Raw Water Reservoir

Item Code No.	Department	Section	Item Description
Lot 7-2	Renal/Hemodialysis	Water Treatment	Raw water Reservoir
1. General Description			
Raw water reservoir, consisting of ground level water tank, water pump, and pipe works.			
2. Composition			
2.1.	Main unit		
3. Performance Specifications			
3.1.	Ground Level tank	2 tanks, plastic, 10,000 litres each (20,000 liters capacity)	
3.1.1.	Water pump	Provided, booster pump 3 hp, complete with pressure switches and, or level switches for low water level; and high-water level	
3.1.2.	Overflow	Provided	
3.1.3.	Foundation plinth	Provided for water tanks and booster pump	
3.1.4.	piping	Provided PPR, 2” complete with gate valves	
4.	Operating environment		
4.1.	Power Requirements	240V, A/c 50 Hz, Single phase	
4.2.	Ambient temperature	10^{o} C to 40^{o} C	
4.3.	Relative humidity	20% to 90%	
5.	Installation and Commissioning		
5.1.	Installation, testing and commissioning of the system to the satisfaction of the user.		

LOT 7-3 RO Water Supply and Drain

Item Code No.	Department	Section	Item Description
Lot 7-3	Renal/Hemodialysis	Water Treatment	**RO Water Supply and Drain**
1. General Description			
Water treatment unit, consisting of Pre-filters, carbon filters, softeners, RO system, reservoir tank piping and circulation system			
2. Composition			
2.1.	Main unit		
3. Performance Specifications			
3.1.			
3.1.1.	Capacity	Minimum 1500 litres per hour sufficient to supply at least 50 dialysis machines	
3.1.2.	Pretreatment	Provided, Coarse filter type, replaceable	
3.1.3.	Activated Carbon filters	Provided, replaceable	
3.1.4.	Water Softener (Ion Exchange Unit)	Provided	
3.1.5.	Fine filters	Provided, 20/10/1 Microns	
3.1.6.	Micro filter	Provided, Replaceable type	
3.1.7.	Reverse Osmosis	Provided, Replaceable Membrane type with pump	
3.1.8.	UV treatment	Provided, with replaceable lamps	
3.1.9.	Pure water quality	To comply with ISO 13959	
3.1.10.	Conductivity	Maximum 4µs/cm	
3.1.11.	Ionic Rejection	Minimum 95%	
3.1.12.	Bacterial and particles rejection	Minimum 99%	
3.1.13.	Display	LCD display of conductivity and resistivity	
3.2.	Monitoring and Safety devices	Audio and Visual Alarm on water quality, water level, system failure, system shut down	
3.2.1.	Clean water Reservoir tanks/ heat disinfection unit	Provided, 1000 litres plastic	
	Circulation pump	Provided, from reservoir tank to back at 4-8 bars, Radial type	
3.2.2.	Piping work	Provided, high grade pipes with terminals for each dialysis machine (6 No. to be upgraded later), Radial system	

Item Code No.	Department	Section	Item Description
Lot 7-3	Renal/Hemodialysis	Water Treatment	**RO Water Supply and Drain**
3.2.3.	Drainage piping	Provided	
4.	Operating environment		
4.1.	Power Requirements	240V, A/c 50 Hz, Single phase/ 415V , Ac, 50 Hz 3 phase	
4.2.	Ambient temperature	10^{o} C to 40^{o} C	
4.3.	Relative humidity	20% to 90%	
5.	Installation and Commissioning		
5.1.	Installation, testing and commissioning of the system to the satisfaction of the user as well as user and technical training to be provided onsite.		

LOT 7-4 Patient monitor

Item Code No.	Department	Section	Item Description
LOT 7-4	Renal/Hemodialysis	Patient Area	Patient Monitor

1. General Description

Portable Bedside monitor suitable for use in ICU. Should be capable of continuous measuring/ monitoring of the following parameters in adults, neonatal and pediatric.

- SpO_2
- Temperature
- Blood pressure
- ECG
- Respiration
- CO_2
- Pulse Rate

2. Composition

2.1.	Main unit				

3. Performance Specifications

3.1. Main Unit

Portable Bed side monitors	
Type	Roll stand Mounted type, complete with internal rechargeable battery
Application	Can be used as a both bedside monitor and a transport monitor

Item Code No.	Department	Section	Item Description
LOT 7-4	Renal/Hemodialysis	Patient Area	Patient Monitor

Parameter & waveforms	SpO2, Pulse rate, ECG, NIBP, IBP, Respiration, CO2 and temperature
SpO_2, with reusable sensor	0 - 100% ± 3%
Pulse Rate	30-300 bpm ± 1%
Temperature	$0\text{-}50^0C$ ± 0.1%
NIBP	Mean 10- 300mmHg ± 5 mmHg
IBP X2	Mean 00 – 300mm Hg ± 1 mmHg
ECG	5 lead, standard configuration
CO_2	0 to 99 mmHg ± 4 mmHg
Display	Minimum 12.0 inches color touch screen/scroll type
	6 to 8 waveforms with large font
Networking	Wireless and wired connection to the central workstation
Storage	Capable of storing patient data and transferring to the central workstation for viewing or printing.
Audio and visual alarm Printer	For all parameters. Inbuilt Thermal Printer
Alarm setting limits	Adjustable by user
Low battery indicator	Audio and visual alarm
Power Requirement	Rechargeable internal battery, that can last at least 3 hours when fully charged
Wireless networking	Latest technology.

4.	Accessories	The following accessories will be provided as startup kits.
4.1.	ECG connection lead and reusable electrodes	2 Set
4.2.	SpO_2 connection cable and sensor (finger probe), reusable	2 Sets
4.3.	Adult cuff:- 12 x 22cm 16 x 30cm 16 x 36cm 16 x 42cm	3 Sets
4.4.	Peadiatric cuff:- 4 x8cm 6 x 12cm 9 x18cm	2 Sets
	Temperature connection cable and probe (reusable)	2 Sets
4.5.	Recording paper	20 Boxes
5.	Quality standards	

Item Code No.	Department	Section	Item Description
LOT 7-4	Renal/Hemodialysis	Patient Area	Patient Monitor

5.1.	Manufacturing standards	IEC 60601-1, ISO 9001, ISO 13485			
5.2.	Conformity to standards	Directive 2004 / 108 / EC, CE and FDA marked			
6.	Local back up service				
6.1.	Available	Should be available locally			
6.2.	Capacity to service equipment	Agent shall have adequate facilities, spare parts, consumables and qualified and skilled technical staff			
7.	Delivery point				
7.1.	See Schedule	For inspection and testing			
7.2.	Nil				
8.	Pre installation requirements				
	Nil				
9.	Installation and testing				
	Complete installation and setup of the machine as per manufacturer's instructions				
10.	Training				
10.1.	User Training	On site user training on operation and daily up keep			
10.2.	Maintenance training	Onsite maintenance training on preventive maintenance			
11.	Technical documentations				
11.1.	User manuals	2 Sets			
11.2.	Service Manual	1 Set			
11.3.	Drawings	Nil			
12.	Commissioning				
12.1.	Testing and commissioning of the machine to the satisfaction of the user.				
13.	Warranty				
13.1.	Equipment	Minimum of one year after commissioning on all parts.			
13.2.	Equipment System	Nil			

LOT 7-5 Dialysis chair complete with over-chair tables

Item Code No.	Department	Section	Item Description
LOT 7-5	Renal/Hemodialysis	Patient Area	Dialysis chair complete with over-chair tables
1. General Description			
Dialysis chair complete with adjustable backrest, knee rest, trendelenberg/ reverse trendelenberg, and upholsted water proof mattress, Electrical type			
2. Composition			
2.1.	Main unit		
2.1.1. Should be ergonomically designed and comfortable to the patient. 2.1.2. Should allow the patient to test in full sitting and lying position. 2.1.3. Should have electronically controlled adjustment for back section, leg section and height. 2.1.4. Should have a patient handset with controls for all positions. 2.1.5. Arm set should fold to allow side entry of the patient. 2.1.6. Seat cushion should be removable, made of proper density foam and should have smooth surface for easy hygiene and cleaning. 2.1.7. Frame should be made up of corrosion free galvanized steel with powder coating and should have four swiveling castor wheels of which the front two should be lockable. 2.1.8. Should be able to withstand a maximum load of 200kg. 2.1.9. Should have facility for online weight measurement (optional). 2.1.10. Should have detachable drip stand and a tray table. 2.1.11. Power input 220-240 VAC, 50HZ fitted with BS plug. 2.1.12. Manufacturer/Supplier should have ISO certification. 2.1.13. All electrical actuators and mechanisms should be housed inside the structure making the product safer. 2.1.14. User/technical/maintenance manuals to be supplied in English. 2.1.15. Certificate of calibration and inspection.			
3.	Quality Standards		
3.1.	Manufacturing standards	ISO 9001, ISO 13485	
3.2.	Conformity to standards	CE marked and FDA approved, IP X4 electrical protection standard	
4.	Delivery point		
4.1.	See Schedule	Delivery point	
5.	Warranty		

Item Code No.	Department	Section	Item Description		
LOT 7-5	Renal/Hemodialysis	Patient Area	Dialysis chair complete with over-chair tables		
5.1.	Equipment	Minimum of one year after delivery			
5.1.1.	Equipment System	Nil			

LOT 7-6 Dialysis Beds complete with Overbed Tables.

Item Code No.	Department	Section	Item Description		
LOT 7-6	Renal/Hemodialysis	Patient Area	Dialysis Beds complete with Overbed Tables.		
1. General Description					
Dialysis bed complete with adjustable backrest, knee rest, trendelenberg/ reverse trendelenberg, and waterproof mattress, Electrical type					
2. Composition					
2.1	Main unit				
3. Physical Specifications					
3.1	Main Unit				
3.1.1	Type	Electrical Dialysis bed			
3.1.2	Material of main unit	Mild steel epoxy coated, antistatic			
3.1.3	Movement	Backrest, Knee rest, trendelenberg, reverse trendelenberg, fowler and vascular position, cardiac chair position, and shock position, all electric operated			
3.1.4	Height	Adjustable, electric operated			
3.1.5	Back rest	Retracting, X-Ray translucent and cassette carrier			
3.1.6	Leg section	Retracting			
3.1.7	Head rest/ knee rest	Removable			
3.1.8	Side rails	Drop down type			
3.1.9	Mattress	Provided, high density covered with leather or Vitapruf material			
3.1.10	IV pole	Provided, stainless steel and adjustable			
3.1.11	Castors	Four antistatic castors with central locking position and bidirectional locks			
3.1.12	Control	Microprocessor based, with patient handheld control, and Nurse control panel			

Item Code No.	Department	Section	Item Description		
LOT 7-6	Renal/Hemodialysis	Patient Area	Dialysis Beds complete with Overbed Tables.		
		Programmable positions buttons for ease of adjusting patient positions			
3.1.13	Power	240 V, 50Hz single phase with back up sealed battery			
3.1.14	Overall Dimensions (mm)	About 2100 L X 980 W X 380- 800H			
3.1.15	Weight to handle	200 kg			
4	Quality Standards				
4.1	Manufacturing standards	ISO 9001, 60601, ISO 13485			
4.2	Conformity to standards	CE and FDA marked and, IP X4 electrical protection standard			
5	Delivery point				
5.1	See Schedule	Delivery point			
6	Warranty				
6.1	Equipment	Minimum of one year after delivery			
6.2	Equipment System	Nil			

LOT 7-7 X-Ray Viewer

Item Code No.	Department	Section	Item Description		
LOT 7-7	Renal/Hemodialysis	Patient area	X-ray Viewer		
1. General Description					
X-RAY-VIEW BOX (LED Light)					
2. Composition					
2.1. Main unit					
3. Description of the medical supply unit design type					
A) Product & Manufacturer Quality Standards: 3.1. Should be FDA/ CE approved product. 3.2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. **B) TECHNICAL CHARACTERISTICS**					

Item Code No.	Department	Section	Item Description
LOT 7-7	Renal/Hemodialysis	Patient area	X-ray Viewer

3.3. Should be ultra-thin X ray film illuminator using LED light
3.4. It should have a thickness of 30 mm
3.5. It should be suitable for viewing 14''x17' film.
3.6. Should have position to insert 8 films in 2 rows.
3.7. The LED light must have a life span of more than 50,000 hours.
3.8. It should have easy insertion & removal of the film.
3.9. It should have homogeneous illumination more than 95% and maximum intensity of over 10,000 lux.
3.10. It should have an on-off switch along with digital feather touch dimmer and a button to set the intensity
3.11. It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
3.12. It should be directly connected to power supply without any external adapters.
3.13. It should have flicker free high frequency light for reduction of eye strain.
3.14. It should have external fuses for protection against power surge.
3.15. 10 step Digital dimmer facility with step up/step down intensity of 500 lux or less.
3.16. Should have automatic film sensor
3.17. Should have facility to switch on only the section where the film needs to be viewed.

C) Power supply:
3.18. 240V, AC, 50Hz. Single phase

LOT 7-8 Automated Patient Hoist

Item Code No.	Department	Section	Item Description
LOT 7-8	Renal/Hemodialysis	Patient area	Automated Patient Hoist

1. General Description
Mobile patient lift up to 300kg maximum carrying capacity

This specification establishes the requirements, supply, delivery, end user training, demonstration; commissioning and installation of Electrically Operated Patient Lift incorporating the latest technology and must be suitable for all surgical and medical procedures required for lifting and lowering of patients of which the design of must be user friendly.

2. Composition

2.1.	Main unit				

3. Detailed specifications:
The lift must be light weight and easily maneuverable by one person.

Item Code No.	Department	Section	Item Description
LOT 7-8	Renal/Hemodialysis	Patient area	Automated Patient Hoist

The slings, spreader bar and accessories must be of such a design that the patient has a feeling of safety and security, whilst attached to the lift. The patient's correct body posture must be maintained during the lift in order to avoid injury.

The lift must be designed to perform the following minimum basic functions safely and with the least effort by the operator:

- Lifting a patient from the floor.
- Lifting/lowering a patient on to a bed.
- Lifting/lowering a patient onto an easy chair.
- Lifting/lowering a patient into a wheelchair.
- Lifting/lowering a patient onto a toilet.

3.1. The safe lifting capacity must not be less than 150Kg.

3.2. The frame of the lift must be manufactured from:

- Steel (chromium plated) or
- Steel (epoxy powder coated).

3.3. Base must be adjustable in width to enable access around different size chairs and obstacles. Operations by either manual or electro assist.

3.4. The lift must be fitted with 100 to 160mm swivel castors with a mechanical brake lock on the rear castors.

3.5. The mass of the lift must not exceed 60Kg.

3.6. The lift must be able to pass through a normal door with a patient attached to it.

3.7. The lifting and lowering mechanism must operate off a D.C. supply (battery) driving a hydraulic motor and pump. Please describe in detail the type of drive offered as well as the mechanical I electrical configuration.

3.8. The lift must be operated from a control handset connected to the lift. The control handset must incorporate the lifting and lowering control switches. An emergency lowering switch must be fitted to the chassis of the lift.

3.9. An emergency stop switch must be provided to immediately stop any powered movement.

3.10. To ensure that the lift is always ready for use a fully charged battery must be available. The final bid price must include the supply of an additional battery and if where required, also an additional charger. If an additional charger is not required, please state this in your comments.

3.11. The following, visual battery condition and other indication must be provided:

3.11.1. Mains on charger.

3.11.2. Battery charging.

3.11.3. Battery faulty.

3.11.4. Voltage in battery too low for recharging.

3.11.5. Charging faulty.

3.11.6. Battery condition I battery low indication when the battery is fitted to the lift.

3.12. Please state battery recharging time/approximately hours from 50% capacity to 100% capacity.

Item Code No.	Department	Section	Item Description
LOT 7-8	Renal/Hemodialysis	Patient area	Automated Patient Hoist

3.13. Please state battery life. The battery must not have less than 500 charge cycles from 50% capacity.

3.14. Please state the type of battery its voltage and ampere hour capacity.

3.15. UPGRADABILITY

3.15.1. All future upgrades (hardware and software), where applicable, involving patient safety must be supplied at no additional cost.

3.15.2. All future upgrades removing software viruses from existing software, where applicable, must be supplied at no additional cost.

3.15.3. Any software upgrade, where applicable, before or after installation of the equipment must be brought to the attention of the Management.

3.16. MANUALS

3.16.1. The bidder must include in their offer at no extra cost to the final bid price:

a. Complete user Operation/Maintenance Manual x 2 (two) Book/File; CD; DVD copies in English Language

b. Complete ORIGINAL Service/Repair Manual x 2 (two) Book/File; CD; DVD copies in English Language which MUST include the following information:

(i) Fault Finding Guide
(ii) Circuit Diagrams/Schematics
(iii) Circuit Descriptions
(iv) PCB Layouts
(v) Calibration Guide
(vi) Part numbers and exploded diagram of mechanical parts/panels.

3.16.2. The offer submitted must be supported by descriptive literature, colour pamphlets, colour brochures and technical data sheets applicable to the offer.

3.16.3. FAILURE TO SUBMIT THE ABOVE WILL RESULT IN THE BID BEING DISQUALIFIED.

3.17. Guarantee I Warranty

3.17.1. The bidder must provide a minimum of 24-month warranty period for the unit offered.

3.18. Maintenance and Service Agreement

3.18.1. The bidder must provide a fully- costed Preventative Maintenance and Service Agreement for a period of 5 years to commence upon termination of the warranty period with an option to enter into a renewable agreement.

LOT 7-9 Syringe Pumps

Item Code No.	Department	Section	Item Description
LOT 7-9	Renal/Hemodialysis	Patient Area	Syringe Pump

1. General Description

Syringe pump

2. Composition

2.1.	Main unit				

3. Performance Specifications

3.1. Main Unit

3.1.1. Should be easy to use and nurse friendly.
3.1.2. Should have automatic syringe size and model detection
3.1.3. System should be front loading
3.1.4. Should have large format LCD/TFT display.
3.1.5. Should have a minimum flow rate range from 0.1 – 1200 ml/hr. for 50ml syringe, 0.1 – 100 ml/hr. for 20ml syringe and 0.1 – 60 ml/hr. for 10ml syringe.
3.1.6. Syringe range from 20-50/60 ml.
3.1.7. Should have a flow rate accuracy of ±2%
3.1.8. Should have a bolus rate up to 1000ml/hr. for 50 ml syringe.
3.1.9. Should have automatic and manual bolus.
3.1.10. Should have at least 3 levels of programmable occlusion pressure.
3.1.11. Should have automatic bolus reduction system to avoid accidental bolus delivery after occlusion incident.
3.1.12. Should have a rechargeable battery with back up time of minimum 3 hours.
3.1.13. System should have a docking station
3.1.14. Pump must trigger following alarms with visual indication:-
i. Occlusion Pressure Alarm
ii. KVO or 3 min pre- alarm
iii. Syringe empty and volume infused alarm
iv. Internal malfunction and Battery Charge Low Alarm
v. Syringe disengaged and incorrectly placed alarm
vi. Alarm loudness control.
vii. No mains
viii. Line disconnected (rapid pressure drop).
3.1.15. Should work with input 200 to 240Vac 50 Hz supply.
3.1.16. Should be CE and FDA marked.
3.1.17. Copy of the certificate / test report shall be produced along with the technical bid

LOT 7-10 Continuous Ambulatory Peritoneal Dialysis (CAPD) warmers

Item Code No.	Department	Section	Item Description
LOT 7-10	Renal/Hemodialysis	Patient area	Continuous Ambulatory Peritoneal Dialysis (CAPD) warmers

1. General Description

Cycler for performing peritoneal Dialysis(CAPD)

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

3.1. Required Therapy
a. CCPD/PD
b. Hi-Dose CCPD
c. Tidal
d. Hi-Dose Tidal

3.2. Automatic Calculation of Number of Cycles and Dwell time
3.3. Use Disposable cassette assembly for therapy
3.4. Built in fluid warmer: 35 to 37 Degree C
3.5. Maximum Total Programmable Volume : 80L
3.6. Therapy time : 0 to 48 Hrs
3.7. Standard and Low fill Modes
   a) Low fill Mode fill volume : 60 to 1000ml
   b) Standard Mode fill volume : 200 to 3000 ml
3.8. Self Correcting, Continuous and system Error Alarms for maximized Patient safety
3.9. Use Pneumatic pump to exert pressure for fill/drain the patient
3.10. Built in Event Log & Therapy Log
3.11. Built in Nurses & Service Menu
3.12. Protective system Preventing Overfill
3.13. Program Lock
3.14. Last fill with Same or Different Dextrose
3.15. Mode of operation: Continuous
3.16. Volumetric Accuracy reported: Greater of 1% or +/- 10ml
3.17. Operating Voltage: 220Vac
3.18. Air detection capability: Bubbles exceeding 3CC
3.19. Battery backup for Program: Up to 2 Hours

LOT 7-11 Automated Peritoneal Dialysis (APD) Machines

Item Code No.	Department	Section	Item Description
LOT 7-11	Renal/Hemodialysis	Patient area	Automated Peritoneal Dialysis (APD) Machines

1. General Description

Automated Peritoneal Dialysis Cycler

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

3.1. Therapy
e. CCPD/PD
f. Hi-Dose CCPD
g. Tidal
h. Hi-Dose Tidal
3.2. Automatic Calculation of Number of Cycles and Dwell time
3.3. Use Disposable cassette assembly for therapy
3.4. Built in fluid warmer: 35 to 37 Degree C
3.5. Maximum Total Programmable Volume : 80L
3.6. Therapy time : 0 to 48 Hrs
3.7. Standard and Low fill Modes
c) Low fill Mode fill volume : 60 to 1000ml
d) Standard Mode fill volume : 200 to 3000 ml
3.8. Self Correcting, Continuous and system Error Alarms for maximized Patient safety
3.9. Use Pneumatic pump to exert pressure for fill/drain the patient
3.10. Built in Event Log & Therapy Log
3.11. Built in Nurses & Service Menu
3.12. Protective system Preventing Overfill
3.13. Program Lock
3.14. Last fill with Same or Different Dextrose
3.15. Mode of operation: Continuous
3.16. Volumetric Accuracy reported: Greater of 1% or +/- 10ml
3.17. Operating Voltage: 220Vac
3.18. Air detection capability: Bubbles exceeding 3CC
3.19. Battery backup for Program: Up to 2 Hours

LOT 7-12 PD chair complete with over-chair tables

Item Code No.	Department	Section	Item Description
LOT 7-12	Renal/Hemodialysis	Patient Area	PD chairs complete with over-chair tables

1. General Description

Dialysis chair complete with adjustable backrest, knee rest, trendelenberg/ reverse trendelenberg, and upholsted water proof mattress, Electrical type

Item Code No.	Department	Section	Item Description		
LOT 7-12	Renal/Hemodialysis	Patient Area	PD chairs complete with over-chair tables		
2. Composition					
2.1	Main unit				
1. Should be ergonomically designed and comfortable to the patient. 2. Should allow the patient to test in full sitting and lying position. 3. Should have electronically controlled adjustment for back section, leg section and height. 4. Should have a patient handset with controls for all positions. 5. Arm set should fold to allow side entry of the patient. 6. Seat cushion should be removable, made of proper density foam and should have smooth surface for easy hygiene and cleaning. 7. Frame should be made up of corrosion free galvanized steel with powder coating and should have four swiveling castor wheels of which the front two should be lockable. 8. Should be able to withstand a maximum load of 200kg. 9. Should have facility for online weight measurement (optional). 10. Should have detachable drip stand and a tray table. 11. Power input 220-240 VAC, 50HZ fitted with BS plug. 12. Manufacturer/Supplier should have ISO certification. 13. All electrical actuators and mechanisms should be housed inside the structure making the product safer. 14. User/technical/maintenance manuals to be supplied in English. 15. Certificate of calibration and inspection					
3	Quality Standards				
3.1	Manufacturing standards	ISO 9001, ISO 13485			
3.2	Conformity to standards	CE marked and FDA approved, IP X4 electrical protection standard			
4	Delivery point				
4.1	See Schedule	Delivery point			
5	Warranty				
5.1	Equipment	Minimum of one year after delivery			
6.2	Equipment System	Nil			

LOT 7-13 Emergency Trolley

Item Code No.	Department	Section	Item Description
LOT 7-13	Renal/Hemodialysis	Patient Area	Emergency Trolley

1. General Description

Resuscitation trolley for use in ICU. Epoxy coated mild steel, with drawers, protection perimeter and defibrillator holder. The Unit should be mobile on four castors , 2 lockable

2. Composition

2.1.	Main unit,		

3. Performance Specifications

3.1. Main Unit

3.1.1. Should be durable with Ergonomic handle and should have easy grip
3.1.2. Height should be 40-45”
3.1.3. Should have 6-8 drawers of sizes 3x3”,2x6”,1x9”
3.1.4. Should have interchangeable 3”,6”,9” drawers which run smoothly on good quality channels
3.1.5. Should have provision of side storage which allows storage of variety accessories like can, storage bins, glove storage, sharp container set
3.1.6. An over bridge can with baskets, shelves and bins to keep important things
3.1.7. Should have AMS top surface & advance polymer material which is easy to clean. It should not dent, chip flake or corrode
3.1.8. Should be easily rolling and has toe brakes
3.1.9. Should have I.V. pole with clamps ach 3” drawer should have provision for 25-30 compartments
3.1.10. Should have twin swivel castors & central lock
3.1.11. Should be CE and ISO 9001/2000 and FDA approved
3.1.12. Should have CPR board & O2 cylinder holder

LOT 7-14 Portable Suction Units

Item Code No.	Department	Section	Item Description
LOT 7-14	Renal/Hemodialysis	Patient Area	Portable Suction Units

1. General Description

Suction machine suitable for use in theatre, for both adult and pediatric use.
Should be constructed from coated non-corrosive, extreme heat resistance material and electrically insulated and mobile on antistatic castors φ 60 mm, 2 No. lockable, with high level push handle.

2. Composition

Item Code No.	Department	Section	Item Description
LOT 7-14	Renal/Hemodialysis	Patient Area	Portable Suction Units
2.1.	Main unit		
3. Performance Specifications			
3.1.	Main Unit		
3.1.1.	High flow rate	40 litres per minute.	
3.1.2.	Suction vacuum	Maximum 700mmHg	
3.1.3.	Suction pump	oil free	
3.1.4.	Jars	2 X 2 liter polycarbonate autoclavable and unbreakable complete with overflow devices and valves.	
3.1.5.	Vacuum gauge	Graduated in mmHg and kPa.	
3.1.6.	Vacuum control	Adjustable at the front panel	
3.1.7.	Switch	Main on front panel and foot switch (water proof type)	
3.1.8.	Cable towage	On back with reversible cleats	
3.1.9.	Anti-bacterial filters	Available preferable autoclavable	
3.1.10.	Suction tubing connection	Antistatic neoprene or silicone	
3.1.11.	Safety	Overflow pump protection	
3.1.12.	Handle	High level push handle type	
3.1.13.	Movements	Mobile on four antistatic castors 2 No. lockable.	
4.	Physical characteristics		
4.1.	Main unit	Mobile on castors with push handle	
5.	Operating environment		
5.1.	Power Requirements	240V, A/c 50 Hz, Single phase, 3 Pin Plug BS standard, 3m long cord with PE	
5.2.	Ambient temperature	10^{o} C to 40^{o} C	
5.3.	Relative humidity	20% to 90%	
6.	Accessories	The following accessories will be provided as startup kits.	
6.1.	Sterilizable, silicone tubing	5 Set	

Item Code No.	Department	Section	Item Description
LOT 7-14	Renal/Hemodialysis	Patient Area	Portable Suction Units
6.2.	Bacterial filters	1 Box	
6.3.	Foot switch	1 No.	
6.4.	Cannula with handle for general purpose	4 Sets	
1.	Quality standards		
1.1.	Manufacturing standards	EN 10079-1, IEC 60601-1, ISO 9001, ISO 13485	
1.2.	Conformity to standards	CE and FDA marked	
2.	Local back up service		
2.1.	Available	Should be available locally	
2.2.	Capacity to service equipment	Agent shall have adequate facilities, spare parts, and qualified and skilled technical staff	
3.	Delivery point		
3.1.	See Schedule	For inspection and testing	
3.2.	Nil		
4.	Pre installation requirements		
	Nil		
5.	Installation and testing		
	Complete installation and setup of the machine as per manufacturer's instructions		
6.	Training		
6.1.	User Training	On site user training on operation and daily up keep	
6.2.	Maintenance training	Onsite maintenance training on preventive maintenance	
7.	Technical documentations		

LOT 7-15 Blood Sugar Machines

Item Code No.	Department	Section	Item Description
LOT 7-15	Renal/Hemodialysis	Patient Area	Blood Sugar Machines

1. General Description

2. Composition

2.1.	Main unit				

GLUCOMETER WITH

STRIPS Product Eligibility Criteria:

- Product should be CE as per IVD (Invitro Diagnostic Device) or USFDA Certified.
- Manufacturer should be ISO 13485 certified for quality standards.
- Test strips should be certified by the Kenya Laboratory Technologists and Technicians Board.

3. **Technical Specifications**

3.1. Small, portable and user-friendly device is required. Blood should not go into the Glucometer while measurement.
3.2. It should be able to measure whole blood in capillary mode.
3.3. Measurement range: 30 to 600 in mg/dl.
3.4. Accuracy should be as per International Standard ISO 15197: 2013 (Requirements for Blood- glucose monitoring systems for self-testing in managing diabetes mellitus). Supporting certificate or test reports from the National Institutes of Biologicals (NIB) must be furnished of last 2years with the technical bid.
3.5. Reproducibility/Precision: ± 5%
3.6. Display should be 40mm ± 5 mm or better measured diagonally.
3.7. It should be battery operated electronic system and the battery life should be for at least 500 tests.
3.8. Self-life of strips: Minimum 6 months at the time of delivery to consignee.
3.9. Packing of strips should not be more than 50 strips in a pack.
3.10. Strips should work for minimum 3 months after opening of strips pack.
3.11. Operating temperature for both device and test strip should be 100C to 400C.
3.12. Control solution for checking reliability of strips will be supplied free of cost as & when required.
3.13. Ready availability of reagent test strips, battery & other consumables across BIHAR for at least 5 years.
3.14. **A complete user operational guide shall have to be supplied along with each machine, printed in Hindi and English language.**
3.15. **A lancet applicator/ lancet holder shall have to be supplied along with each machine.**

Scope of supply:

Item Code No.	Department	Section	Item Description
LOT 7-15	Renal/Hemodialysis	Patient Area	Blood Sugar Machines

a) Glucometer: 1no.
b) Standard batteries: 1Set
c) Carrying case: 1no.
d) Control solution/Control Strips
e) Glucose test strips: As per Order
f) Auto disables lancets: As per order
g) **A lancet applicator/ lancet holder**

LOT 7-16 Bioimpedance Analysis Machine

Item Code No.	Department	Section	Item Description
LOT 7-16	Renal/Hemodialysis	Patient area	Bioimpedance Analysis Machine

1. General Description

Direct Segmental Multi-frequency Bioelectrical Impedance Analysis Method (DSM-BIA)

Electrode Method: Tetrapolar 8-point Tactile Electrode System

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

OUTPUT:

Basic Items
Bodyweight (auto detected)
Intracellular water, Extracellular water, Total Body water (TBW),
Protein, Bone Mass, Fat Mass, Percent Body Fat (PBF),
Muscle Mass, Skeletal Muscle, Fat Free Mass (FFM),
Visceral Fat Index, Percent Body Protein/ Bone/ Water,
Body Mass Index (BMI), Waist to Hip Ratio (WHR),
Basal Metabolic Rate (BMR), Edema Index (EXF/TF)

Fitness Score, Body Shape Graph, Body Age

Segmental Analysis
Segmental Fat, Segmental Muscle, Segmental Bone
Muscle Analysis
Skeletal Muscle level, Upper-Lower Balance, Left-Right Balance
Weight Management
Target Weight, Weight Control, Fat Control, Muscle Control Obesity Analysis

Item Code No.	Department	Section	Item Description
LOT 7-16	Renal/Hemodialysis	Patient area	Bioimpedance Analysis Machine

BMI Grade, PBF grade, WHR type
Nutrition Analysis
Protein, Fat, Mineral Level

Impedance of Each Segments & Frequencies

a. Resistance: 100-1500Ω or low
b. Current: 1000μA or low
c. Power Supply : AC 240V
d. Display: TFT touch LCD color at least 10'
e. External Interface: RS 232C(9 pin), USB port, RJ45(10/100Base-T) Ethernet
f. Printer: Laser
g. Measurement duration: < 120seconds
h. Age range: 12 to 80 years or better
i. Operation environment: 10~45Deg. C 30 ~90% Humidity
j. Storage environment: 0~40 Deg C. 30~90% Humidity

LOT 7-17 Plasmapheresis Machine

Item Code No.	Department	Section	Item Description
LOT 7-17	Renal/Hemodialysis	Patient area	Plasmapheresis Machine

1. General Description

ONLINE BLOOD CELL SEPARATOR (APHERESIS MACHINE)

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

3.1. Fully automated microprocessor controlled continuous flow Cell Separator with user friendly touch screen operation.
3.2. Should be a donor & operator friendly unit.
3.3. Should have single arm procedure for all protocols.
3.4. Mobile, easily transportable to patient site for therapeutic uses .
3.5. It should operate on battery back up (UPS) and should also operate at least two hours on a commercially available one KVA UPS.
3.6. It should have a high yield leuco-depleted platelet collection from a single donor with minimal plasma and should have capability of collecting 3x1011 or more

Item Code No.	Department	Section	Item Description
LOT 7-17	Renal/Hemodialysis	Patient area	Plasmapheresis Machine

platelets from a single donor within 60 minutes using a single arm / double arm procedure.

3.7. On entering the patient data and procedure characteristic, system automatically set run parameters with predicted run results and should decide yield based on the post HCT , Platelet count and percentage of blood volume to be depleted from donor.

3.8. It should collect platelet in a pre suspended form.

3.9. It should have self loading pumps to simplify and speed up apherasis kit installation .

3.10. It should allow collection of up- to two units of leucodepleted RBC concentrated, Both Autologous and Homologous Red Blood Cells and Leuco-depleted platelets.

LOT 7-18 Prolonged Intermittent Renal Replacement Therapy (PIRRT)

Item Code No.	Department	Section	Item Description
LOT 7-18	Renal/Hemodialysis	Patient area	Prolonged Intermittent Renal Replacement Therapy (PIRRT)

1. General Description					
HEMODIAFILTRATION / SLED MACHINE					
2. Composition					
2.1.	Main unit				
3. Description of the medical supply unit design type					
Requirements					
Blood Pump					
Flow rate range: 50-600 ml/min with 5 ml/min increments					
Accuracy: ± 10%					
Effective blood flow rate should be calculated and displayed in a real-time basis automatically					
It shall be easy and safe to thread with bloodline diameter from 2 mm up to 10 mm					
Automatic set up and priming					

Item Code No.	Department	Section	Item Description
LOT 7-18	Renal/Hemodialysis	Patient area	Prolonged Intermittent Renal Replacement Therapy (PIRRT)
An hand crank shall be provided for returning blood to patient when electrical power is lost			
Air free pressure measurement on arterial line			
Heparin Pump			
Infusion rate: 0.5-10 ml/hr with 1 ml/hr increments			
Accuracy: ± 5%			
Positive and negative extracorporeal circuit pressure shall not affect the infusion rate			
Heparinization stop time (before end of treatment) between 0-23 hrs and should be user adjustable in 1 min increments			
Should have programmable auto bolus administration function			
Pressure Monitoring and Alarms			
Venous pressure monitoring			
Range: -100 to + 400 mmHg			
Accuracy: ± 10mmHg			
Venous pressure alarm			
Adjustable high & low alarm limits			
Alarm limit can spread and be reset automatically on adjustment of blood flow			
Arterial pressure monitoring			
Range; -250 to 250 mmHg			
Accuracy: ± 10 mmHg			
Arterial Pressure Alarm			
Adjustable high & low alarm limits			
Alarm limit can spread and be reset automatically on adjustment of blood flow			
Air Detection			
Alarm shall be activated for air bubbles and micro bubbles over the entire blood flow range			

Item Code No.	Department	Section	Item Description
LOT 7-18	Renal/Hemodialysis	Patient area	Prolonged Intermittent Renal Replacement Therapy (PIRRT)
The tenders shall state the sensitivity of the detection mechanism in terms of air bubble size at particular blood flow rate			
On detection of excessive air on the venous line, the blood pump shall be stopped and the venous return line shall be clamped at a point blow the air detector			
Both ultrasonic and optical sensors shall be used for air detection			
Dialysate Flow Rate			
Between 0 to 1000 ml/min with a resolution of 100 ml/min and should be user-selectable			
Accuracy: ± 10%			
Machine should be able to generate bicarbonate dialysis fluid from dry bicarbonate concentrate			
Temperature Control and Alarms			
Control range: 35.0 to 39.0 C in 0.5 C increment			
Alarm limits: 33.5 to 40.0 C			
Conductivity Control and Alarms			
The dialysate conductivity shall be adjusted by setting the sodium concentration			
Sodium concentration shall be adjustable from 125 to 150 mmol/l in 1 mmol/l increment and bicarbonate concentration shall be adjustable from 24 to 38 mmol/l in 0.5 mmol/l increment			
Conductivity measurement			
Range : 12.8 to 15.7 mS/cm			
Accuracy: ± 0.1 mS/cm			
Blood Leak Detection			
Alarm shall be activated for blood loss rate less than 0.5 ml/min into dialysate at maximum dialysate flow or hemoatocrit of about 20-25%			
Photo-detector shall be used			

Item Code No.	Department	Section	Item Description
LOT 7-18	Renal/Hemodialysis	Patient area	Prolonged Intermittent Renal Replacement Therapy (PIRRT)

Different types of alarms shall be shown to differentiate a true blood leak incident or dirtiness

Volumetric Ultrafiltration Control

UF rate: 0 to 4L/hr

Accuracy: ± 1%

UF volume: 0 to 10 L adjustable in 100 ml increment

Treatment Time: adjustable up to 22 hrs in 5 min increment

TMP monitoring: -100 to +400 mmHg

Isolated ultrafiltration (ISO-UF) process shall be provided

Ultrafiltration and sodium profiling shall be provided

Dialysis Parameter Display

The equipment shall digitally display the parameters:-

- Arterial pressure
- Venous pressure
- Trans-membrane pressure
- Blood flow rate
- Dialysate flow rate
- Dialysate conductivity
- UF volume
- UF rate
- Elapsed and remaining treatment time
- Heparin infusion rate

Online Clearance Monitoring

Built-in device for measurement of urea clearance (K), dialysis dose (Kt/V) and plasma sodium (Na) automatically

Item Code No.	Department	Section	Item Description
LOT 7-18	Renal/Hemodialysis	Patient area	Prolonged Intermittent Renal Replacement Therapy (PIRRT)
Measurements should be non-invasive, real-time and without any additional disposables			
Clearance measurement accuracy: +/-5% (SD) and Kt/V determination accuracy: +/-10% (SD)			
Ultrapure Dialysate filter			
Machine should have endotoxin, microbial and micro-impurities filter for dialysate fluid			
Machine should have two bacterial filter (Pyrogen filters) one at water inlet and one before water going to dialyzer			
Should have endotoxin retention capacity not less than 10^6IU.			
Machine should have an automatic program to change filter, including emptying & filling cycles.			
Filter change reminder should be available.			
Disinfection and Cleaning			
Facility for both chemical and heat disinfections is mandatory			
Various programmable cleansing cycles should be provided with timings with different disinfectants.			
Should be fully automatic operation including pre-rinse, chemical-intake for combined disinfection and decalcification, post-chemical mandatory rinse, and automatic power-off and history of disinfection			
Hemodiafiltration			
Both pre-dilution and post-dilution HDF or HF option should be available			
Automatic control substitution program with multiple parameter integrate function (pre or post-dilution, dialyzer, effective blood flow, hemoatocrit, total protein and UF rate).			
Should be capable of online preparation of substitution fluid which can be used for rinsing, priming, bolus injection and reinfusion purposes.			

LOT 7-19 – Dialysis Weighing Scale

Item Code No.	Department	Section	Item Description
LOT 7-19	Renal/Hemodialysis	Patient area	Dialysis Weighing Scale

1. General Description

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

3.1. Mobile Weighing Scale with height meter
3.2. Capacity approx. 0-300kg
3.3. With digital scale/readout
3.4. With mechanical height rod able to measure between 70cm-2000cm
3.5. With Sitting capabilities for disabled/weak patients
3.6. With BMI display
3.7. Easy to clean platform with reset to zero function.
3.8. With flat tread area platform approximately 360mm (W) X 630mm (D)
3.9. Height approx. 1000mm
3.10. With mechanical column scale
3.11. Displays weight with BMI function
3.12. Graduation approximately 500g.
3.13. Warranty 2 years
3.14. With Calibration Certificate
3.15. FDA/ CE Marked
3.16. With heavy duty transport castors
3.17. Operator and service manuals to be provided

Substitution fluid delivery rate: 50 to 500 ml/min in 10 ml/min increment, with accuracy ± 10%

Prolonged intermittent renal replacement therapy

Should be able to provide SLED/PIRRT for up to 20 hours continuously without need of rinsing

Safety features

Should be with volumetric balancing system

Emergency button enabled bolus, UF control, BPM control

User interface should be a touch screen with functional keys with graphical

Item Code No.	Department	Section	Item Description
LOT 7-19	Renal/Hemodialysis	Patient area	Dialysis Weighing Scale
display of treatment data and various menus (blood system, preparation, dialysate, UF, treatment, reinfusion, cleaning, system parameters)			
Power input to be 220-240VAC, 50Hz fitted with Indian plug. Battery backup should be such that the equipment shall be able to operate the extracorporeal circuit without interruption for at least 15 min in case of AC power failure.			
Machine should have an in-built automated non-invasive blood pressure monitor			
Alarms should have both audio and visual components			
Upgradable to future software developments and can be linked with Patient Data Management System			
All consumables and attachments required for installation and standardization of system to be given free of cost. In addition, 4 bacterial filters, 50 high flux compatible dialyzers of different surface areas, and 100 compatible tubings to be supplied free of cost.			
Comprehensive training for lab staff and support services till familiarity with the system			
Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.			
Documentation			
User/Technical/Maintenance manuals to be supplied in English.			
Certificate of calibration and inspection.			
List of Equipment available for providing calibration and routine Preventive Maintenance Support, as per manufacturer documentation in service/technical manual.			
List of important spare parts and accessories with their part number and costing.			
Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out			
US FDA or European CE or ISO approved/certified			

Item Code No.	Department	Section	Item Description
LOT 7-19	Renal/Hemodialysis	Patient area	Dialysis Weighing Scale
Shall comply with IEC 60601-2-16 SAFETY requirements of medical electric equipment part 2- particular requirements for the safety of Hemodialysis equipment.			
Five (5) years warranty and Five (5) years CMC.			

LOT 7-20 Drip stand (Portable)

Item Code No.	Department	Section	Item Description
LOT 7-20	Renal/Hemodialysis	Patient area	Drip stand (Portable)
1. General Description			
2. Composition			
2.1.	Main unit		
3. Description of the medical supply unit design type			
TECHNICAL SPECIFICATIONS FOR DRIP STAND The drip stand must be made of stainless steel with the following features: 3.1. Stable and strong stainless-steel structure 3.2. Four (4) stainless steel hooks each with 1kg load capacity 3.3. Adjustable height between approx. 150cm to 250cm 3.4. Large, five (5) limb stainless base 3.5. Five (5) castors with at least two brakes			

LOT 7-21 Procedure Trolley – *Dressing and Treatment Room*

Item Code No.	Department	Section	Item Description
LOT 7-21	Renal/Hemodialysis	Patient area	Procedure Trolley
1. General Description			
Procedure/Dressing Trolley			
2. Composition			

Item Code No.	Department	Section	Item Description
LOT 7-21	Renal/Hemodialysis	Patient area	Procedure Trolley

2.1.	Main unit				

3. Description of the medical supply unit design type
3.1. Overall approx. Size: 780mmL x 500mmW x 900mmH 3.2. Approximate shelf dimension 750mmL x 500mmW. 3.3. Tubular CRC frame mounted on four castors of minimum 100mm dia and should be pre-treated and epoxy coated finish. 3.4. Two S.S. of 304 grade shelves with protective railings on three sides. 3.5. Should have provision for holding bowel and bucket. 3.6. Warranty: 2year

LOT 7-22 Drug Fridges

Item Code No.	Department	Section	Item Description
LOT 7-22	Renal/Hemodialysis	Patient area	Refrigerator, Drug

1. General Description					
1.1. Refrigerator, drug.					
2. Composition					
2.1.	Main unit				
3. Performance Specifications					
3.1.	Main Unit				
3.1.1.	Material	Insulated galvanized steel			
3.1.2.	Type	Compressor, electrical			
3.1.3.	Door	Single door, glass type			
3.1.4.	Total net capacity	350 litres			
3.1.5.	Temperatures range	+2^{o}C to + 8^{o}C stable			
3.1.6.	Ambient temperature	10 ^{o} C to 35^{o}C			
3.1.7.	Shelves	Provided, adjustable and extractable			
3.1.8.	Thermometer	Digital, external mounted, with temperature record history			
3.1.9.	Control	Electronic, Microprocessor based			
3.1.10.	Refrigerant	CFC free			

Item Code No.	Department	Section	Item Description
LOT 7-22	Renal/Hemodialysis	Patient area	Refrigerator, Drug
3.1.11.	Alarm	Provided, audible and visible	
3.1.12.	Power	240V, 50 Hz, a.c	
4.	Accessories		
4.1.	Nil		
5.	Quality standards		
5.1.	Manufacturing standards	ISO 9001, ISO 14001, ISO 13485	
5.2.	Conformity to standards	CE and FDA marked.	
6.	Delivery point		
6.1.	See Schedule	For inspection and testing	
6.2.	Nil		
7.	Warranty		
7.1.	Equipment	Minimum of one year after commissioning on all parts.	
7.2.	Equipment System	Nil	
8.	Accessories		
8.1.	Automatic Voltage Regulator (AVR)		
8.1.1.	Capacity	Over VA of the main Unit	
8.1.2.	Input	Ac 240V, 50Hz, Single phase ± 15%	
8.1.3.	Output	Ac 240V, 50Hz, Single Phase ± 2.5 %	

LOT 7-23 Diagnostic set

Item Code No.	Department	Section	Item Description
LOT 7-23	Renal/Hemodialysis	Patient area	Diagnostic set
1. General Description			
Diagnostic Set			
2. Composition			
2.1. Main unit			

Item Code No.	Department	Section	Item Description
LOT 7-23	Renal/Hemodialysis	Patient area	Diagnostic set

3. Description of the medical supply unit design type

3.1. 3.5-volt Ophthalmoscope and otoscope set suitable for Wall-mounting with locking collars and locking device. Must include light intensity rheostat in the handle and automatic on/ off cradle switches. All screws, wall plugs etc. necessary for mounting the unit on the wall must be included.

i. Ophthalmoscope, mirror type with 3.5 volt Halogen/LED lamp, sliding focusing device from -25 to +40 diopters and five apertures including a slit, pinhole, large hole fixation or white line grid and red-free filter.

ii. Otoscope, fibre-optic with 3.5 volt Halogen/LED lamp 2mm, 3mm, 4mm and 5mm polypropylene flanged specula.

iii. Two spare lamps for ophthalmoscope and two spare lamps for the otoscope.

iv. Wall mounting facility with locking collars, mains operated and +-3m spiral cord with sealed 3pin plug.

v. Locking device to secure Ophthalmoscope and otoscope heads to handles

Specula for item No. ii and spare lamps must be freely available.

LOT 7-24 Vital Signs Monitor

Item Code No.	Department	Section	Item Description
LOT 7-24	Renal/Hemodialysis	Patient Area	Vital Signs Monitor

1. General Description

Vital signs Monitor suitable for use in operating theaters. Should be capable of continuous measuring/ monitoring of the following parameters in adults, neonatal and pediatric.

- SpO_2
- Temperature
- Blood pressure
- Pulse Rate

2. Composition

2.1.	Main unit				

3. Performance Specifications

3.1.	Main Unit	
3.1.1.	The unit should be a model or type on current production capable of measuring/monitoring the following parameters	
3.1.2.	SpO_2, with reusable sensor	0 - 100% ± 3%
3.1.3.	Pulse Rate	30-300 bpm ± 1%

Item Code No.	Department	Section	Item Description
LOT 7-24	Renal/Hemodialysis	Patient Area	Vital Signs Monitor
3.1.4.	Temperature	$0\text{-}50^0C \pm 0.1\%$	
3.1.5.	NIBP	Mean 10- 300mmHg ± 5 mmHg	
3.1.6.	IBP	Mean 50 – 300mm Hg ± 1 mmHg	
3.2.	Display	At least 12 inches color touch screen type/rotary knob	
3.2.1.		6 to 8 waveforms mode with large font	
3.3.	Printer	Inbuilt, thermal array or equivalent	
3.3.1.		Two speed, selectable	
3.3.2.		Port for external printer	
3.4.	Networking	Port for networking with Ethernet or equivalent Or Serial Port RS 232	
3.5.	Input		
3.6.	Storage	Capable of storing patient data	
4.	Safety requirements		
4.1.	Audio and visual alarm	For all parameter.	
4.2.	Alarm setting limits	Adjustable by user	
4.3.	Low battery indicator	Audio and visual alarm	
4.4.	Internal battery	Provided, rechargeable, can operate for at least 3 hours	
5.	Physical characteristics		
5.1.	Main unit		
5.2.	Dimensions	Portable with a recharge dock or equivalent recharging unit	
6.	Operating environment		
6.1.	Power Requirements	240V, A/c 50 Hz, Single phase, 3 Pin Plug, 3m long cord BS type with PE	
6.2.	Ambient temperature	10^o C to 40^o C	
6.3.	Relative humidity	20% to 90%	
7.	Accessories	The following accessories will be provided as startup kits.	
7.1.	SpO_2 connection cable and sensor (finger probe), reusable	2 Sets	

Item Code No.	Department	Section	Item Description
LOT 7-24	Renal/Hemodialysis	Patient Area	Vital Signs Monitor
7.2.	Adult cuff	2 Sets	
7.3.	Peadiatric cuff	2 Sets	
7.4.	Temperature connection cable and probe (reusable)	2 Sets	
7.5.	Recording paper	2 sets of 5 rolls	
7.6.	Grounding lead	1 No.	
8.	Quality standards		
8.1.	Manufacturing standards	IEC 60601-1, ISO 9001, ISO 13485	
8.2.	Conformity to standards	Directive 2004 / 108 / EC, CE and FDA approved	
9.	Local back up service		
9.1.	Available	Should be available locally	
9.2.	Capacity to service equipment	Agent shall have adequate facilities, spare parts, consumables and qualified and skilled technical staff	
10.	Delivery point		
10.1.	See Schedule	For inspection and testing	
10.2.	Nil		
11.	Installation and testing		
	Complete installation and setup of the machine as per manufacturer's instructions		
12.	Training		
12.1.	User Training	On site user training on operation and daily upkeep	
12.2.	Maintenance training	Onsite maintenance training on preventive maintenance	

LOT 7-25 Ear Electronic Thermometer

Item Code No.	Department	Section	Item Description
LOT 7-25	Renal/Hemodialysis	Patient area	Ear Electronic Thermometer

1. General Description

Digital Thermometer

2. Composition

2.1.	Main unit				

3. Description of the medical supply unit design type

3.1. Range of temperature measurement 32 ^{0}C- 42^{0}C (89.60F-109.40F)
3.2. Can be calibrated in both centigrade and Fahrenheit, but if only one option is available, then Centigrade is preferable.
3.3. Buzzer signal function.
3.4. Takes 10-15 seconds to measure temperature.
3.5. Can be used in the armpit/axilla, orally and rectally.
3.6. Accuracy of temperature ± 0.1 0C and ± 0.2 F.
3.7. User's interface: LCD display
3.8. Manufacturer should be ISO13485 approved
3.9. Product should be FDA/CE approved