


**Equipment Technical Specification for Proposed
100 Bedded Wete Hospital,
Pemba Island, Zanzibar**



**OCTAVO SOLUTIONS PVT LTD
G-27, LOWER GROUND, KAILASH COLONY,
NEW DELHI - 110048
TEL: 011-41658335 Ph.: +91-9810254098
E-mail: bidhandasoctavo@gmail.com**

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PROPOSED EQUIPMENT LIST

GROUND FLOOR			
EMERGENCY DEPARTMENT			
SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Emergency Bed	11	
2	Transport Ventilator	2	
3	Syringe Pump	3	
4	Infusion Pump	3	
6	ECG Machine	2	
7	Monitor	11	
8	Defibrillator	1	
9	Carsh Cart	2	
10	Nebulizer	1	
11	Stretchers Trolley	3	
12	Laryngoscopy	2 (set)	
RADIOLOGY			
SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	CT -Scan(32- Slice)	1	
2	Ultrasound	1	
3	Digital X-ray 300 mA	1	
4	Digital X-ray 60 mA	1	
5	X-Ray Viewer	1	
6	Lead Apron	5	
LABORATORY			
SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Biochemistry analyzer (Fully automatic)	1	
2	Haematolyte analyzer	1	
3	Electrolyte Analyzer	1	
5	Auto Clave Vertical	1	
6	VDRL rotator	1	

7	Laminar air flow	1	
8	Electronic colony counter	1	
9	Centrifuge(16 tube)	3	
10	Binocular Microscope	2	
11	Automatic Elisa reader	1	
12	Incubator	1	
13	Hot air Oven	1	
14	Refrigerator	1	

Physiotherapy

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Short Wave Diathermy (SWD)	1	
2	Interferential Therapy (IFT)	1	
3	Wax Bath	1	
4	Cart Wheel	1	
5	Ultrasonic	1	
6	Traction Machine (lumber, Card)	1	

OPD

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Stethoscope	10	
2	Knee Harmer	10	
3	Sphygmomanometer	10	
4	Weighing machine Digital	3	
5	Height Measuring Scale	3	
6	Examination lamp, mobile (wall mount preferred)	2	
7	X-Ray viewer	10	
8	Spot light	4	
9	Thermometer clinical	10	
10	Patient Examination Couch	10	
	Rechargeable Hand held Pulse oxmeter	3	

FIRST FLOOR

GENERAL WARD

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Semi Flower Bed	85	
2	Flower Bed	15	

3	Commode chair	10	
4	Trolley	10	
5	Wheel Chair	10	
6	Stethoscope	12	
7	Thermometer	12	
8	Dressing pack	12	
9	Refrigerator	2	

SECOND FLOOR

OPERATION THEATER

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	OT Table	3	
2	OT Light	3	
3	Cautery Machine	3	
4	Anesthesia Machine	2	
5	Anesthesia workstation	1	
6	ETCO2 Monitor	3	
7	Defibrillator	1	
8	C-Arm	1	
9	Flash Autoclave	1	
10	Operating Microscope	1	
11	Carsh Cart	1	
12	Infusion Pump	3	
13	Syringe Pump	3	
14	Pendant (including gas outlets type of BS EN 9170-1 and power socket of G type)	3	
15	Laryngoscope	3 (set)	
16	Pass Box	3	

ICU- SICU/MICU/NICU/PICU

SL NO	EQUIPMENT LIST	QTY	Price Usd
1	ICU Beds	20	
2	Monitor	20	
3	Defibrillator	4	
4	Portable Suction Machine	4	

5	Syringe Infusion Pump	4	
6	Ventilator	4	
7	Transport Ventilator	1	
8	ECG Machine	4	
10	Nebulizer	4	
11	Laryngoscope	3 (set)	
12	Glucometer	3	

CSSD

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Auto Clave (Horizontal Cylindrical) (500*1200mm) of digital temp. controller with timer & automatic water feed system	1	
2	Auto Clave (Horizontal Cylindrical) (400mm*600mm) of digital temp. controller with timer & automatic water feed system	1	
3	Drying heating cabinet	1	
4	Ultra-sonic Cleaner of 30 lit	2	
5	Cssd Rack (1200 (W) X 500(D) X 1800 (H) Mm)	2	
6	Washing Station (2400 X 650 X 900 Mm (L X H X H))	2	

BLOOD BANK

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Donor Chair	2	
2	Blood Collection Monitor	1	
3	Cryoprecipitate Bath	1	
4	Blood Bank Refrigerator (215 Ltr. For 200 Blood Bags) With Stabilizer – 4 KVA	1	
5	Ultra Low Temperature Research Cabinet Of 400 Ltr. With Horizontal Mode	1	
6	Medical Refrigerator Of 300 Ltr.	1	
7	Plasma Freezer -40 deg. C	1	
8	Ultra Low Deep Freezer -80 deg C	1	
10	Platelet Agitator	1	
11	Tube Sealer	1	
13	Elisa Plate Rotator	1	
14	Plasma Separator	1	
15	Syringe Needle Destroyer	1	
16	Binocular Microscope	1	

17	Coagulometer	1	
18	PH meter	1	
19	Cell counter	1	
20	Haemoglobinometer, electronic	1	

SURGICAL INSTRUMENTS

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Gyae Set	1	
2	Obst Set	1	
3	General Surgery Set	1	
4	Ortho paedics Set	1	
5	Neuro Surgery Set	1	
6	Surgical set, minor and surgical instruments	1	
7	Surgery Set, Wound dressing Instruments	1	
8	Laparotomy Instrument Set	1	

NON-MEDICAL EQUIPMENT

SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Doctor table	12	
2	Doctor chair	12	
3	Office Desk	12	
4	Staff Chair	20	
5	Change locker-12 compartment	10	
6	Floor Cleaning trolley	7	
7	Clean Linen Trolley	7	
8	Dirty Linen Hamper	10	
9	Conference Table	1	
10	Conference Chair	12	
11	Storage racks	12	
12	Multi Seater Chair-3 Seater	12	
13	Waste bin-SS	12	
14	Water dispenser with cold & hot outlet	5	
15	White board	5	
16	Lockable Cabinet	5	
17	Computer System	30	

18	Gazebo	4	
19	Round Dinning table	6	
20	2 seating Chair & Table	8	
LAUNDARY			
SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Sluicing	1	
2	Washer	1	
3	Hydroextractor	1	
4	Calendring	1	
5	Drying	1	
6	Hard Press	1	
7	Sewing Machine	1	
8	Racks	1	
KITCHEN			
SL NO	EQUIPMENT LIST	QTY	Price USD \$
1	Cooking pot	4	
2	Potato Peeler	2	
3	Gas cooker	1	
4	Weighing machine	1	
5	Food trolley	1	
6	Meat mincer	1	
7	Lactometer	1	
8	Flasks	1	
9	Refrigerator -domestic	1	
10	Dish Washer	1	
	Grand total		



TECHNICAL SPECIFICATIONS

DEPARTMENT OF EMERGENCY	
Emergency Bed	<ol style="list-style-type: none"> 1. Framework made of M.S. Tube 2. Top made of perforated CRCA MS sheet. 3. Tubular and ABS Head & Foot Bows of unequal height. 4. Provision for I.V. Rod at all corners. 5. Overall Size: 2060L x 900W x 600H mm(Approx) 6. Finish: Epoxy Powder Coated/ Baked Paint <p>This is made of Framework made, Top made of perforated CRCA MSsheet, Size: 2060L x 900W x 600H mm and Finish by Epoxy Powder Coated/ Baked Paint.</p>
Transport ventilator	<p>Technical Specification</p> <ol style="list-style-type: none"> 1 Description of Function <ol style="list-style-type: none"> 1.1 The portable ventilator is used to transport a patient with artificial respiration support or home care of a patient after discharge from a hospital 2 Operational Requirements <ol style="list-style-type: none"> 2.1 The portable ventilator should be light weight (< 10 kg) 2.2 Should be microprocessor controlled, portable, light weight. Should operate with main electric supply as well as with battery. Should be able to work both with high pressure O₂(pipeline) and Inbuilt low pressure O₂ source, connectors (both sides) and high-pressure tubing of appropriate length to be supplied 3 Technical Specifications <ol style="list-style-type: none"> 3.1 Should have turbine/ venturi/jet mixing/piston-technology for supplying airoxygen Mixture 3.2 Should have following modes of ventilation: CMV, Assist-contol, SIMV, PS, PEEP, NIV <ol style="list-style-type: none"> 3.3 Audio-visual alarms for <ol style="list-style-type: none"> a. Low supply pressure b. High/low airway pressure c. Leakage/disconnection d. Power failure e. Apnea f. Low battery 3.4 Should have following settings <ol style="list-style-type: none"> a. TV 50 – 1500ml b. PEEP/CPAP- 0-25cm H₂O c. PS- 0-30cm H₂O d. RR up to 40bpm e. I: E ratio 1:3 to 2:1

	f. FiO2 21 – 100%
	<p>3.5 Battery backup for minimum 3 - 6 hours.</p> <p>3.6 Should fix, on rails of transport trolley and on stand with wheels</p> <p>4 System Configuration Accessories, spares and consumables</p> <p>4.1 Portable Ventilator-01</p> <p>4.2 Adult Reusable /Autoclavable Silicon Patient Circuit-02</p> <p>4.3 Paediatric Reusable/Autoclavable Silicone Patient Circuit-01</p> <p>4.4 Oxygen Hose-01</p> <p>4.5 Rechargeable Batteries- 01 set</p> <p>4.6 NIV mask-03 sizes, one piece each</p> <p>5 Environmental factors</p> <p>5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%</p> <p>5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%</p> <p>6 Power Supply</p> <p>6.1 Power input to be 220-240VAC, 50Hz</p> <p>7 Standards, Safety and Training</p> <p>7.1 Product Should have US FDA or BIS or European CE with four digit notified body number certificate and certificate to be submitted.</p> <p>7.2 Manufacturer should have ISO certification for quality standards.</p> <p>7.3 Product should have Airworthiness RTCA DO-160 D, section 7,8,21 and Vibration standard MIL STD 810F, method 514.5 certifications. (Preferable)</p> <p>8 Documentation</p> <p>8.1 User Manual in English</p> <p>8.2 Service manual in English</p> <p>8.3 Certificate of calibration and inspection from factory.</p> <p>8.4 List of important spare parts and accessories with their part number and costing</p> <p>8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.</p>

Syringe pumps	Technical Specification <ol style="list-style-type: none"> 1 The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system. 2 Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/-2% or better, with automatic syringe size recognition. 3 Should have US FDA or BIS or European CE with four digit notified body number certificate and certificate to be submitted. 4 Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.
	<ol style="list-style-type: none"> 5 Bolus rate should be programmable to 40 to 1000 ml/hr or more with infused volume display and one key press bolus. Reminder audio after every 1 ml delivered/programmable bolus should be available 6 Display of Drug directory of more than 50 drugs, customized and adjustable. 7 Key board locking system for patient safety. 8 Keep Vein Open (KVO) must be available at 0.1 ml or set rate 9 Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg. or at least 3 selectable levels 10 Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as disengaged plunger, unsecured barrel etc. 11 Manual / automatic pusher 12 Anti bolus system to reduce pressure on sudden release of occlusion. 13 Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery pre-alarm and alarm, AC power failure and Drive disengaged alarm. 14 Rechargeable Battery having at least 4 hours backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred. 15 Mounting device/ Docking Station for at least four pumps as per requirement so as to enable to power up to 4 pumps with one power cord when mounted on

	<p>IV pole (Price to be quoted separately)</p> <p>16 The unit shall be capable of stored and operating continuously in ambient temperature of 10 - 50deg C and relative humidity of 15-90%</p> <p>17 Power input to be 220-240VAC, 50Hz.</p> <p>18 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.</p> <p>19 User Manual and service manual in English.</p> <p>20 List of important spare parts and accessories with their part number and costing.</p> <p>Added para: Clamp to be supplied with each machine</p>
Infusion pumps	<p>Technical Specification</p> <p>1 Description of Function</p> <p>1.1 Volumetric Infusion Pump is a medical device that delivers intravenous fluids and medicine to patients in hospitals, outpatient surgical centres, hospices, nursing homes, and in ambulances</p> <p>2 Operational Requirements</p> <p>2.1 Programmable volumetric infusion pump is required</p> <p>3 Technical Specifications</p>
	<p>3.1 Battery back-up operating time 4 hours.</p> <p>3.2 LCD programming display</p> <p>3.3 Pole clamp multi-function mounting clamp</p> <p>3.4 Nurse call output alarm, time and date settings</p> <p>3.5 Quick titration of rate or dose with volume-time programming</p> <p>3.6 Flow rate range (primary) 0.1 to 99.9 ml/hr. (0.1 ml increments) and 1 to 800 ml/hr. (1ml increments.)</p> <p>3.7 Volume to be infused 0.1 to 99.9 ml (o.1ml increments) and 1 to 9999 ml (1 ml increments).</p> <p>3.8 Both flow rates and volume to be infused should be configured to limit the maximum allowable range</p> <p>3.9 Accuracy $\pm 5\%$.</p> <p>3.10 Pump Database: events of 24 hours with real time.</p> <p>4 System Configuration Accessories, spares and consumables</p> <p>4.1 "Compatible with any standard (PVC) infusion sets available in local Indian market."</p> <p>4.2 10 numbers of required infusion sets should be supplied with the single unit</p> <p>5 Environmental factors</p> <p>5.1 The unit shall be capable of being stored</p>

	<p>continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%</p> <p>5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%</p> <p>6 Power Supply</p> <p>6.1 Power input to be 220-240VAC, 50Hz fitted with G type plug</p> <p>7 Standards, Safety and Training</p> <p>7.1 Should have US – FDA/BIS/European CE with four digit notified body number certificate for the product and certificate to be submitted.</p> <p>7.2 Manufacturer/Supplier should have ISO certification for quality standards.</p> <p>8 Documentation</p> <p>8.1 User/Technical/Maintenance manuals to be supplied in English.</p> <p>8.2 Certificate of calibration and inspection from factory.</p> <p>8.3 List of Equipment available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.</p> <p>8.4 Supply with Mobile stand with casters</p>
ECG Machine	<ul style="list-style-type: none"> • Twelve channel 5.7" or more LCD display for all 12 leads along with on screen details. • Recording for 12 channels simultaneously and have option for user selectable any lead as • Rhythm lead. Can able to print ECG at A4 size paper through inbuilt printer. • Recording speed selection of 5, 10/ 12.5, 25 and 50 mm/sec.
	<ul style="list-style-type: none"> • Sensitivity of 2.5,5,10,20 mm /mV. It should also have AGC(Automatic Gain Control) • Facility to enter patient information (Patient ID, Name, Age, Sex, Hospital's name) which get updated in system and is recorded on the recorder A4 paper • Patient memory function 20 pat 162 ients or more • Waveforms can be recorded. • Interpretation software. • Mains 220VAC with G type top plug and in built rechargeable battery backup atleast 2 hrs/ 30 ECG • Should have USB port/SD card (to be supplied by the bidder)/ equivalent port to send the data in the computer. • Equipment should be European CE with four digit notified body number or US FDA or BIS approved and certificate to be submitted.

	<ul style="list-style-type: none"> • Should supply with trolley with casters
Monitor	<ul style="list-style-type: none"> • Technical Specification • The monitor should have: <ul style="list-style-type: none"> • High – resolution colour TFT display of minimum 8" or more • It should be rugged and sturdy for transport use. • Should be able to monitor ECG, NIBP, SpO2., Two IBP Temperature and Respiration • Plethysmograph with perfusion indicator • Monitor should be at least three channel • 24 Hrs. graphical / tabular trends • NIBP trends memory should be at least 50 readings (tabular) • Suitable for Adult / paediatric/neonate. • Selectable Arrhythmia detection • Should have inbuilt two channel recorder • Must have Graded and Colour coded alarms • User selectable screen formats and user – friendly menu driven functions. • Power supply 220VAC with G type plug also provide Battery backup for at least 3 Hrs. • Should be supplied with: One 3 lead ECG cable, Reusable SpO2(adult, paediatric, neonate) sensor, NIBP cuffs (each for Adult ,child and neotate) • It should have US FDA or BIS or European CE with four digit notified body number certificate and certificate to be submitted. Product should have Airworthiness RTCA DO-160 D, section 7,8,21 and Vibration standard • MIL STD 810F, method 514.5 certifications. • Should be supplied with wall mount bracket
Defibrillator	<ol style="list-style-type: none"> 1 Description of Function <ol style="list-style-type: none"> 1.1 Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters. 2 Operational Requirements <ol style="list-style-type: none"> 2.1 Defibrillator should be Bi- Phasic, light weight and latest model 2.2 Should monitor vital parameters and display them. 2.3 Should print the ECG on thermal recorders. 2.4 Should work on Manual and Automated external defibrillation (AED) mode. Manual selection up to 360 J.
	<ol style="list-style-type: none"> 2.5 Should be capable of doing synchronized & asynchronized cardioversion. 2.6 Can be operated from mains as well as battery. 2.7 Should have defibrillator testing facility. 3 Technical Specifications <ol style="list-style-type: none"> 3.1 Should be a Low Energy Biphasic defibrillator monitor

	<p>with Recorder, having capability to arrest all arrhythmia within a maximum energy of 360 Joules</p> <p>3.2 Should monitor ECG through paddles, pads and monitoring electrodes and defibrillate through pads and paddles.</p> <p>3.3 Should have Automatic Lead switching to see patient ECG through paddles or leads.</p> <p>3.4 Should measure and compensate for chest impedance for a range of 25 to 200 ohms</p> <p>3.5 Should have a built in strip printer/ thermal recorder</p> <p>3.6 Should have charging time of less than 5 seconds for maximum energy. Charging indicator should be there.</p> <p>3.7 Should have bright display for viewing messages and ECG waveform for 4 seconds</p> <p>3.8 Should have external & internal paddles with paddles contact indicator –for good paddle contact.</p> <p>3.9 Single Adult and pediatric paddles should be available.</p> <p>3.10 Should have event summary facility for recording and printing at least 250 events and 50 waveforms</p> <p>3.11 Should have a battery capable of usage for at least 90 minutes or 30 discharges.</p> <p>3.12 Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc</p> <p>3.13 Should have facility for self test/check before usage and set up function</p> <p>3.14 Should have non invasive pacing, SPO2 and NIBP facility</p> <p>3.15 Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.</p> <p>4 System Configuration Accessories, spares and consumables</p> <p>4.1 Defibrillator with AED – 01</p> <p>4.2 Adult External Paddles with Built in Paediatric External Paddles</p> <p>4.3 Patient Cables-02</p> <p>4.4 ECG Rolls-05</p> <p>4.5 Adult and Paediatric SPO2 Reusable Sensor-01</p> <p>4.6 Adult and Paediatric NIBP cuff and Hose</p> <p>4.7 ECG electrodes-01 set</p> <p>4.8 Gel bottle.</p> <p>4.9 Should supply with trolley with casters</p> <p>5 Power Supply</p> <p>5.1 Power input to be 220-240VAC, 50Hz G type plug.</p> <p>6 Standards, Safety and Training</p>
	<p>6.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.</p> <p>6.2 The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along with the technical bid.</p>

	<p>6.3 Training for staff and support services till familiarity with the system.</p> <p>6.4 Should have local service facility. The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual</p>
<p>Crash Cart</p>	<ul style="list-style-type: none"> • The trauma care crash cart should have overall approx. size: overall approx. size: 960mm l x 500mm w x 1545mm h. • The trauma care crash cart should have 18g stainless steel (SS 304) tubular/Rectangular frame work. Two lockable plastic box units with 3 drawers should measure 305 mm l x 380 mm d x 320 mmh. • The trauma care crash cart should have following facilities: 6 nos. hand out bins to keep important supplies easily accessible of size approx. 110 mm w x 125 mm d x 75 mm h. light weight plastic box with three drawers each to hold emergency medicines, ambu. Bags, IV solutions, catheters. • The trauma care crash cart should have facility to carry monitors, ecg, suction apparatus on open areas at top centre and bottom shelves • The trauma care crash cart should have stainless steel saline rod made of 12 mm dia. 304 grade s.s. approx. 750 mm long and bent at top to have an arm of 400 mm approx. at the end of which of 6 mm dia. s.s. hook shall be welded with tig. • The trauma care crash cart should have 12.5 cms dia non-rustingswivelling castor wheels. Two having locking arrangement. • The trauma care crash cart should have pull out cardiac massage board made of plywood. • The trauma care crash cart should have oxygen cylinder stand epoxy powder coated, on one side. • The Manufacturer should have CE certification.

RADIOLOGY

CT Scan (32 slice)

- Rack System:
- Frame Size: 76cm, angle: +30 degrees, can be operated remotely –In/Out, Rise/Fall and scan rack tilt.
- Slip ring type: low pressure type slip ring
- Detector type: GOS solid detector
- Detector array: 32
- X-Ray System
- Bulb tube anode heat capacity: 5.3MHU
- The maximum cooling rate of the bulb tube is 815KHU/min
- Small focus: 0.5 x 1mm
- Big focus: 1 x 1mm
- Focus to the scanning field and other central distance: 570mm
- Minimum ball tube voltage: 80kV
- Maximum ball tube voltage: 140kV
- High Voltage Generator Power: 50.4kW
- Minimum Current: 10mA
- Maximum Current: 442mA
- Patient Bed:
- Maximum scan range (no metal range): 1950mm
- The highest point in the vertical movement of the bed is 990mm, the lowest of the vertical movement of the bed is 425mm
- Maximum bed surface movement speed: 150 mm/s; minimum movement speed: 5 mm/s
- Bed surface movement accuracy: + 0.25mm
- Bed loading capacity: 250kg
- Image Quality:
- Spatial resolution (X, Y axis plane): 20 lp/cm 0% MTF
- Spatial resolution (Z axis): 20 lp/cm 0% MTF
- Density resolution: (indicating the scan conditions):
- @ 0.30% 3mm
- CTDI vol: Head 16.6mGy/100mAs Body;
- 8.6mGy/100mAs
- Console and Computer System:
- The main console:

- Master computer: HP Z840
- Computer memory: 32GB
- Host Hard Drive: 7TB
- CD-ROM disc recorder system (DICOM compatible)
- Colour LCD flat panel monitors flicker 1 unit (progressive)
- Standard DICOM 3.0 interface: standard configuration with the following functions:
 - Send/receive
 - Query/retrieval
 - Basic print function
 - Storage
 - Network interface (RIS/HIS)
 - Laser camera interface
 - Remote diagnosis system and remote diagnosis platform
 - Virtual photo typesetting function
 - Console colour 3D display
 - Advanced video post processing workstation
 - Offers a range of clinical image processing software, such as MPR, VSSD, the maximum and minimum software package projection; standard configuration volume measurement software.
- Scan Parameters:
 - Scan time: 0.5, 0.6, 0.7, 0.8, 1, 2 sec
 - Imaging speed: 32 slice/loop
 - Scan layer thickness: 16 x 0.625
 - Scan layer thickness: 0.625mm, 1mm, 1.25mm, 2.5mm, 2mm, 3mm, 4mm, 5mm, 7mm, 8mm, 9mm, 10mm
 - Minimum reconstruction display field (FOV): 50mm
 - Maximum reconstruction display field (FOV): 500mm
 - Image reconstruction matrix: 512 x 512
 - Single scan time: 100 sec
 - Maximum scan pitch (Factor Pitch): 1.75:1
 - Minimum Factor (Pitch): 0.15:1
 - Positioning piece length: 1890mm
- Supply with extra work station connected to the CT scanner that radiologist can view images while machine is working.
- Supply with mobile CT injector having full accessories

	<p>to inject the contrast medium.</p> <ul style="list-style-type: none"> • If no PACS system dry pix smart printer is very important to a part of supplied CT scane
Ultrasound	<ol style="list-style-type: none"> 1. Description of Function High resolution Grey scale ultrasound fortrans-abdominal examination. 2. Operational Requirements: <ol style="list-style-type: none"> 2.1 Latest generation Electronic Phased array system with Minimum 1000 Electronic independent channels; desirable 4000 Electronicchannel System should be DICOM ready and capable of being interfaced with HIS/RIS/PACS.
	<ol style="list-style-type: none"> 2.2 Should be field up gradable to next generation system on site. Allnew software should be upgraded free of cost for at least 3 years . 2.3 Frequency compounding or better technology for better resolutionand penetration. 3. Technical Specifications <ol style="list-style-type: none"> 3.1 Phased array probe system with Minimum 1000 Electronicindependent channels. 3.2 256 gray shades for sharp contrast resolutions. 3.3 Probe to be supplied which should be latest generation wide bandtransducer. 3.4 Harmonic Imaging- System should have Harmonics on all theprobes following modes in harmonic with separate setting for: <ol style="list-style-type: none"> 3.5 Trapezoidal image. 3.6 Automated Gain control for additional level of flexibility to imagequality control. 3.7 Real time high frequency 2D for higher resolution. 3.8 Monitor should be 15" or more, high-resolution Colour Monitor. Tilt and Swivel monitor should be able to view in all angles and alllight conditions. 3.9 Various maps for pre and post processing. 3.10 User defined system and application presets for multi-userdepartment. 3.11 Minimum 4.8 GB optical disc drive / 80 GB hard drive for imagestorage and retrieval. (Standard with system) 3. 12 Cine loop memory – than 100 frames. <ol style="list-style-type: none"> a. High frame rate review for better clarity of play back imagesstudy in slow motion. b. Quad loop with memory for pre and post images comparison ofany procedure. c. memory – 256 frames or more in QUAD loop

	<p>d. Frame grabber facility for post analysis.</p> <p>3.13 Facility for high definition digital acquisition, review and editing of complete patient studies.</p> <p>3.14 Frame rate should be 1000 FPS or more.</p> <p>4. System Configuration Accessories, spares and consumables</p> <p>4.1 Convex probe 2 – 5 MHz</p> <p>4.2 B/W thermal printer of latest model</p> <p>4.3 DVD/CD Recorder with DICOM media transfer</p> <p>5. Environmental factors</p> <p>5.1 The unit shall be capable of operating continuously in ambient temperature of 30 deg C and relative humidity of 80%.</p>
	<p>5.2 Pre Requisites should be clearly spelt out in terms of room requirements.</p> <p>6. Power Supply</p> <p>6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug .</p> <p>6.2 Resettable over current breaker shall be fitted for protection .</p> <p>6.3 Suitable Servo controlled Stabilizer/CVT .</p> <p>6.4 Online UPS of suitable rating with voltage regulation and spike protection for 30 minutes back up.</p> <p>7. Standards, Safety and Training</p> <p>7.1 Should be FDA or CE approved product.</p> <p>7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 .</p> <p>7.3 The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment 7.4 Type of protection against electric shocks -- Class I Degree of protection against electric shocks for ultrasound probes Type "BF" For ECG electrodes Type 'CF'.</p> <p>7.5 Manufacturer/Supplier should have ISO certification for quality standards.</p> <p>8. Documentation</p> <p>8.1 User manual in English.</p> <p>8.2 Service manual in English.</p> <p>8.3 List of important spare parts and accessories with their part number and costing available in stock with the supplier.</p>

	<p>9. Maintenance and Serviceability</p> <p>9.1 Remote Service Network Connectivity.</p> <p>9.2 Optional Service agreement.</p> <p>9.3 Online phone Support.</p> <p>9.4 Clinical application support.</p>
Digital X-ray 300mA	<p style="text-align: center;">Operational requirements</p> <ul style="list-style-type: none"> • Should be compact, lightweight, easily transportable • Mobile radiographic unit suitable for bedside x-rays. • The unit must have an effective braking system for Parking and transport. The tube stand must be fully counterbalanced with rotation in all directions <ul style="list-style-type: none"> * Exposures with remote control should be available. * The unit must have cassette storage facility for all size of cassettes <p>Technical specification</p> <ul style="list-style-type: none"> • The Generator: • Should be microprocessor controlled high frequency, • Output 10 KW or above.
	<ul style="list-style-type: none"> • It should have a digital display of mAs and kV. • KV range should be 40kV to 90kV <ul style="list-style-type: none"> * mA range should be 100 mA or more • X-Ray Tube • Rotating anode with at least 3000 rpm and focal spot size should be 1 mm. or less. • Light Beam Collimator of multi leaf type with auto cut off switch • The exposure release switch should be detachable with a cord of sufficient length as per ICRP recommendation
Digital X-ray 60mA	<ul style="list-style-type: none"> • X- RAY GENERATOR • Type : High frequency 2.5 KW • Max KV : 100 iii. Max mA : 60 • X- RAY TUBE • Type : Stationary anode • Focal spot : 1.4 x 1.4 mm <p>RADIOGRAPHY</p> <ul style="list-style-type: none"> • KV range : 40 – 100 mA range : 20 to 60 <p>CONTROL PANEL</p> <ul style="list-style-type: none"> • Digital display of all radiographic parameters • Electronic timer with range of 0.02 to 5 sec / • Automatic tube over load protection. <p>MECHANICAL SPECIFICATIONS</p> <ul style="list-style-type: none"> □ Counter balanced

	<ul style="list-style-type: none"> □ Articulated tube arm □ Easy to move and handle <p>Light beam diaphragm</p>
X-ray Viewer	<ul style="list-style-type: none"> • Slim, Durable and Energy Effective. • Efficient: Savings Range From 82% To 93%. • No UV Emission. • Unparallel latest LED backlight technology. 4-5 timeslonger than regular CCFL/EEFL. • Power Efficient. L.E.D Light With Long Life - Upto 100,000 Hours. • Reliable Magnetic Nipper. • Initial Brightness Can Be Set. • Film Activation Switch-automatic Shutdown If No FilmInserted. • 12 Step Digital Dimmer To Get The Perfect Brightness.

LABORATORY

<p>Biochemistry Analyzer</p>	<p>Instrument Name Biochemistry AnalyzerAutomation Semi Automatic Model Name/Number BTS Assays Special Proteins, Electrolytes, Clinical Chemistry Wavelength 340-670 nm Flow Cell Quartz Sample Volume 18uL Memory Of Tests Results 2000 Test Weight 4.3 kg Voltage 100-240 V AC Frequency 50/60 Hz Wattage 5 W Dimension 180x245x438 mm Brand BioSystems Nominal Range -0.2-3.5 A Nominal Flow 10 mL/min Temperature Range 10-35 Degree Celsius</p> <p>With immense market knowledge, we have been able to provide optimum quality BioSystems BTS Bio Chemistry Analyzer.</p> <p>Features:</p> <ul style="list-style-type: none"> • Compact and Smart Design • Easy & Intuitive Interface • Great Results accuracy • Full Connectivity
<p>Haematology Analyzer</p>	<ol style="list-style-type: none"> 1. Fully automated analysis of RBC's, WBC's and platelets with following parameters: Total leukocyte count, neutrophil percentage, absolute neutrophil count, eosinophil percentage, absolute eosinophil count, basophil percentage, lymphocyte percentage, absolute lymphocyte count, monocyte percentage, absolute monocyte count, platelet count, MPV, PCT, PDW, Hemoglobin concentration, RBC count, MCV, MCH, MCHC, RDW, haematocrit. 2. Throughput equal to or more than 60 samples/hour with whole blood samples. 3. Colour LCD display of text and histograms. 4. Report printouts on A4 size paper with external printer. External printer which can be directly connected to analyzer, is to be supplied along with the equipment. In addition, in built thermal printer. 5. Analyzer must have facility for connecting to computer, with compatible software able to transfer and store result values in real time,
	<p>which can be retrieved later on. Compatible computer, software for connection and any cables required for</p>

	<p>connections are to be supplied along with the equipment.</p> <p>6. Manual patient data entry by key board. Compatible key board which can be connected directly to the analyzer is to be supplied along with the equipment.</p> <p>7. Large data storage capacity (Minimum 10000 sample result data) with patient data search function.</p> <p>8. Power connection requirements- compatible with 220 volts AC, 50 htz with G type plug.</p> <p>9. Equipment must have provision for user defined adjustment of result values.</p> <p>10. Equipment should be precise. Vendor should be able to demonstrate the equipment at Wete Pemba, if asked for, during which BHEL authorized specialist may run sample/control of his choice, and check the precision of equipment by repeatedly running the same sample/control. Coefficient of variation must be less than 5 %.</p> <p>11. Pre-Qualification Criteria: Vendor has to submit customer reference list (minimum two customers) using the same equipment, with their contact details (phone number of customers must be provided).</p> <p>12. Should supply reagent pack for 1000 tests</p>
<p>Electrolyte Analyser</p>	<ul style="list-style-type: none"> • Should be able to measure sodium and potassium. • Should have a measuring method of Ion Selective Electrode (ISE). • Should be able to measure sodium and potassium in serum and body fluids. • Should have a throughput of minimum 50 samples per hour • Should have separate electrode for sodium and potassium • Resolution should be at least 0.1 mmol/litre for each parameter • Should have automatic calibration, 1- and 2-point calibration, 2-point time bound Calibration • Should have QC memory storage of at least 2 levels • Stand-by mode user controlled and automatic • Should have a measuring range for sodium 40 to 200 mmol/l, potassium 1.5 to 10 mmol/l • It should require 100 micro liter or lesser for whole blood serum • It should have only one reagent module for all standards and wash solutions and waste also should be collected in the same module • It should have only one cleaning reagents for electrodes and daily maintenance • Should have printing facility

- Should supply reagent pack for 1000 tests, one internal filling solution of 125 ml, two cleaning solution of 15 ml and one quality control of 10 ml
- Should have an alpha numeric display
- Should have a memory of at least 20 samples
- Should work on 200-240Vac 50Hz power supply with G type top plug
- Should be supplied with off line pure sine wave UPS of sufficient capacity for a minimum back up of 30 minutes

Autoclave Vertical

Specifications:

Mode 1	BST/VA-22	BST/VA-40	BST/VA-50	BST/VA-95	BST/VA-175
Internal Tank Capacity	22 Liter	40 Liter	50 Liter	95 Liter	175 Liter
Load	2.00 KW	3.00 KW	3.00 KW	4.00 KW	6.00 KW
Chamber dimension	10" x 18"	12" x 22"	14" x 22"	18" x 24"	22" x 36"
No. of Drums & Sizes	-	2 (9" x 11")	2 (9" x 11")	2 (12" x 15")	3 (12" x 15")
Working Pressure	1.2 kgf/cm sq. g (15 psi - 17 psi) (Can be Upgraded up to 30 PSI)				
Sterilizing Temperature	121°C to 134°C (150°C - Optional)				
Heat Average	<=±1°C				
Sterilization Time	25 to 30 Minutes				
Digital Timer	0 to 99 min				
Construction	Double / Triple wall & SS GMP construction				
Outer Chamber	Mild Steel (304 stainless Steel – Optional)				
Inner Chamber	304 SS (316 / 316L grades Stainless Steel – Optional)				
Insulation	Glass Wool				
Waste Container	Stainless Steel				
Door / Lid	Foot lifted with safety and interlock device				
Door Locking type	Radial Type (Wing Nut Optional)				
Water Filling & Removal	Manual				
Safety Features	Radial locking, safety valve, low water detector and pressure interlock				

Tank volume 20 to 175 liters	Equipped with joint less silicon rubber gasket
Provided with immersion type heater	Double, triple wall & GMP construction
Comply with NABL standards	Radial or wing nut type door locking
Supply with drums (extra cost)	Water level indicator
Easy operation and low maintenance	Digital temperature indicator
IQ / OQ / PQ Documentation	Temperature chart recorder
Provision to attach dot matrix printer	USB interface for data transfer
Optional accessories	<ul style="list-style-type: none"> - PID controller - Low / High water cut-off device - Digital alarm - Temperature chart recorder - Dot Matrix Printer - RS 232 / USB PC Connection Port - NABL certification - Stainless Steel wire mesh carrier - Dressing drum - Sterilization indicator tape - Autoclave bags - PLC control system <p>IQ / OQ / PQ Documentation</p>
Power Supply	220 Volts / 440 Volts

VDRL rotator	<p>Description of Function:</p> <ul style="list-style-type: none"> • For rotating slides for VDRL tests • Operational Requirements • Should have rotation in horizontal plane • Technical Specifications • Platform size 12" X 12" for keeping reaction trays. • Timer with 0 to 60 minutes for control of shaking duration with 1 minute interval. • Should have built in speed regulator with maximum speed of 150-180rpm. • It is regulated by a DC motor without any noise and vibration. • Should have a digital display • System Configuration Accessories, spares and consumables • System as specified- • Power Supply
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	<ul style="list-style-type: none"> • Power input to be 220-240VAC, 50Hz with G type plug • Standards, Safety and Training • The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along with the technical bid. • Electrical safety conforms to standards for electrical safety IEC-60601 • General Requirements • Should have the ISO certification and the copy of the same should be enclosed along with the technical bid. • Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual. • Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period 10 years.
Laminar Airflow	<ul style="list-style-type: none"> • Dimension of the system (W x D x H mm) • Inner dimension: 1200 X 600 X 650 mm • Outer dimension: 1320 X 905 X 1900 mm • Should have an approximate air volume capacity of 1350m³/h • Should have microprocessor controlled electronic circuitary • Should have LCD display to shown measured parameters like Stage velocity, total using time, UV/FL lamp on/off • The air purification should be done through class 100 HEPA filter, with 99.97%, 0.3 um particle removal • Should have a pre-filter of 3-30 um particle removal, and it should be recyclable • The cabinet should give class 100 purity • Should have an wind velocity of 0.35-0.50 m/sec • Should have UV lamp 40 w x 2 EA, FL lamp 40 w x 2 EA • Material of construction <ul style="list-style-type: none"> • Inner - Stainless steel • Outer - Powder coated steel • Door should be made of tempered safety glass sliding door • Utility device - air cock, gas cock • Electricity Supply - 220 V, 50/60 Hz with G type plug
Electro colony counter	<ul style="list-style-type: none"> • 10mm Dia magnifying glass • Audible confirmation of each count • Uniform glare free illumination • Digital readout from 0-999

	<ul style="list-style-type: none"> • Digital readout from 0-9999 • Auto marker pen • Wolffhuegel glass grid with focusing facility • Better durability • More life • Plenty of available designs <p>Specifications:</p> <p>Model S- 961, S- 962</p> <p>Digital display 3 digit, 999 maximum</p> <p>countDish size 110 mm</p> <p>Magnification X 1. 7</p> <p>Dimensions. L 260x B 220 x H 168 mm</p> <p>(approxWeight. 4 kg. (approx)</p> <p>Power 230v ± 10% ac, 50hz, 40w with G type plug</p> <p>Standard accessories marking pen, magnifier lens, dust cover (one each)</p>
Centrifuge machine	<ul style="list-style-type: none"> • Description of Function • Centrifuges are required in the Laboratory to separate various components
	<p>of Blood for analysis.</p> <ul style="list-style-type: none"> • Operational Requirements • Aerodynamic compact construction for vibration free performance • Table top version • Technical Specifications • Swing bucket rotor with Tube Capacity Size 5 – 10 ml • To have capacity to hold atleast 32 tubes at a time. • Should have a digital timer • Body should be made of strong fabricated & corrosion resistant steel • Control panel – for start/stop switch, dynamic brakes, step less speedregulator with zero start • switch & speed indicator with timer and protective fuses. • Door interlock • Maintenance-free brushless drive motor with exact speed pre selection andalphanumeric interactive LCD digital display in control panel of RPM & • RCF. Speed range 100 to 6000 rpm and above. • Choice of acceleration and braking profiles. • Imbalance detection and auto shut down. • System Configuration Accessories, spares and consumables • Tube Holders as appropriate

	<ul style="list-style-type: none"> • Power Supply • Power input to be 220-240VAC, 50Hz as appropriate fitted with G type plug • Standards and Safety • Should be US FDA or BIS or European CE with 4 digit notified body no. approved product
Binocular microscope	<p>Description</p> <ul style="list-style-type: none"> • The equipment should have the following features: • Optical system: • Infinity corrected system • Focus • Vertical stage movement 25mm or more per coarse • Stroke Vertical stage movement 100micron or less per Fine stroke. • Illuminator • Lamp House for LED with connecting cable having life Span of 20,000hrs approx • Revolving nosepiece: • Reversed Sextuple revolving nosepiece. • Objectives: • Plan 2X N.A 0.06 4X N.A 0.10 • 10X N.A 0.25 • 20X N.A 0.40
	<ul style="list-style-type: none"> • 40X N.A 0.65 (spring loaded) 100X N.A 1.25 (Spring loaded, oil) • Observation tube: • Wide field Trinocular Eyepiece Tube with FOV 25mm or more • Stage • Ceramic coated surface mechanical stage with right-hand low drive control with left • hand for two specimens • Condenser: • Swing out condenser N.A. 0.9- 0.22. Accessories for Polarized microscopy upgradation • should be possible. • The equipment should be USA- FDA/BIS/European- CE (with 4 digit no. approved by • validated Agencies) approved Model.
Automatic elisca Reader	<ol style="list-style-type: none"> 1. Should have 96 wells and should have reading capability of 1 to 96 wells individually. 2. Should have a linear measurement range of 0 to 3.000 Abs. 3. Should have wavelength range from 400 to 750nm.

	<ol style="list-style-type: none"> 4. Should have a photometric accuracy of $\pm 3\%$ or better. 5. Should have a resolution of 0.001Abs. 6. Should have variable speed plate shaking capability. 7. Should have easy access 8 position filter wheel 8. Machine should be supplied with 4 standard filters. 9. Should have automatic filter selection. 10. Should have automatic calibration before each reading. 11. Should have at least 6 second reading speed. 12. Should have facility for storage of calibration curves. 13. Capable of doing multi standard tests and controls. 14. Should have different types of blanking facility like air wise and well wise. 15. Should be capable of reading U, V and flat type wells 15. Should be capable of reading 8 or 12 well strip plates. 16. Should use halogen light source and two spare bulbs should be provided. 17. Should have internal thermal printer and 5 rolls of thermal should be supplied along with the unit. 18. Should have external printer connectivity option. 19. Should work with input 200 to 240Vac 50 Hz supply with G type plug.
Incubator	<ul style="list-style-type: none"> • Construction Material: <ol style="list-style-type: none"> (a) Internal: SS-304/Galvanized steel with bacteria-resistant powder coating (b) External: SS-304 /Corrosion resistant coating at least 1 mm thickness (c) Door should be of transparent material and should have one hand operation with locking facility. • Capacity of Incubator: 125 Ltrs/250 Ltrs/500 Ltrs to place 1/2/4 agitator(s)
	<p>having capacity of 48 bags respectively</p> <ul style="list-style-type: none"> • Temperature range: 22 degree C • Control System: Micro controller-based temperature indicator cum controller with Digital C accuracy) °Display and PT 100 sensor (+ 0. 5 Auto Rechargeable Battery back-up for temperature display, chart recorder and alarm during power failure.(Even if UPS battery fails Temperature display controller and chart recorder should work on direct supply) • Refrigeration System: Hermetically Sealed CFC Free Compressor with EcoFriendly refrigerant • Temperature chart recorder: Seven days inkless chart recorder with battery backup for continuous operation during power failure • Air Circulation: Motor and blower arrangement to have uniformity of condition under chamber loaded condition • Insulation: Minimum 3” Thick CFC free PUF insulation.

	<ul style="list-style-type: none"> • Lighting: Interior illumination for working area. • Alarm: Adjustable audiovisual high/low alarm facility for temperature deviations from set value. • Observation Door: Inside see through unbreakable acrylic door • Power: Works on 230 V AC single Phase 50 Hz with G type plug • Observation Door: Inside see though unbreakable acrylic door • Power: Works on 230 V AC single Phase 50 Hz with 2 meter code with G type plug.
Hot air oven	<ol style="list-style-type: none"> 1 Description of Function <ol style="list-style-type: none"> 1.1 Hot air ovens are used for sterilization. The oven uses dry heat to sterilize articles. Generally, Temperature ambient up to 50 to 300 °C (122 to 572 °F) with least count 1°C. 2 Operational Requirements <ol style="list-style-type: none"> 2.1 Should have a digitally controlled thermostat for controlling the temperature. 3 Technical Specifications <ol style="list-style-type: none"> 3.1 It should have a microprocessor based system with PID-temperature controller with integrated auto diagnostic system and fault indicator. 3.2 It should have double walled construction. 3.3 Inner chamber should be made of aluminium or stainless steel sheet. 3.4 Outer chamber should be made of mild steel sheet, finished with high quality white powder coated paint 3.5 The gap between the walls should be filled up with special grade glass wool for proper density and heat insulation to avoid heat losses and keep the outer surface near ambient temperature. 3.6 Should be with three side heating elements 3.7 Door should be duly insulated with heavy duty lock and handle. 3.8 Heating elements should be made of high quality nichrome/ kanthal wire which are put inside ceramic beads and placed at the bottom and in both the side ribs suitably clamped for uniform temperature all over the workspace.
	<ol style="list-style-type: none"> 3.9 Temperature should be controlled by imported capillary type thermostat from 50°C to 250°C ± 1°C. . 3.1 Temperature control knob must be graduated in degree celsius. 3.11 Ovens should be supplied without thermometer (digital- LCD \ LED based). 3.12 Air Ventilators should be placed near the top on the both sides to remove hot gases and fumes if any by natural convection. 3.13 Control Panel should have ON/OFF switch, switch to select high or low rates of heating, thermostat control knob

	<p>and indicators for mains and temperature.</p> <p>3.14 Should have a insulated glass door window to view the sample.</p> <p>4 System Configuration Accessories, spares and consumables</p> <p>4.1 Thermostat</p> <p>5 Power Supply</p> <p>5.1 Power input to be 220-240VAC, 50Hz with G type plug</p> <p>6 Standards, Safety and Training</p> <p>6.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.</p> <p>6.2 The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along with the technical bid.</p> <p>6.4 Comprehensive training for staff till familiarity with the system.</p> <p>6.5 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual Item no. 3.9</p> <p>Automated blood culture system. SN Technical Specification</p> <p>1 Description of System: Micro organism culture is required to be done on blood and body fluid. A sample is inoculated into liquid media and is incubated in a controlled environment for one to seven days.</p> <p>2 Operational Requirements: Fully Automated System capable to culture micro organisms</p> <p>3 Technical Specifications</p> <p>i Should work on non radiometric technology</p> <p>ii System should have in built calibration check, touch screen monitor. Should have LIS compatibility</p> <p>iii Should have modular design which is upgradeable and should be FDA approved</p> <p>iv Should be able to monitor the growth of organisms continuously in each cell. The media bottles should have the capacity to neutralize antibiotics</p> <p>v System should be capable of exporting data to the data management system for long term storage and should have the facility to analyse delayed specimens with the routine bottles</p> <p>vi Should be able to grow aerobes, anaerobes and fungi. Capacity: 400 bottles</p> <p>vii Should include Data management system and software to analyse and store the data</p>
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	<ul style="list-style-type: none"> viii Should have the capability for continuous monitoring of the samples for growth of organisms in each cell and have the capacity to generate hard copy of each growth kinetics. ix Easy to use software for patient information, entry and storage. Longterm data storage facility, tracing patient by name, id hospital registration number. x Should have in built incubator with facility for decontamination. <p>3 System configuration, Accessories, Spares and Consumable</p> <ul style="list-style-type: none"> 1 System as specified 2 All consumables required for installation and standardization of system to be given free of cost. <p>4 Environmental Factors</p> <p>The units shall be capable of being stored continuously in ambient temperature of 0 - 50 C and relative humidity of 15-90%.</p> <p>The units shall be capable of being operating continuously in ambient temperature of 10 - 40 C and relative humidity of 15-90%.</p> <p>5 Power Supply</p> <p>Power input to be 220 to 240VAC, 50 Hz fitted with Indian Plug. Resettable over current breaker shall be fitted for protection</p> <p>Suitable UPS with maintenance free batteries for minimum one hour backup should be supplied with the system.</p> <p>6 Standards and Safety</p> <ul style="list-style-type: none"> 1 Should be compliant to ISO-13485 Quality Systems medical devices particular requirements for the application of ISO-9001 applicable to manufacturers and service providers that perform their own design activities. 2 Comprehensive training for Lab Staffs and support service till familiarity with the System. 3 Electrical Safety conforms to standards for electrical safety IEC-60601/IS 13450 4 Should be FDA/ CE/ BIS/ISI approved product. 5 Five years warranty, five years comprehensive AMC should be available with service centres in close proximity. <p>7 Documentation</p> <ul style="list-style-type: none"> 1 Certificate of Calibration and inspection from Factory 2 Compliance report to be submitted in a tabulated and pointwise manner clearly mentioning the page or para number of original catalogue 3 List of equipments available for providing calibration
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	<p>and routine maintenance support as per manufacturer documentation in technical/ service manual</p> <p>4 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.</p>
	<p>5 List of important spare parts and accessories with their part number and costing.</p>
Refrigerator and freezer	<p>REFRIGERATOR - 300 L. (LABORATORY TYPE)</p> <p>Description of Function</p> <ul style="list-style-type: none"> • Use for storing blood plasma and other blood products, vaccines, other medical or pharmaceutical supplies. Also to cool samples or specimens for preservation <p>Operational Requirements</p> <ul style="list-style-type: none"> • For faster pull-down and recovery times, it should have a bypass refrigeration and microprocessor-based controls. <p>Technical Specifications</p> <ul style="list-style-type: none"> • Laboratory refrigerator should have 300 ltr capacity • It should have galvanized sheet steel construction, white powder coated and adjustable feet. • No welded joint to be exposed for rusting. • Should have insulation of high-grade pressure – foam material. • Should have lockable door with plastic magnetic sealing surround • Should have automatic defrosting and condensed melt water evaporation. • Should have re-circulating air-cooling system. • Should have control panel with remote thermometer, main switch and humidity selection. • Should have hermetically enclosed, low noise, vibration proof compressor. • Should have visual and a caustic signal alarm system. • Should have epoxy coated outside finish and S/S interior. • Should be low noise, automatic defrosting, freon free • Should be CFC free. • Temperature indicator desirable. • Standards, Safety and Training • Should have the ISO certification and the copy of the same should be enclosed along with the technical bid. • The quoted model should have US FDA or BIS or European CE certificate and copy of the same should be enclosed along with the technical bid. • Comprehensive training for staff till familiarity with the system. • Should have local service facility. The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual

PHYSIOTHERAPY

Shortwave diathermy	<p>SPECIFICATIONS</p> <p>DIMENSION (L*H*D) 472mm, 905mm, 370mm</p> <p>WEIGHT 42 Kg. Approx.</p> <p>OPERATING VOLTAGE 220V AC, 50Hz</p> <p>ABSORPTION 800-Watts Max</p> <p>FUSES 6 Amp.</p> <p>ROOM TEMPERATURE 10° to 40° C</p> <p>MOISTURE 10% to 80%</p> <p>OUTPUT 500 W (Continuous)</p> <p>FREQUENCY RF 27.12 MHz</p> <p>WAVE LENGTH 11 Meter</p> <p>DISPLAY Filament Voltage V Ac, Output Intensity mA</p> <p>TIMER Digital Timer 1 ~ 99 Minutes Programmable</p> <p>PATIENT SAFETY Available</p>
Interferential therapy unit	<p>SPECIFICATIONS</p> <p>Dimension (L*H*D) 352mm, 125mm, 331mm</p> <p>Weight) 5 Kg Approx.</p> <p>Operating Voltage 110-270V 50Hz</p> <p>Absorption 46-Watts Max</p> <p>Fuses 1 Amp</p> <p>Room Temperature 10°C to 40°C</p> <p>Moisture 10% to 80%</p> <p>Preset Programs 50 program</p> <p>Customize Program 99 Create Programs</p> <p>Probe Test Cable & Electrode Test</p> <p>Max. Output Current 100mA Digital Display for CH-1 & CH-2</p> <p>Max Output Voltage 100V (Peak to Peak)</p> <p>Medium Frequency 2 KHz& 4 KHz</p> <p>Base AMF 0-250 Hz</p> <p>Spectrum 0-250 Hz</p> <p>Therapy Mode 4P, 4PV, 2P</p> <p>Wave shape Tra, Tri, Rec.</p> <p>Vector Mode 2PL, 4PL, 4PT, 4PNL</p> <p>Treatment Time 01 to 99 Minutes adjustable</p> <p>Patient Safety Available</p> <p>RUSSIAN CURRENT</p> <p>Medium Frequency 2.5 KHz</p> <p>Base AMF 0-200 Hz</p> <p>Spectrum 0-200 Hz</p> <p>DIADYNAMIC CURRENT</p> <p>Current Mode CP, LP, DF, MF</p>

	Low Frequency	50Hz & 100Hz
Wax Bath	<ul style="list-style-type: none"> • It should be portable double walled & insulated steel tank with lid. • Wax Melting technology may be water less / water based /oilbased. • Capacity of 15-20 kg • It should be thermostatically controlled with safety cut out with range of 0-100 deg. • It should have anti seepage facility. • Safety certification- class 1 type B • Internal dimensions 50 x 30 x 21 cm • It should be provided with castors • Power control should be in three step • It should have neon lamp for main power & thermostat. • Should provide 20 kg wax (best quality) 	
Cart Wheel	cart wheels come in 4 standard diameters: 8”, 10”, 12”, and 14”.	
Ultrasonic therapy unit	<ul style="list-style-type: none"> • Single Head Frequency treatment for 1 MHz & 3 MHz, with Intensity control / Display inbuilt on Ultrasound applicator • Output - 12 watts • Power Intensity = Maximum 3 watt/cm • Mode: Continuous & Pulsed • Digital Display • Timer 0-60 minutes • Intensity control and Display inbuilt on Ultrasound applicator • Duty Cycle: 10,20 & 50% • Power: 110-220 V AC with G type plug 	
Traction Machine (Lumber, Card)	<ul style="list-style-type: none"> • Traction force - 0 45 KG (can be doubled to 90 kg with the help of doubler) ,Digital timer Display Hold Time : 10 sec ,20 sec ,30 sec ,40 sec ,60 sec ,80 sec Rest Time : 1 sec ,5 sec ,10 sec ,15 sec ,20 sec ,30 sec Modes : Static ,Intermittent Accessories : 1 pc main cord ,1 lumber belt, 1 cervical collar ,1 thoracic Belt ,1 Doubler ,1 Traction Rod ,1 patient switch 	

OPD

Department	Equipment	Specification
	Stethoscope	<ul style="list-style-type: none"> • Chestpiece : Dual head nonchill rim & diaphragm • Diaphragm : Tunable diaphragm • Binaural : Dual-leaf spring encased at 15° angle • Operating temperature range : 0° C ~ 40° C (32°F ~ 104° F) • Operating humidity : Less than 95% RH • Storage temperature range : -10° C ~ 50° C (14°F ~ 122° F) • Storage humidity : Less than 95% RH.
	Knee Hammer	<ul style="list-style-type: none"> ➤ Knee Hammer with Pin & Brush for testing deep tendon reflexes used by doctors. ➤ Reflex hammers can also be used for chest percussion ➤ Pointed Tip with Pin and brush <p>knee hammer elicits myotatic and plantar responses with less effort and greater patient comfort. The precisely balanced handle offers increased control of percussion force. Thermo-plastic-rubber triangular head has beveled apex and base employed to elicit myotatic reflex. The soft base and rounded apex is perfectly suited in provoking myotatic responses in striking precise location of tendons. Also suited to obtain chest sounds and to percuss the abdomen. The weighted chrome-plated handle is precisely balanced for increased control of force in the percussion. The encircling band of handle with pin firmly secures the triangular head midway between the apex and base. The handle is also designed with a pointed tip and brush for eliciting cutaneous and plantar reflexes</p>
	Sphygmomanometer with stand	<ul style="list-style-type: none"> • Height adjustable type • Base with heavy duty castors • Spiral tube • Measurement: 0-300mmHg • Accuracy: +/-3mmHg

	<ul style="list-style-type: none"> • Sub-division: 2mmHg 														
Weighing machine Digital	<ul style="list-style-type: none"> • Technology: electronic • Display type: with digital display • Weighing capacity: 250 kg, 180 kg (551.16 lb) • Readability: kg (0.2205 lb) • Platform Size: 360 x 300mm 														
Height Measuring Scale	<table> <tr> <td>Measuring range</td> <td>20 - 205 cm</td> </tr> <tr> <td>Graduation</td> <td>1 mm</td> </tr> <tr> <td>Gross Weight</td> <td>2.65 kg</td> </tr> <tr> <td>Length</td> <td>14.25 inch</td> </tr> <tr> <td>Width</td> <td>4.75 inch</td> </tr> <tr> <td>Height</td> <td>25.75 inch</td> </tr> <tr> <td>Moving type</td> <td>Portable</td> </tr> </table>	Measuring range	20 - 205 cm	Graduation	1 mm	Gross Weight	2.65 kg	Length	14.25 inch	Width	4.75 inch	Height	25.75 inch	Moving type	Portable
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Examination Lamp, Mobile	<ul style="list-style-type: none"> • Heavy base with low centre of gravity. • Single light head with LED lights in cluster. • Articulating arm between light and base stand. • Base with 5 anti-static swivel castors in a star formation. • At least two castors have been equipped with brakes. • Minimum 14 cm fixed focus field of view. • Minimum illumination of 60,000 lux at 0.5m. • Minimum colour temperature between 4,000°K. • Minimum colour rendering index (CRI) of 95. • Minimum LED life more than 40,000 hours. • Floor to light height adjustable to include at least range of 1.1 m to 1.75 m. with casters • On/off switch. <p>Power requirements: 100 - 240 Volts - 50/60 Hz with G type plug.</p>														
View box	<ul style="list-style-type: none"> • Sheet Thickness 2 mm • X-ray View size 14 * 17 inches • Overall size 17 * 20 * 2 inches • Sheet Material Acrylic • Power 12 V, 50 - 60 Hz • Current 2 Amp 														

	<ul style="list-style-type: none"> • Bulb 264 High Glossy LED Bulbs • Parts Heavy Duty Switch & Socket Used • Safety Shock Proof Mechanism • Holding Plastic Clips for X-ray film Holding • Handling Light Weight & Portable
Spot Light	<ol style="list-style-type: none"> 1 Technical Specification <ol style="list-style-type: none"> 1.1 To provide cool, intense, focused light of 5000 lux. 1.2 Should be halogen bulb of 50/75 W at low voltage, Stepdown transformer (compact) mounted inside the head. 1.3 Should have bulb retainer to prevent accidental unplugging and fall. 1.4 Should have protective shade with holds on top to dissipate heat. 1.5 5 Spokes stand mounted on caster of 5cm diameter. 1.6 Maximum height – 170 cms 1.7 Tubing of MS, pretreated and epoxy powder coated. 1.8 Cable length – 2m 2 Standards, Safety and Training <ol style="list-style-type: none"> 2.1 Munufacurer should have ISO certification
Clinical Thermometer	<ol style="list-style-type: none"> I. Type: solid stem type- alcohol type thermometer for batterymaintenance purpose II. Maximum measureable temperature: shall not be less than +50 degree centigrade.

	<p>III. Minimum measurable temperature: shall not be more than +20degree centigrade.</p> <p>IV. Accuracy: The maximum permissible scale error shall not be more than one scale division.</p> <p>V. Length of the thermometer: 300 mm (+10% variation is acceptable).</p> <p>VI. Length of main scale: 180mm±10%</p> <p>VII. Scale smallest division: shall not be more than 0.5 degree centigrade.</p> <p>VIII. Bulb length: Shall not be less than 10mm and shall not greater than 25mm.</p> <p>IX. Stem diameter: Shall not be less than 5.5mm and shall not greater than 8mm.</p> <p>X. Bulb diameter of the thermometer: shall not be greater than the stem diameter.</p> <p>XI. Colour of indicator: red/green The thermometer shall comply: IS 2480.</p>
<p>Patient Examination Couch</p>	<ul style="list-style-type: none"> • Overall size: 1890 mm L x 560mm W x 840mm H. Fixed upholstered top 64mm thick in two sections. • Body frame work made from 20G. CRCA sheet and 20 mm x 40mm x 16 G MS. Rectangular Tubes, couch fitted with stainless steel legs. • Headrest adjustable on gas spring • Upper section of box size 1220 mm L x 460 mm W x 630 mm H with three sliding drawers of size 320 mm L x 430 mm W x 75 mm H. • Lower section comprises of three cabinets of inside size 350mm L x 440 W mm x 430 H mm with separate doors & lock. • B.P. Apparatus tray made of 18 G MS sheet of size 350 mm L x 120 mm W X 20 mm H provided on a swinging rod rotating through a bush welded on the body of the couch. • Should have Sliding Inbuilt Step Stool • All mild steel components should be thoroughly pre-treated chemically to remove rust and foreign matter like Grease, Oil etc. by dip tank process pretreatment system. • The treated Metal surface should have coating of Epoxy Polyester Powder with paint film thickness of 60 microns (minimum) and oven baked at 180 degree to 200 degree Centigrade to avoid contamination of the clean metal surface from dust particles.

GENERAL WARD

Semi Fowler Bed	<ul style="list-style-type: none"> • Semi-Fowler Bed with mechanically operated back rest by super-smooth crank mechanism. • Size: L 2140mm × W 940mm × H 500mm. • Removable & interchangeable high quality beautiful ABS engineering plastic head panel and foot panel. • Collapsible side railings. (Top bar Aluminium, Vertical bars SS, Bottom pipe epoxy) • Epoxy coated mild steel frame work and 2 section perforated top. • 125mm dia noiseless castors (all with individual brakes) • Provision for I.V. Rod on both sides of the bed. • Freight saving knock-down construction. • Provide Mattress with cover in each bed
Fowler Bed	<p>Standard fowler bed with or without motorized mechanically operated back rest by crank mechanism. Size: 2030 × 900 × 500 mm. Epoxy coated mild steel frame work and 2 section top. Mounted on protective stumps. Provision for I.V. Rod. Freight saving knock-down construction.</p> <p>Provide Mattress with cover in each bed 125mm dia noiseless castors (all with individual brakes)</p>
Commode chair	<p>Seat Width: 46cm</p> <p>Ground to commode bucket height -40-55 cms</p> <ul style="list-style-type: none"> • Total height - 61-76cms • Toilet bucket height -23cms. • Total dimension - 50 x 25.5 x 65 cms • Loading capacity: 100kg • Net weight - 6.4kgs • Gross weight - 7.5kgs\

	<ul style="list-style-type: none"> • Contents: 1 commode chair with seat and lid Chrome-plated steelframe • Armrests • Toilet seat, bucket with lid. • Height adjustable legs with rubber tips • • Foldable
Trolley	SS 304 made trolley with bowl and bucket with 125 mm diagonal locking castors
Wheel Chair	<p>A typical wheelchair has a length of 42" (106.7 cm), a height of 36" (91.4cm), seat heights around 19.5" (49.5 cm), and a width of 25" (63.5 cm).</p> <p>Wheelchairs are chairs with wheels designed to serve users that are unable to, or have difficulty with, walking due to injury, illness, or disability.</p>
Stethoscope	Double cup, dual-use (adult and pediatric auscultation) chest piece in stainless steel or chrome plated brass. Adult diaphragm 43-47mm; pediatric diaphragm 28-36mm. Y tube treated rubber or PVC with 8- 11mm diameter
Thermometer	<ul style="list-style-type: none"> • Clinical thermometer, without mercury. • Digital. • Waterproof. • Length: 115 ± 5mm. • Width: 14 ± 3mm. • Minimum temperature: 35°C. • Maximum temperature: 42°C. • Graduations in Celsius every 0.1°C, with major graduations every 1°C; printed on a central metallic or plastic bar (scale), on which the glass tube is mounted.
Dressing pack	The Dressing Pack contains: One Wrapping Field; Two Gauze Swabs; Three Gauze Balls; One Forceps Pack and One Tray.
Refrigerator	<ul style="list-style-type: none"> • No. Of Shelves 4 Shelves, 2,3,4 & 5 shelves • Color White & Silver • Voltage 230 V with G type plug • Frequency Hertz 50 Hz • Capacity 100,200,300 and 500 litres

OT					
EQUIPMENT NAME	SPECIFICATION				
OT TABLE	<ul style="list-style-type: none"> • Electro-Manual drives with noiseless, jerk less and smooth positioning. • Table positions i.e. Height adjustment, Trendelenburg, Reverse Trendelenburg, Lateral Tilt, Back Section/Chair Position, Flex-Reflex, Longitudinal Top are controlled by corded Handset and Manual Override with graphical icons. • Zero Position to make table neutral by simply pressing '0' positioning button. • Remote has LED backlit with symbolic position figures to use even in darkness. • Safety key to block motor system in critical operations. • Manually gear operated Kidney Elevator • Table top is divided into 5 sections providing numerous articulation possibilities. • Table top is c-arm & x-ray compatible. • The base of the table is scientifically designed "T" shaped SS covered heavy base proving optimum foot room for comfortable posture of the surgeons. • Equipped with a large translucent sliding table top providing laparoscopy & C-arm functions without patient reversing. • Detachable-Interchangeable head and leg sections provide further versatility. • Integrated weight compensation by manual adjustment of the head and leg sections. • Non-corrosive stainless steel 304G construction including table top frames, accessories rail, base cover and column telescopic covers. • Easy for cleaning & hygiene. • The powered movements are activated by Imported Linear Actuators. • Four easy glide, antistatic castors, two of which are swiveling, ensure mobility. • 50mm decompressed mattress with greater comfort & easy to clean. • Pedal operated braking system secures the table in its place while in use. <p>Technical Specification:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Top dimension</td> <td>L 1980 x W 533 mm</td> </tr> <tr> <td>Height adjustment with pad</td> <td>750 mm – 1050 mm</td> </tr> </table>	Top dimension	L 1980 x W 533 mm	Height adjustment with pad	750 mm – 1050 mm
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	Longitudinal/Sliding Top (optional)	300 mm
	Trendelenburg / Reverse Trend.	30° / 25°
	Lateral tilt left/right	20° / 20°
	Kidney elevator	150 mm
	Back Rest (upward / downward)	80° / 25°
	Leg Rest (upward / downward)	15° / 90°
	Head Rest (upward / downward)	25° / 90°
	Power supply	24V DC
	Battery backup (optional)	3 hrs
	Patient weight capacity	300 kgs (666 lbs)
OT Light	<ul style="list-style-type: none"> • Both the main and the satellite domes should be shadow less and have the single IRC halogen bulb with automatic changeover standby bulb. • The luminance guarantee of the standby lamp should be 100%. • The reflectors of the domes should be of poly spherical mono reflector type and should incorporate a central reflector which can be switched on and off when needed. • The light head diameter of the both the main dome and satellite dome should be 65 cm. • The maximum illuminance at a distance of 1 meter should be 130000 lux and that of the satellite dome should be 85000 lux with a guaranteed constant color temperature. • The lights should be cool enough for the total protection of tissue desiccation. • The life of each halogen bulb should be within 600-1000 operating hours. • The color of the lights should be safe enough for the proper identification of tissue changes. • The technology should be incorporated so that the lights can be focused exactly on the needed tissue region with improved depth and high-contrast illumination. • All the adjustments viz. adjustments of the light field diameter and the normal operations can be controlled through the sterilizable handles of the lights. • The modular digital camera with 360 degree focus and minimum 300x zoom facilities to be incorporated inside the sterilizable handle and the TFT monitor to be installed on a separate arm for proper viewing of the surgical team, which optionally can be wired with the LAN system. • The options for backlight should be incorporated for a reduced illumination during endoscopic procedures. 	

	RECOMMENDATION																																																																	
	Please provide OT light of LED type of the latest technology																																																																	
Cautery Machine	<ul style="list-style-type: none"> • Feedback-controlled response system • Automatically stops energy delivery as soon as the seal cycle is complete • Minimum cutting effect • Spray coagulation • Pure and smooth cut • Bipolar output with a non sparking characteristic • Prompt start even in irrigated procedures • Provides good hemostasis effect • Applications : <ul style="list-style-type: none"> ○ Micro- surgery ○ Laproscopy surgery ○ Neuro surgery <p>Technical Specifications: Cut :</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Programs</th> <th>Power</th> <th>Load</th> <th>Operating</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>Pure</td> <td>99</td> <td>400 W</td> <td>500 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Blend 1</td> <td>99</td> <td>250 W</td> <td>500 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Blend 2</td> <td>99</td> <td>200 W</td> <td>500 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Endocut</td> <td>99</td> <td>99 %</td> <td>500 Ω 480 kHz</td> </tr> </tbody> </table> <p>Coag :</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Programs</th> <th>Power</th> <th>Load</th> <th>Operating</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>Spray</td> <td>99</td> <td>120 W</td> <td>500 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Fulgurate</td> <td>99</td> <td>150 W</td> <td>500 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Dessicate</td> <td>99</td> <td>150 W</td> <td>500 Ω 480 kHz</td> </tr> </tbody> </table> <p>Bipolar :</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Programs</th> <th>Power</th> <th>Load</th> <th>Operating</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>Soft</td> <td>99</td> <td>80 W</td> <td>100 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Force</td> <td>99</td> <td>80 W</td> <td>100 Ω 480 kHz</td> </tr> <tr> <td></td> <td>Cut</td> <td>99</td> <td>100 W</td> <td>100 Ω 480 kHz</td> </tr> </tbody> </table>	Mode	Programs	Power	Load	Operating	Frequency	Pure	99	400 W	500 Ω 480 kHz		Blend 1	99	250 W	500 Ω 480 kHz		Blend 2	99	200 W	500 Ω 480 kHz		Endocut	99	99 %	500 Ω 480 kHz	Mode	Programs	Power	Load	Operating	Frequency	Spray	99	120 W	500 Ω 480 kHz		Fulgurate	99	150 W	500 Ω 480 kHz		Dessicate	99	150 W	500 Ω 480 kHz	Mode	Programs	Power	Load	Operating	Frequency	Soft	99	80 W	100 Ω 480 kHz		Force	99	80 W	100 Ω 480 kHz		Cut	99	100 W	100 Ω 480 kHz
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<p>Anesthesia Machine</p>	<ul style="list-style-type: none"> • Anesthesia apparatus with circle absorber and Sevoflurane Tec vaporizer (with provision for Selecta Tec Back bar) • Must have antistatic castor wheel • Should have provision for spares • Cylinder with Pressure gauge • Must have color coded yoke and ports • Must have pin index system • Must have touch coded valves • Must have link 25 mechanisms • Must have pop off valve • Must have Oxygen failure alarm
	<ul style="list-style-type: none"> <input type="checkbox"/> Must have vaporizer for Sevo/halothane and isoflurane <input type="checkbox"/> Calibrated vaporizer <input type="checkbox"/> Pressure compensated <input type="checkbox"/> Flow compensated <input type="checkbox"/> Must have provision for Anesthesia ventilator <input type="checkbox"/> Must have circle absorber <input type="checkbox"/> Must have antistatic corrugated tubing <input type="checkbox"/> Table top for arranging drugs and syringes <input type="checkbox"/> Should have provision for two inlets for two oxygen cylinders- A type and two inlets for two Nitrous oxide cylinders with pin index system- A type <input type="checkbox"/> High pressure relief valve in the Back bar system <input type="checkbox"/> Diaphragm in the pressure regulator- Teflon or Steel with 3 years warranty <input type="checkbox"/> Breathing circuit with inflation pressure manometer <input type="checkbox"/> 5 meters of high pressure tubing, color coded for Oxygen and Nitrous oxide with valve attachment and pin index at the machine end. <input type="checkbox"/> Provision for two 60 psi Oxygen source built in the machine <input type="checkbox"/> Should have audible alarm for O2 failure <p>RECOMMENDATION</p> <p>Provide Anesthesia Machine of latest technology with LED screen of at least 10” or more</p> <p>A. Basic Unit:</p> <p>1. General description:-</p> <ul style="list-style-type: none"> • The unit should be a cost-effective, flexible anaesthesia workstation for performing and monitoring inhalation anaesthesia, suitable for Adult as well Child up to neonatal age. • It should be capable of providing low-flow techniques to minimize gas and anaesthetic agent consumption for economical day-to-day operation

	<p>2. Integrated systems:-</p> <p>The Anaesthesia Workstation should have :</p> <ol style="list-style-type: none"> a. In-built Ventilator with Coloured TFT display. b. Integrated CO2Absorber. c. In - built & Integrated Anaesthesia Gas MonitoringFacility d. Multi parameter monitor <p>All these components should be of the same manufacturer or brand with their label on each component. Both anaesthesia delivery system & multipara monitor must be US FDA approved & European CE Marked(Should be from notified body).</p> <p>3. Gas supply:-</p>
	<p>The unit should be able to connect to Central pipeline & there should be provision of One CGA Yoke to connect to One Emergency Gas Cylinder of O2& N2O each.</p> <p>4. Trolley:-</p> <p>The unit should have Powder Coated Steel Trolley with 4 Wheels & 1 or more Drawers & the front wheels should have locking device.</p> <p>The unit should have mounting facility to mount other equipments.</p> <p>5. Flow meters:-</p> <p>Machine should provide electronic gas mixing with digital control for O2,N2O and Air.</p> <p>6. Hypoxia guard:-</p> <p>It should have proven hypoxia guard design using the Pin-valve Mechanism or equivalent mechanism. The unit should equipped with Integrated Ratio System to maintain 25 Vol% O2 in Fresh Gas & on accidental opening of only N2O flow with O2 valve closed, the Ratio system should automatically Open O2 Valve to maintain 25 Vol% O2in Fresh Gas.</p> <p>7. Water & Particle Trap:-</p> <p>The unit should have Water & Particle trap to the inlet Central Gas Pipe- line connections of O2, N2O &AIR.</p> <p>8. Patient Module:-</p> <p>It should have fully autoclavable patient module having anodized metallic casing.</p>

	<p>It should have 34°C Heated Patient Module to deliver Warm Fresh Gas to Patient & to prevent condensation.</p> <p>The Patient Module should have Pressure Graduated Metallic APL Valve, Inspiratory Valve, Expiratory Valve, a Controlled Room Air Valve & Active Gas Scavenging Port.</p> <p>9. CO2 absorber:-</p> <p>Patient Module should be integrated to the CO2 absorber of 1.4 Kg & CO2 absorber should be Single / Double chamber design having screw type threading for easy removal & re-fitting during the operation.</p> <p>10. O2 Flush:-</p> <p>The unit should have O2 Flush facility to give approximately 50 Ltr / minflow.</p> <p>11. Common gas outlet:-</p>
	<p>The unit should have Common Gas Outlet for using open circuit & the unit should have easy change over from open circuit to closed circuit or vice-versa.</p> <p>12. Vaporizers:-</p> <p>It should have provision to connect Two Selectatec mount vaporizers & the unit should be provided with Two vaporizers equivalent to TEC-7 type, One of Isoflurane & One of Sevoflurane.</p> <p>B. Inbuilt Anesthesia Ventilator:</p> <p>1. Ventilator:-</p> <p>It should have Integrated Microprocessor Controlled & Pneumatically Driven Ventilator with bellows and the same bellows should be useful for Pediatric & Adult Application, thus avoiding change of bellows.</p> <p>2. Modes:-</p> <p>It should offer Ventilation Modes such as Manual, Spontaneous, CMV Adult & CMV Child & PCV Adult & PCV Child, SIMV & PSV.</p> <p>3. I:E ratio:-</p> <p>The unit should offer I/E Ratios : 1:1, 1:1.5, 1:2, 1:2.5, 1:3, 1:4, 1:5 with I/E Inverse Ratios: 2:1, 3:1 & 4:1 (PCV); PEEP: 0-15mbar ± 2mbar, Tidal Volume: 20- 1400 ml.</p> <p>4. Display:-</p> <p>It should have a high contrast color TFT Display.</p> <p>5. Self test:-</p>

	<p>It should be equipped with self test routines and automatic calibration of all sensors</p> <p>6. Display:-</p> <p>Display should indicate measured values: O₂ (Paramagnetic), real time capnograph, Anesthetic agents (HALOTHENE/ ISOFLURANE/ SEVOFLURANE /ENFLURANE/ DESFLURANE), Tidal Volume, Minute Volume, Frequency, PEEP, Mean pressure-in graphic form with numerical display.</p> <p>7. Gas Monitoring:-</p> <p>The In - built Anesthesia Gas Monitoring Facility should be based on side- stream technology, using Infra Red Photometry Principle & also offer Automatic Anesthetic Agent Identification.</p> <p>The unit should offer In-built Anesthesia Gas Monitoring with following specifications:</p> <ul style="list-style-type: none"> • CO₂ Et. & In: Display: 0 - 10%, 0-76 mmHg • Accuracy: +/-0.5 Vol% or +/-12% rel.
	<ul style="list-style-type: none"> • Reaction time: <500 ms 150 ml/min • N₂O In & Et.: Display: 0-100 • Accuracy: +/-2 Vol% Or +8% rel. • Reaction time: <500 ms 150 ml/min • O₂ (Paramagnetic) In & Et.: Display: 0-100% • Accuracy: +/-0.1% • Reaction time: <500 ms 150ml/min • Anesthetic agent: • Halothane, Isoflurane : Display: 0 - 8.5Vol% • Enflurane, Sevoflurane : Display: 0-10 Vol% • Desflurane : Display:0 - 22% • Accuracy : 0-1.15% or +15% rel. <p>8. MAC:-</p> <p>It should have a display of MAC (Minimum Alveolar Concentration).</p> <p>9. Alarms:-</p> <p>It should have clear alarms and user information as text messages.</p>

	<p>It is essential that unit should prompt user for corrective action rather than giving only alarm with no diagnostic message.</p> <p>10. Test:-</p> <p>The unit should perform the Leak Test & Sensor Test on Start of the unit to know the leak volume or dead space volume of tubings etc. & thus deliver exact Tidal Volume to the Patient.</p> <p>11. Fresh Gas De-coupling:-</p> <p>The unit should have Fresh Gas De-coupling or equivalent mechanism.</p> <p>12. International Standards:-</p> <p>The unit should comply with International Standards & should have CE Marking, DIN EN ISO 9001: 2000 Certification & EN ISO 13485: 2003 Quality Systems- should have European CE Marking (should be from notified body) and US FDA approved</p> <p>C. Specifications for Multi Parameter Patient Monitor</p> <p>1. Parameters:-</p> <p>Should be capable of Monitoring Heart Rate, SPO2, NIBP, ECG, Temp, RR and IBP2 (Upgradable to 4), NMT, BIS/ ENTROPY</p>
	<p>2. Display:-</p> <p>Should have a Display of 15 inch and above diagonal colour TFT display.</p> <p>3. Operating system:-</p> <p>Should operate through Rotary knob & Membrane keyboard.</p> <p>4. Fields:-</p> <p>Should have 8 waveform fields.</p> <p>5. ECG:-</p> <p>Should have provisions to connect 3 or 5 Lead ECG cables</p> <p>6. NIBP:-</p> <p>Should have NIBP measurement by Osillometric method.</p> <ul style="list-style-type: none"> - Should have Manual / Automatic modes of measurement. - Should have a measurement range of 20 to 250 mm Hg. <p>7. Invasive BP:-</p> <ul style="list-style-type: none"> - Should have 2 channel Invasive Blood pressure (IBP) measurement.

	<p>- Should have waveform IBP1 and IBP2.</p> <p>8. Temperature:-</p> <p>Should have provision for Two temperatures with display of T1 and T2.</p> <p>9. Respiration:-</p> <p>Should have Respiration by Impedance method.</p> <p>10. SPO2:-</p> <p>It must use Nellcor / Masimo technology to measure oxygen saturation for accuracy during motion artifacts, low perfusion states like shock, bradycardia and hypothermia.</p> <p>Should have SPO2 measurement with plethysmograph, digital value & perfusion index and SPO2 values with range 50% to 100%.</p> <p>11. Alarm facility:-</p> <p>Should have Alarm facility for HR limits, Arrhythmia, ST Segment Limit, and all other parameter limits.</p> <p>12. Graphs & Trends:-</p> <p>Should have 24 hr of Graphical and Tabular Trend for NIBP, HR, SPO2, RR, IBP, IBP2, T1, T2, AWRR, ST. Segment and CSI %.</p> <p>13. NMT Monitoring:-</p> <p>Integrated Neuromuscular Transmission Monitoring in the primary monitor with all accessories. Display should be in the primary monitor</p>
	<p>14. BIS/ Entropy:-</p> <ul style="list-style-type: none"> • Depth of Anaesthesia Monitoring module – BIS / Entropy with BIS / Entropy of all accessories & sensors • Should include inbuilt Anaesthesia record keeping software facility in monitor to document anaesthesia event using standardized menu based entries • Facility to store snapshots during critical events for wave form review at a later stage. • Audio visual and graded alarming system. • It should provide slave display of 15 inches and above with cable. <p>15. System Configuration Accessories, spares and consumables:-</p> <ul style="list-style-type: none"> • Should be supplied with the following Standard

	<p>Accessories.</p> <ul style="list-style-type: none"> • 3 Lead ECG cable with cords- 02nos. & 5 Lead ECG cable with cords – 02 nos. • SPO2 finger probe for Adult and Paediatric application. - 2 each alongwith 2 connecting cable. • SpO2 Neonatal Probe.-2 • NIBP cuff for conventional Adult, extra large for adult and for Paediatric application – 2 each. • IBP Reusable Transducers with cable –2 each. • Disposable IBP pressure transducers - 50 • 2 Temperature Probes • Depth of AnaesthesiaSensors-50 • Accessories for neuromuscular transmission monitor-01 set • Disposable domes - 50 • Disposable Adult & Paediatric circuits - 50 each. • HME filters - 50 <p>16. Standards, Safety & Training:-</p> <p>Should be US FDA and European CE approved (Should be from Notified body) product</p> <p>Shall meet the safety requirements as per IEC 60601-2-27:1994 - Medical electrical equipment—Part 2:</p> <p>Particular requirements for the safety of electrocardiographic monitoring equipment.</p> <p>Manufacturer / Supplier should have ISO certification for quality standards.</p>
	<p>Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service / maintenance manual.</p> <p>Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period of 10 years.</p>
ETCO2 Monitor	<p>Description for Nonin Lifesense Pulseoximeter with Capnograph, 0-100%</p> <ul style="list-style-type: none"> • Wide range of clinical settings. Portable, accurate, and cost effective, LifeSense is suitable for SpO2 and EtCO2 monitoring in low acuity areas. • Features :

	<ul style="list-style-type: none"> • Capnography for Procedural Sedation : • The American Society of Anesthesiologists (ASA) Standards for Basic Anesthetic Monitoring recommends monitoring for the presence of exhaled carbon dioxide during • procedures where the patient is sedated. The ASA standard states “During moderate or deep sedation the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide.” • Capnography for Pain Management : • Although patient controlled analgesia (PCA) is effective for short-term pain relief, suppressed respiratory function caused by over-sedation is a significant risk for those patients. • In some cases, opiates may suppress respiration of patients receiving painmanagement. In an effort to reduce risks associated with PCA use, the Joint Commission released a Sentinel Event Alert in 2004 which recommends ventilation monitoring for patients receiving opiates for • pain. The proper use of capnography to measure end-tidal CO₂ (EtCO₂) can alert clinicians to early warning signs of respiratory depression, which can lead to a variety of complications including coma and cardiac arrest • Capnography for Cardiopulmonary Resuscitation : • The absence of cardiac output and pulmonary blood flow often results in CO₂ levels that fall abruptly. Properly administered, capnography can help to identify lower end tidal CO₂ (EtCO₂) levels so that appropriate changes in CPR such as rate or force of compression can take place. • In the 2010 update of CPR Guidelines, the American Heart Association recommend “the use of quantitative waveform capnography for confirmation and monitoring of endotracheal tube placement.” • Capnography for Sedation Dentistry : • The American Association of Oral and Maxillofacial Surgeons (AAOMS) stated in its 2012 Parameters of Care that “during moderate or deep sedation and general anesthesia, the adequacy of ventilation shall be evaluated by continual observation or qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide. • Capnography for Homecare Environments :
	<ul style="list-style-type: none"> <input type="checkbox"/> Monitoring the carbon dioxide concentrations (CO₂) in the respiratory gases of mechanically ventilated patients is important to ensure proper ventilation. Patients who are not monitored have an increased risk of developing life- threatening conditions. <input type="checkbox"/> Capnography monitors from Nonin Medical provide a clear and accurate real- time feedback on how patients are breathing or ventilated. Ideal for spot check and continuous EtCO₂ monitoring.

Defibrillator	<ol style="list-style-type: none"> 1. The defibrillator should have biphasic technology having energy selection of 2- 200 joules. 2. The machine should have facility for ECG monitoring, defibrillation, external pacing & recorder. 3. Machine should have more than 8" TFT Screen. 4. Machine must be with sweep rate 25mm/sec, 50mm/sec. 5. Machine should have 24 hour trend storage facility. 6. It should be capable of monitoring ECG through ECG Cables, electrodes & paddles. 7. The machine should have defibrillation facility for adult & pediatric patients. 8. The machine should have ECG waveform display on bright screen along with other vital numeric information. 9. The machine should be compact, portable with built in rechargeable battery & light weight. 10. The machine should have inbuilt auto & manual recorder for printing ECG trace & stored information. 11. The machine should have user selectable alarm setting. 12. The machine should work on mains (without battery) and on battery as well. 13. The machine should have AED feature as inbuilt with manual override for manual operations. 14. Machine must be with carry bag & Accessory bag. 15. The machine must be supplied with all the essential accessories in 2 set & moveable trolley. 16. Service center must be in Jabalpur (M.P). & CMC for more than 2 years. 17. Machine should have warranty as per IRS condition is mandatory
C-Arm	<ul style="list-style-type: none"> • System should be High Frequency 50Khz Microprocessor controlled C-arm machine providing excellent image quality at low radiation, ideally suited for entry level surgery in many application fields such as orthopedics, trauma surgery and general surgery. • A very compact, soft touch control panel (APR) with 20 X 3 (column • x rows) LCD display on which KV, radiography mAs, fluoro time, • FmA, I.I ZOOM, Error inter lock for KV, filament, thermal are • displayed on wide angle LCD. Console panel should have following • functions & indications. • Anatomical programming for radiography of 4 body parts • (up to 8 programmes).

	<ul style="list-style-type: none"> • Selection of Continuous/multi pulse/single pulse • fluoroscopy. <ul style="list-style-type: none"> • Machine ON/OFF switch. • I.I magnification(I.I field) selection switch • “Emergency flouro”. • Flouro and Radio mode selection. • In built radio timer that enables to select mAS from 0.1 to 300 in 25steps for radiography <ul style="list-style-type: none"> • Fluoroscopy timer (Five minute cumulative timer with buzzer that activates after the completion of 300seconds of exposure and to reinitiate the exposure reset switch should be provided.) • ABS (Automatic brightness Stabilization) selection for hands free operation. • KV and mAs increase and decrease switches. • X-Ray on switch with indicators. • Switches for up/down movement of “C”. • Emergency OFF Switch on the control panel • Anode type: Rotating Anode • Small focal spot: 0.3mm (Max. Power:- 5KW) • Large focal spot: 0.6mm (Max. Power:- 17KW) • Anode heat storage capacity: 250 KHU or more • The X-Ray Tube Head should be thermally protected
Flash Autoclave	<ul style="list-style-type: none"> • Type: Horizontal rectangular cylindrical • Capacity: 75 L, 150L & 200 L • All inner parts are of Stainless steel quality 304 or above • All outer body parts are SS or powder coated • Fully automatic panel • Short start up time • Option to operate on: 134°C • Fitted with heavy duty vacuum pump • Over 99% of air expulsion through purging • Sliding door mechanism (Double / Single) motorized • High quality silicone gasket • Pneumatic door sealing system

	<ul style="list-style-type: none"> <input type="checkbox"/> Stainless steel tray trolley systems <input type="checkbox"/> Manual boiler water feeding system <input type="checkbox"/> With cycle completion alarm <p>RECOMMENDATION If possible provide autoclave of 200L</p>
Operating Microscope	<p>Main Microscope:</p> <ul style="list-style-type: none"> • Digital microscope with full 4K chain and 3-chip camera system for higher resolution, magnification, depth perception and a natural color impression. • Integrated switchable beam splitter, for switching between digital and hybrid visualization during surgery without any loss of brightness – enables the surgeon to operate in hybrid mode with switchable beam splitter • Latency: Below 60ms. • Integration of additional information: Microscope, Phaco and patient information in one central GUI for better patient outcomes and efficiency. • There should be Heads-up modality to operate in more physiological position and reduce fatigue during surgeries. • Apochromatic optics with anti-reflex multi coating. • Stereo Coaxial Illumination for constant brilliance and brightness. • Focusing range 70 mm • Magnification/zoom: 1:6 motorized continuous zoom • Speed control for zoom and focus • Apochromatic objective f= 200 mm. • Integrated Slit illumination; Slit width 0.2, 2.0, 3.0, 4.0mm • Integrated keratoscope ring activated via foot control panel or handgrips. • Automatic optimization of the microscope image for depth of field or light transmission–controlled by the surgeon. <p>Digital Visualization:</p> <ul style="list-style-type: none"> • Two integrated 4K video cameras,4K 3D recording, HD 2D video recording and streaming capabilities both in 3D HD and 2D 4K • Recording : External 4K 3D (2 x 1920 x 1080p) recording

	<p>with overlays</p> <ul style="list-style-type: none"> Recording : External 4K 2D (3840 x 2160p) recording or streaming without overlays
	<ul style="list-style-type: none"> Monitor : 55” video 4K 3D monitor <p>XY Coupling</p> <ul style="list-style-type: none"> Range of adjustment 61 mm x 61 mm. Control of automatic reset of XY movements. Provision of inversion of XY direction of travel via foot control, Speed control for XY. <p>Illumination</p> <ul style="list-style-type: none"> Light Source: Dual light source – Main illumination LED & alternative Xenon illumination/ Backup illumination Xenon SCI (Stereo coaxial illumination) for constant brilliance and brightness, red reflex illumination and surrounding field illumination both are adjustable. Filter: Ha-Mode filter for Xenon or LED light source. There should be motorized retinal protection device activated via foot control or handgrips There should be manual mode in the system to continue the surgery in the event of failure of motorized functions. <p>Floor Stand:</p> <ul style="list-style-type: none"> o Electromagnetic brakes for effortless movement and positioning, Built in maneuvering handles Facility to change to back up lamp in event of lamp failure by fast action change Progressive speed adjustments. Wireless programmable 14 function foot control panel. Storage facility of magnification, motor speed, configuration of foot control panel, lamp brightness and focal plane for at least 9 different users Facility for non sterile release of suspension arm <p>Intraoperative OCT :</p> <ul style="list-style-type: none"> Fully integrated intraoperative real time OCT for anterior and posterior segment. Spectral Domain OCT wavelength 840nm

	<ul style="list-style-type: none"> • Scanning speed 27000 A scan per second. • Axil resolution 5.5micron.
	<ul style="list-style-type: none"> • Scan length 3 – 16mm • Scan modes for Live : 1 Line, 5 Line & Cross hair. • Scan modes for capture: 1 Line, 5 line & Cube. • Scan independent of microscope movement. • OCT images should be seen in color or greyscale directly on the screen without loss of quality due to direct injection. • There should be scan location marker on the monitor. • Combined operation mode for microscope and OCT functions can be programmed to the foot control panel. • Scan rotation adjustable 360° via foot control panel • Major OCT functions can be operated intraoperative by the surgeon via foot control panel- should not require another person to control the device. • The OCT image should be superimposed on the microscope image on the 55-inch 4K 3D screen. The OCT should be controllable independent from the microscope. • OCT module should be integrated in Microscope body without any external attachment. • OCT Module & Microscope must be from same manufacturer. • All the components of OCT should be factory integrated in microscope body & Stand. <p>Markerless toric IOL alignment</p> <ul style="list-style-type: none"> • Markerless toric IOL alignment, Assistance Markerless License* • Reference Axis, Capsulorhexis, Main Incision & Paracentesis, LRI, Z ALIGN®, <p>Marker based & Markerless</p> <ul style="list-style-type: none"> • Z ALIGN • Target axis for toric IOL alignment • Keratoscope function for intraoperative assessment of the corneal curvature

	<ul style="list-style-type: none"> • Can be set directly or imported via USB from IOL Master 700* • One or three lines, Position relative to yellow reference axis <p>Wide Angle Fundus viewing system:</p>
	<ul style="list-style-type: none"> • Non-contact, Autoclavable wide angle viewing system. • Non contact lenses 60D & 128D – 2 sets. • Variable Focus facility via main microscope Foot control. In VR mode Microscope Focus should locked & Focus control of foot control should control Resight Focus for better focus of Retinal image. <p>Built-in assistant’s Microscope:</p> <ul style="list-style-type: none"> • Integrated Assistant microscope with continuous motorized magnification/ Zoom system. stereopsis corresponding to that of main surgeon’s microscope to get same depth perception of main surgeon and assistant. • Independent focusing mechanism. • Independent motorized zoom with freely configurable link/unlink to main observer. • Inclinable Binocular tube with Integrated image inverter. • SCI (Stereo coaxial illumination) for constant brilliance and brightness, red reflex illumination and surrounding field illumination both are adjustable. • Pair of high eye point wide field eye pieces 10x or 12.5x with diopter setting from –8D to +8D, <p>Binocular Tube:</p> <ul style="list-style-type: none"> • Tube for main surgeon: Inclinable 0’ -110 Deg. with electrical image inverter facility for VR surgery with automatic change over for VR & Cataract mode. • □ Eyepieces: 10x or 12.5x with diopter setting from –8D to +8D. Microscope, 3D visualization system & OCT should be from same manufacturer. Should have factory certified service team in India & direct representation in India.
Crash Cart	<p>Description</p> <ul style="list-style-type: none"> • Tychemed Offers Out Patient Department Furniture or OPD Furniture at best Price. Tychemed Medical crash cart Trolley’s quality is completely assured by government hospital quality. Specification of Tychemed OPD Furniture Crash cart given below. You can take this specification as

	<p>an idea. We manufacture the product according to customer availability. You can tell us your requirements by fill a simple form. For Order click on and get a quotation with the best price of Tychemed OPD Furniture</p> <ul style="list-style-type: none"> • Medical Crash Cart Specifications – • Overall approx dimensions: 900 L x 400 mm W x 1540 mm H
	<ul style="list-style-type: none"> • Complete SS Framework and SS Shelves • Two Polystyrene Lockable Storage units with Three Drawer each • 6 Nos. hand out Bins to keep important supplies easily accessible • Stainless Steel Saline Rod made of 12 mm dia. • Mounted on 125 mm Dia non-rusting swivel casters two with brake • Oxygen Cylinder Cage Epoxy Powder Coated, at one side
<p>INFUSION PUMPS</p>	<ol style="list-style-type: none"> 1. Digital self-regulating volume controlled portable pump. 2. Unit should have drop sensor or equivalent mechanism for feedback and detection. 3. It can be mounted on standard bed/ wall rail or mobile pole/stand(supplied with fixation). 4. It should be capable of infusing through intravenous route. 5. It should have an open system, suitable for different brands of IV sets available in local Indian market. Also if any IV set is required to be calibrated then user should easily calibrate. 6. It should be programmable; Infusion volume and time/ flow rate can be entered. 7. The flow rate should be adjustable: 0.1-1100 ml/h, steps of 0.1 ml/h. 8. The accuracy $\pm 1\%$ of the total volume delivered. 9. It should have facility for occlusion detection and alarm. 10. The system should have LED / LCD display. 11. It should have an audio-visual alarm with a silencing feature for audioalarms. 12. Should have internal rechargeable battery. The battery backup should be of minimum 4- 6 hrs. 13. US FDA and/ European CE approved model should be offered. 14. Power Supply 220VAC +/- 10 %, 50Hz fitted with G type plug.

	<p>15. Internal Battery Backup of Minimum 02 Hr.</p> <p>16. Supplied with stand having casters for holding machine</p>
SYRING EPUMP	<ul style="list-style-type: none"> • Should be easy to use and nurse friendly. • Should have automatic syringe size and model detection • Should have large format LCD/TFT display. • 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. • Syringe range from 20-50/60 ml. • Should have a flow rate accuracy of $\pm 2\%$ • Should have a bolus rate up to 1000ml/hr for 50 ml syringe. • Should have automatic and manual bolus. • Should have at least 3 levels of programmable occlusion pressure.
	<ul style="list-style-type: none"> • Should have automatic bolus reduction system to avoid accidental bolus delivery after occlusion incident. • Should have a rechargeable battery with back up time of minimum 3 hours. • Pump must trigger following alarms with visual indication:- <ul style="list-style-type: none"> 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). • Should work with input 200 to 240Vac 50 Hz supply with G type plug. • Supplied with stand having casters for holding machine
Pass Box	<p>Pass Box Specifications</p> <ul style="list-style-type: none"> • Pass box dimension There are 2 factors relating to pass box dimension: the internal size and the external size. The internal size is more important because the internal size determines which materials will be transferred through pass box. <p>Pass box dimension</p> <ul style="list-style-type: none"> • There are 2 factors relating to pass box dimension: the internal size and the external size. The internal size is more important because the internal size determines which materials will be transferred through pass box. • Type 500 600 Internal size 500 x 500 x 500 600 x 600 x 600 External size 660x • 550 x 600 760 x 650 x 600 • Here is standard dynamic pass box size: • Type 500 600 Internal size 500 x 500 x 500 600 x 600 x 600 External size 570x

	<ul style="list-style-type: none"> • 580 x 900 770 x 680 x 1200 <p>Pass box material</p> <ul style="list-style-type: none"> • Pass box is normally made of stainless steel. Some pass boxes have a powder-coated steel finish with stainless steel internal chamber surface. <p>Interlock system for pass box</p> <ul style="list-style-type: none"> • Pass boxes are equipped with mechanical interlocking or electronic interlocking system to ensure that the doors on both sides cannot be opened at the same time. <p>Power</p> <ul style="list-style-type: none"> • The power supply for pass box is about 220V
	<p>HEPA filter</p> <ul style="list-style-type: none"> • HEPA filter used in dynamic pass box has filtration efficiency up to 99.99% <p>Air velocity</p> <ul style="list-style-type: none"> • The air velocity of pass box is 0.45m/s ± 20% <p>Static pass box tech specifications</p> <ul style="list-style-type: none"> <input type="checkbox"/> Model VCR500SP VCR600SP VCR750SP VCR800SP (W×D×H)mm <input type="checkbox"/> External size 660×500×600 <input type="checkbox"/> 760×600×700 <input type="checkbox"/> 910×750×850 <input type="checkbox"/> 960×800×900 (W×D×H)mm <input type="checkbox"/> Internal size 500×500×500 <input type="checkbox"/> 600×600×600 <input type="checkbox"/> 750×750×750 <input type="checkbox"/> 800×800×800 <input type="checkbox"/> Casing material <input type="checkbox"/> Stainless steel/ Powder-coated steel <input type="checkbox"/> Internal material <input type="checkbox"/> Mechanical interlock/ Electronic interlock <input type="checkbox"/> Power 220V/50Hz <input type="checkbox"/> 220V/50Hz <input type="checkbox"/> 220V/50Hz <input type="checkbox"/> 220V/50Hz

ICU

ICU Beds

- Technical Specification
- Adjustable Sizes(L)2090 mm X (W)920 mm X (H) 600 mm
- Bed frame size Approx 1980mmL x 865mm W, Four section top of 18 G thick C.R.C.A.
- M.S. sheets should be perforated with uniformly spaced holes in each section.
- Outer top frame should be made from 60mm x 30mm x 16 G ERW M.S. rectangular tubes, Manual adjustments: backrest and knee rest two screw systems with thrust bearings individually manoeuvred by a single handle.,
- Outer top frame is mainly made from 60 x30 mm x 1.6 mm Thick ERW tube shall have proper support. This frame shall be fitted on legs fitted with high quality PVC shoes with nylon reinforcement.,
- A pair of collapsible type patient safety railing shall cover more than 2/3 part of top frame made mainly from ERW tube of 25.4 x 18g / 25 x 6 flats., with telescopic IV Pole, The bed shall have easily detachable head and foot side panels Shall be made from S.S. 31.7mm dia x 18 G tube with laminated panels of approx. size 810mm L x 140mm wide x 14mm thick on stainless steel bracket.
- Four corner rubber buffers, There shall be four locations on the bed frame to hold one stainless steel Saline rod 12mm dia shall telescope in SS socket tube 15.8 mm dia x 18G welded on angular base bracket of 14G SS sheet.
- Nylon bracket provided to prevent colour damage, All MS parts are passed through 8 tank Pre- treatment and should be Epoxy powder coated, SS parts finished with Matt Polish, Four Section Mattress with 4" thick PU Foam of 40 Density covered with, PVC Rexine - 20nos., Leg should be H' Type Legs (36") W & (24") H with 125mm(5") dia High Grade Synthetic Body Castors, two with brake, two w/o brake, Finishing & workmanship in the hospital furniture is of prime importance and must be of high standard.
- All corners shall be rounded off so that there shall be no sharp corners and holes, should be burr free, All Process Parameters to be as per documented IMS Procedures for Quality Assurance (ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 & ISO 13485:2003 Quality Management Systems and CE certification), All MS parts are passed through 8 tank Pre-treatment and should be Epoxy powder coated, Four Section Mattress with 4" thick PU Foam of 40 Density covered with PVC Rexine - 1no, A pair of collapsible type patient safety railing shall cover more than 2/3 part of top frame made mainly from ERW tube of 25.4 x 18g / 25 x 6 flats. As requirement of client its should given by contractor.
- Standards, Safety and Training

	<ul style="list-style-type: none"> • Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 • Should be US FDA or European CE or BIS approved product • Manufacturer should have ISO certification for quality standards.
	<ul style="list-style-type: none"> • Electric Shock Protection level-Class-B • Electric current Protection- Class -1 • Certified to be compliant with IEC 60601-2-38 Medical Electrical Equipments part 2-38 Particular requirements for safety of Electrically Operated Hospital Beds • Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual. • Comprehensive warranty for 3 years and provision of CMC for next 3 years • RECOMMENDATION ICU beds should be electrical operated with 5 or 6 functions including Sectioned Mattress with 4" thick PU Foam of 40 Density covered with PVC Rexine
<p>Bed side Monitor</p>	<p>General</p> <ul style="list-style-type: none"> • 10.4" colour TFT display • Suitable for adult, paediatric and neonatal patient • Multiple parameters: ECG, NIBP, Pulse Rate/SpO2, Temperature, • Respiration, CO2(Optional) • Audible and visual alarms with adjustable alarm ranges • Networkable with central monitoring system • Preconfigurable patient settings • Should come with trolley or wall mount <p>ECG</p> <ul style="list-style-type: none"> • ECG Input: 5- or 3-lead ECG cable • ECG Lead: I, II, III, aVR, aVL, aVF, V • Gain Choice: X1/4, X1/2, X1, X2, X4 and Auto • Scanning Speed (mm/sec): 6.25, 12.5, 25, 50Heart Rate Range: 15-380BPM • ECG Calibration: 1Mv • Frequency Response: 0.05-100Hz • Heart Rate Accuracy: ±1% <p>NIBP</p> <ul style="list-style-type: none"> • Measurement Method: Automatic Oscillometric

	<ul style="list-style-type: none"> • Patient Types: Adults/Pediatrics/Neonate • Measurement Parameters: Systolic, Mean, Diastolic • Measurement Range: 10-300mmHg • Units of Measurement: mmHg/Kpa • Accuracy: ± 2mmHg <p>Pulse Rate/SpO2</p> <ul style="list-style-type: none"> • Display: Waveforms and Digits • Measurement Range: 0-100% • Resolution: 1% • Pulse Rate Range: 30-250BPM
	<ul style="list-style-type: none"> • Accuracy: ± 2% • Resolution: 1BPM <p>Temperature</p> <ul style="list-style-type: none"> • Measurement range: 25.0-45.0°C • Display: T1, T2, ΔT • Accuracy: ± 0.1°C <p>Respiration</p> <ul style="list-style-type: none"> • Thoracic Impedance or Nasal Tube (Selectable) • Measurement Range: 0-120BPM • Accuracy: ± 1BPM • Resolution: 1BPM <p>CO2(Optional)</p> <ul style="list-style-type: none"> • Measurement Type: Main Stream or Side Stream • Measurement Range: 0%-10.0% • Accuracy: ± 2mmHg • Power Requirements • 100-250VAC, 50/60 Hz with G type top plug
Defibrillator	<ol style="list-style-type: none"> 1. The defibrillator should have biphasic technology having energy selection of 2- 200 joules. 2. The machine should have facility for ECG monitoring, defibrillation, external pacing & recorder. 3. Machine should have more than 8" TFT Screen. 4. Machine must be with sweep rate 25mm/sec, 50mm/sec. 5. Machine should have 24 hour trend storage facility. 6. It should be capable of monitoring ECG through ECG Cables, electrodes & paddles. 7. The machine should have defibrillation facility for adult & pediatric patients. 8. The machine should have ECG waveform display on bright

	<p>screen alongwith other vital numeric information.</p> <ol style="list-style-type: none"> 9. The machine should be compact, portable with built in rechargeable battery& light weight. 10. The machine should have inbuilt auto & manual recorder for printing ECGtrace & stored information. 11. The machine should have user selectable alarm setting. 12. The machine should work on mains (without battery) and on battery as well. 13. The machine should have AED feature as inbuilt with manual override for manual operations. 14. Machine must be with carry bag & Accessory bag. 15. The machine must be supplied with all the essential accessories in 2 set &moveable trolley. 16. Service center must be in Jabalpur (M.P). & CMC for more than 2 years.
	<ol style="list-style-type: none"> 17. Machine should have warranty as per IRS condition is mandatory
<p>Suction Machine</p>	<ul style="list-style-type: none"> • High vacuum suction unit, run on electricity 220VAC on G type plug with two section jars of 4-5 liters capacity each. If one jar filled, it should be automatically/manually connect toother jar. • Auto cut off device of preventing entry of fluid in pump. • Fast and efficient jar change facility. • Easy access and controls • It should be heavy duty and noiseless, with piston/cylinder technology. • Should be able to create desired maximum vacuum in least possible time,vacuum should be up to -90 K pascal with minimum capacity of 60L/min • Light and maneuverable fitted on a mobile trolley. • One plastic suction jar cover, steam sterilizable to be provided extra. • Two extra suction jar (Plastic) of capacity 4-5 ltrs. Should be quoted along withaccessories like lid, tubing etc. with the equipment to make the unit functional. • Should be European CE or USFDA or BIS for quality and safety purpose. • The firm should clearly indicate in the technical bid itself that the prices of all standard accessories are included in the quoted price. • The firm will give rate list of all possible spares, accessories & consumables if any, as part of financial bid. If price of any spare is not mentioned & is required for repair in life time of equipment/instrument, then the firm will be obliged to give it free throughout life cycle of the equipment. • Should contain casters

<p>Syringe Infusion Pump</p>	<ol style="list-style-type: none"> 1. Microprocessor controlled pump capable for propulsion of fluids accurately. 2. Syringe compatibility: The pump should work with different brands of syringes and is able to accept syringes with volumes of 05 ml – 50 ml. +Pump should be open system complains. 3. There should be automatic detection of syringe size. 4. It should be equipped for detecting correct fixing of syringe. 5. Flow rate should be adjustable from 0.1ml / hr to 1000 ml/hr. 6. Flow rate should be adjustable in increments of 0.1ml/hr. 7. The accuracy of flow rate should be + 1%. 8. The flow rate should be displayed in ml/hr. Delivery rate can be calculatedmg/hr, µg/hr, mg/kg/hr etc. 9. It should be able to deliver bolus dose in automatic / manual mode. 10. Internal Rechargeable battery backup should 4 to 6 hr. with fast batteryrecharge. 11. Pump should have colour display. 12. The following audio and visual alarms should be in corporate : (a) Main changeover to battery indication (b)Occlusion pressure alarm (c) Near empty syringe (d) Low battery (e) Standby alarm. 13. The pump should be waterproof so that fluid should not enter inside the pumpin case of accidental spillage. 14. The syringe pump should be capable for standalone functioning as well as
	<ol style="list-style-type: none"> being fixed on afram / platform / stand. 15. US FDA and/European CE approved model should be offered. 16. Power supply 220VAC +/- 10%, 50 Hz fitted with G type plug. 17. Minimum 02 Hour battery backup (Internal) 18. Should have drug name display with drug library with upto 30 care area profiles and 100 drug protocols in each profile for display during infusion. 19. Inbuilt drug dose calculation software. 20. Should have guardrails safety software. 21. Advanced patient safety care though reduced medication errors. 22. Minimum of 1500 events log & 200 key presses log gets captured. 23. Best ergonomic display size. 24. Durable and possible to link with patient data management system (PDMS)and Hospital information system (HIS) through open network architecture inbuilt RS232 port in it. 25. Foldable pole clamp and Medical device interface (MDI). 26. 11 level of occlusion settings : occlusion pressure selectable form 50-1000MMHg

<p>Ventilator</p>	<p>Standard hinged arm holder for holding the circuit</p> <ul style="list-style-type: none"> • Colored TFT screen, 12 Inch or more • Facility to measure and display a. End tidal CO₂ with capnography. b. 3 waves- Pressure and Time, Volume and Time and Flow and Time. c. 3 loops- P-V, F- V, P-F with facility of saving of 3 Loops for reference. d. Graphic display to have automatic scaling facility for waves e. Status indicator for Ventilator mode, Battery life, patient data, alarm settings, clock etc • Trending facility for 72 hours with minimum 5 minutes resolution for recent 24hours • Automatic compliance & Leakage compensation for circuit and ET tube • Following settings for all age groups. a. Tidal Volume b. Pressure (insp) c. Pressure Ramp d. Respiratory Rate e. SIMV Respiratory Rate f. CPAP/PEEP g. Pressure support h. FIO₂ i. Pause Time j. Pressure & Flow Trigger • Monitoring of the following parameters a. Airway Pressure (Peak & Mean) HLL Lifecare Limited HLL/PCD/PMSSY/AIIMS-II/01/13-14 Page No. 75 Dated 17.08.2013 b. Tidal volume (Inspired & Expired) c. Minute volume (Inspired and Expired) d. Spontaneous Minute Volume e. Total Frequency f. FIO₂ dynamic g. Intrinsic PEEP and PEEPi Volume h. Plateau Pressure i. Resistance & Compliance j. Use selector Alarms for all measured & monitored parameters • Modes of ventilation a. Volume controlled b. Pressure Controlled c. Pressure Support d. SIMV (Pressure Control and volume control) with pressure support e. CPAP/PEEP f. Inverse Ratio Ventilation g. Advanced mode like pressure controlled volume guaranteed/dual modes/PRVC/Auto flow h. Non Invasive ventilation i. APRV • Apnea / backup ventilation • Expiratory block should be autoclavable and no routine calibration required • Should have the ability to calculate / Procedure a. Intrinsic Peep & Intrinsic PEEP Volume b. Occlusion Pressure c. Spontaneous Breathing trial d. Facility to calculate lower and upper inflection point (OPTIONAL)
	<ul style="list-style-type: none"> • Nebuliser with capability to deliver particle size of < 3 micron & to be used in both Off and On line • Automatic Patient Detection facilities preferable • Technical Specifications for reusable face mask & nasal mask. Reusable face & nasal mask with textured dual flap silicone cushion flap for easy fit. Removable forehead support and pad to match the angle of patient's forehead Stability Selector for easy fit and angle. Ball & Socket headgear attachments. Should be autoclavable. • Battery backup for minimum 1 hour • RS 323C interface for communications with networked devices. • Automatic patient detection facility preferable.

	<ul style="list-style-type: none"> • 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 - 40deg C and relative humidity of 15-90% • Power input to be 220-240VAC, 50Hz with G type plug <p>Crash Cart</p> <ol style="list-style-type: none"> 1. Overall size shall be more than 900mm L x 500mm W x 1500mm H. 2. The crash cart should be made of 25.4mmx18G Stainless steel tubular framework. 3. Shall have Epoxy / Anti-Microbial powder paint inside and out 4. Should have dual push handles on either side 5. Should have S.S. shelves, six colored removable bins & two polystyrene lockable storage units with three drawers each. 6. Facility to carry ECG Monitors, Defibrillators etc on open areas at top centre and bottom shelves. 7. Should have Stainless steel saline rod fixed with. 8. Two accessory mounting brackets to mount accessories anywhere without the need of prethreaded holes. 9. Crash cart should be mounted on 12.5 cms dia non-rusting swiveling castor wheels. Two having locking arrangement. 10. Oxygen cylinder stand epoxy powder coated, on one side <p>Portable Suction Machine</p> <ul style="list-style-type: none"> • 700 mm Hg \pm 10 reusable, flutter free vacuum control knob, 25ltrs/min, tight fitting jar cap, vacuum capacity; 18 litres/min, maximum depression: - 75kPa • Wide mouthed 2 x 2 Ltrs. (Polycarbonate) with self sealing bungs and mechanical over low safety device. • Power Requirements: 230 V, 50 Hz, 2 \pm 0.5 Amps, 200 watts. • Power consumption: 200W • Operating condition: –Capable of operating continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. Bedside Monitors (multi parameter) • Minimum 15 inches multi colored TFT display screen. • Separate CPU/Module rack.
	<ul style="list-style-type: none"> • Eight digital and waveforms/traces display • Combination of single, dual and multi parameter modules. • Parameter modules freely exchangeable between all the monitors. • Multi-channel (up to 12 leads) ST segment analysis. • Facility to monitor and display - ECG, Respiration, NIBP, SPO2, CO2 with capnography, Temp, Cardiac output (optional), NMT(Optional), BIS/Entropy (optional), EEG (optional), Gastric tonometry (optional) & IBP – 2 nos.

	<ul style="list-style-type: none"> • Automatic arrhythmia detection & alarm for standard and lethal arrhythmia. • EtCO₂ -Main stream/ side stream. Display both inspired and expired values, showing capnography. • NMT Module/monitor: For measurement and display of TOF count, TOF %, ST, DBS, Tetanic and Trend for continuous usage. Automatic measurement facility in selected time interval. Automatic selection of supramaximal current. Include standard accessories (Optional). • EEG Module with all accessories. (Optional) • Should provide hemodynamic, oxygenation, Ventilation calculation package. • Should have drug calculation package. (Optional) • Trend of at least 48 hours. • 200 nos. event recall/snapshot facility both manually and automatically triggered by alarm. • Automatic Zoom In Facility in the monitor display. • The monitors should have monitor-to-monitor overview facility and data transfer over the network. • Web browsing facility to review each networked monitors data through hospital LAN via office PC in Hospital LAN Network and/or through dial up facility from remote location (OPTIONAL) • 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% • Power input to be 220-240VAC, 50Hz fitted with Indian plug Central Monitor • Central station should have facility to display upto 20 real time waves at a time and upgradable upto 32 beds in future • Central station should have separate patient window for viewing detailed real-time or stored data for individual patient • CNS should have 24 hr stored patient data monitoring – trends • CNS should have 24 hr event review facility • CNS should have multi lead arrhythmia and ST review facility. • CNS should have 50 alarms strips storage per bed • CNS should offer wave review with 24 hr full disclosure • CNS should have option for 12L ECG monitoring • CNS should have optional facility for dual display for detailed analysis of individual bed without compromising on full ICU monitoring. • CNS should have facility for interfacing Holter data for analysis, in case of the Holter from the same brand is available.
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	<ul style="list-style-type: none"> • CNS should export the ICU patient data to Holter for analysis • Real time recording thru dual channel recorder should be possible. • Central Station Should be supplied with : 19" flat screen TFT display Laser printer and Recorder UPS Entire networking and cabling with hardware Wall mounts • CNS should operate on Microsoft Windows NT workstation operating system • CNS should be supplied with UPS back up. • CNS should have advanced arrhythmia analysis package (more than 20 arrhythmia analysis should be possible) • Should have 12 LECG Monitoring & view possible at CNS.
Transport Ventilator	<ol style="list-style-type: none"> 1. Wall Mounted Pneumatic/Turbine based Transport Ventilator 2. EN 1789 certified mount 3. Suitable for adults, children and infants up to 5 kg 4. Modes of ventilation: 5. ACMV or CMV 6. PEEP 7. Power source: Compressed air / oxygen 8. FIO2: 100% oxygen & air mix mode (with approx. 45% to 100 %) 9. Equipment should be supplied complete with integrated carrying bracket for ambulance mounting as well as on ambulance cot, patient circuit, driving gas hose, PEEP Valve and breathing valve. (Transport Ventilator Kit) 10. Should have airway pressure monitor & disconnect/low pressure / high pressure alarms. 11. Should be European CE or US FDA certified 12. Supplied with built in backup battery about 6hrs
ECG Machine	<ul style="list-style-type: none"> • Twelve channel 5.7" or more LCD display for all 12 leads along with onscreen details. • Recording for 12 channels simultaneously and have option for userselectable any lead. • Rhythm lead. Can able to print ECG at A4 size paper through inbuilt printer. • Recording speed selection of 5, 10/ 12.5, 25 and 50 mm/sec. • Sensitivity of 2.5, 5, 10, 20 mm /mV. It should also have AGC (Automatic Gain Control) • Facility to enter patient information (Patient ID, Name, Age, Sex, Hospital's name) which get updated in system and is recorded on the recorder A4 paper • Patient memory function 20 patients or more • Waveforms can be recorded. • Interpretation software. • Mains and in built rechargeable battery backup atleast 2

	<p>hrs/ 30 ECG</p> <ul style="list-style-type: none"> • Should have USB port/SD card (to be supplied by the bidder)/ equivalent port to send the data in the Computer.
	<ul style="list-style-type: none"> • Equipment should be European CE with four digit notified body number or US FDA or BIS approved and certificate to be submitted. • Supplied with trolley with casters.
Nebulizer	<ul style="list-style-type: none"> • Should be lightweight, portable and compact. • Should have a dust filter. • Should be able to deliver a flow rate ≥ 7 lpm • Should have air pressure ≥ 35 psi. • Should have a check valve to protect the device against contamination due to backward inhalation • Should be compatible for continuous use • Should work on 200-240Vac/50Hz with G type top plug • Should be supplied with nebulisation accessory kit with mask for adult and paediatric – 2 nos. each • Nebulisation mask for adult and paediatric – 10 nos. each

CSSD

**Autoclave
(Horizontal)
500 x 1200
mm**

- System should be triple wall steel quality steam sterilizer with minimum pressure of 15 -25 PSI, with operating temperature 121°C-134°C
- Capacity of minimum 300lts.
- Outside should be made up of corrosion resistant SS 316
- The sterilizer chamber will be formed out of SS 316 quality material 6 mm thick. The jacket will be formed out of Boiler Quality Carbon Steel 6 mm thick. The chamber and jacket will be insulated with a layer of fiber glass wool to avoid heat dissipation
- The jacket outer cover will be of SS 304. The sterilizer will be provided with one no. pressure locking type safety door
- Boiler should be located under the sterilizer.
- System should be fully insulated
- Steam generator should be made of heavy duty grade SS 316.
- Pressure controlled device should be fitted in all electrically operated steam sterilizer.
- Should have the facility to cut off the power supply to heaters when the set pressure is achieved and re-energies the heating element when pressure falls below the set point.
- Element should be high grade flanged type and placed in the side wall for easy replacement.
- System should be fitted with glass made water gauge for water level, safety valve, water inlet and drain valves.
- Having high pressure locking safety facility and made of good quality stainless steel 304 quality
- System should be provided with self locking safety doors, which cannot be opened when the chamber is under pressure.
- There should be clutch mechanism automatically disengages for any eventuality of accident, when the chamber is under pressure.
- Should be provided with two separate valves for evacuating air and steam from inner chamber.
- The sterilizer shall have single door (Hinge type) with radial locking made up of SS304 bars. Should be provided with digital temperature indicator cum controller and timer. Digital Temperature controller with inbuilt timer that will cut off the heaters automatically after lapse of pre set time at the pre set temperature.
- Electricity load should be 6.0 to 18.0 KW.
- The unit shall be capable of being stored continuously in ambient temperature of 0-50°C and relative humidity of 15-90%
- Stand shall be made of Mild steel with anticorrosion paint.

	<ul style="list-style-type: none"> • Color strip indicator.
Autoclave (Horizontal)	<ul style="list-style-type: none"> • Cylindrical / Rectangular design • Stainless steel interior and exterior
400 x 600 mm	<ul style="list-style-type: none"> <input type="checkbox"/> ISI marked flange / immersion heating elements <input type="checkbox"/> Working pressure 15 psi to 20 psi <input type="checkbox"/> Standard temperature 121°C <input type="checkbox"/> Silicon rubber door gasket <input type="checkbox"/> Digital Temperature controller <input type="checkbox"/> Digital Timer and alarm (buzzer) <input type="checkbox"/> Automatic pressure control switch <input type="checkbox"/> Reliable steam pressure gauges <input type="checkbox"/> Vacuum breaker and steam trap valve <input type="checkbox"/> Brass safety valves <input type="checkbox"/> Viewing glass water level check <input type="checkbox"/> Triple walled construction <input type="checkbox"/> Automatic water level cut-off <input type="checkbox"/> Powder coated / chrome plated MS Stand <input type="checkbox"/> Design Type Cylindrical or Rectangular <input type="checkbox"/> Construction Triple Walled <input type="checkbox"/> Inner chamber SS 304 with full argon welding <input type="checkbox"/> External chamber SS 304 <input type="checkbox"/> Finishing Mirror finished inner and external surface <input type="checkbox"/> Insulation Glass wool <input type="checkbox"/> Boiler <input type="checkbox"/> Made of SS 304 sheet <input type="checkbox"/> water inlet & outlet valves <input type="checkbox"/> Water level glass window <input type="checkbox"/> Boiler safety valve <input type="checkbox"/> All piping SS 304 <input type="checkbox"/> Chamber condensate line Fitted with steam trap and check valve <input type="checkbox"/> Working temperature 121°C <input type="checkbox"/> Working pressure 15 to 20 psi <input type="checkbox"/> Hydraulic tested on 40 psi <input type="checkbox"/> Controller type <input type="checkbox"/> PID temperature controller <input type="checkbox"/> Digital timer controller with END cycle buzzer <input type="checkbox"/> Sensor PT100 <input type="checkbox"/> Heaters ISI mark immersion heaters <input type="checkbox"/> LID SS 304 w/ Pressure locking device <input type="checkbox"/> Radial locking system Chrome plated MS <input type="checkbox"/> Stand Chrome plated MS <input type="checkbox"/> Pressure

	<ul style="list-style-type: none"> □ Automatic pressure control switch □ Analog dial type pressure gauge 						
	<ul style="list-style-type: none"> • Manual pressure release valves for chamber & jacket • Multiport valve • Selection of sterilization • Only chamber pressure release • Full chamber / jacket both pressure release • Tray Perforated tray made of SS 304 • Standard fittings • Mains MCB • Silicon gasket • Vacuum breaker • Stream trap • Pressure safety valve • Boiler safety valve • Power supply 440 Volts 50Hz, Three Phase • Optional • Working at 30 psi with 134°C • Provision of vacuum drying • Low water cut-off • Digital pressure display • Auto release of pressure through solenoid valves • Complete SS 304 / SS 316 construction (GMP model) • PLC + Color HMI with Data logging, USB interface, Ethernet • Thermal printer 						
Drying cabinet	<ul style="list-style-type: none"> • Medium to Long Term Constant Ultra-Low Humidity Storage and ESD safe • 02 series are equipped with 1 patented dry unit to constantly maintain the ultra-low humidity to min. 2%RH to max 50%RH, (digital controlled) to meet IPC/JEDEC J-STD-033C demands, and are ideal for the moisture proof and anti-oxidation storage of the following items. • 1.Storage of all kinds of Interated Circuits and Silicon Wafers etc • Storage of PDP Inspection Equipments and Liquid Crystal Cleaning Equipments etc • 3.Storage of Aerospace related instrumentsand Tools • 4.Storage of Optical Equipments and Digital Media • 5.Storage of Chemicals, Medicine, Cultural Assets,etc <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Model</td> <td>SD-1106-02</td> </tr> <tr> <td>External W*H*D (cm)</td> <td>120*184*67</td> </tr> <tr> <td>Internal W*H*D (cm)</td> <td>119*156*62</td> </tr> </table>	Model	SD-1106-02	External W*H*D (cm)	120*184*67	Internal W*H*D (cm)	119*156*62
Model	SD-1106-02						
External W*H*D (cm)	120*184*67						
Internal W*H*D (cm)	119*156*62						

	Capacity (L)	1160
	Wt (kg)	160
	Mean Power Consumption	28W/h=20.2kW/month
	Rated Voltage	Variations in voltage are available
	Material	Steel body with ESD safe painting and conductive glass windows
	Stainless Steel Shelves	5 pcs
Ultrasonic instrument washer /cleaner	<ul style="list-style-type: none"> • Ultrasonic cleaners should produce high frequency and high intensity sound waves that removes dirt and debris from instruments. • Should be timer controlled ULTRASONIC CLEANER. Automatic initializing and easy to set three durations by touch buttons. • Should have a high quality deep drawn stainless steel vessel to avoid rusting and should be housed in high-grade elegant fiberglass casing. • Mesh basket should be made of stainless steel to place instruments for cleaning. • Tank capacity should be a minimum of 10 liters • Should have multiple timer settings • Noise level should not exceed 65 dB • One accurate self measuring bottle of each solution: Super concentrate general purpose cleaner, Enzymatic Solution, Germicidal Cleaner (effective to kill HIV virus), Cement remover solution • Input voltage - 230 V. AC + 10% 50Hz G type plug • Temp control - Microprocessor based PID temp controller • Temperature - 5 deg. C above ambient to 250 deg. C • Temp. Accuracy - +/- 1deg c. • Inner Chamber - Stainless Steel 304 Quality • Outer Chamber - Mild Steel Power coating, Gasket for door sealing • Inner Dimension - 24"Wx24"Dx36"H • Outer Dimension - 30"Wx30"Dx48"H • Distance between trays - 6" • Trays - SS 304 quality Perforated Trays • No. of trays - 06 nos, suitable according to inner dimension • Heater Rating -6 k.w. • Heater - SS tubular AIR Heater on both sides • Circulation - Motorized air circulation from top for Uniform temperature 	

	<ul style="list-style-type: none"> • Power supply : 220 / 230 Volts A.C.
Cssd Rack (1200(w) x 500(d) X 1800 9H) Mm	<ul style="list-style-type: none"> • Ss wire mesh rack for CSSD WITH Shelves : 5 • Finish: Chrome
Washing Station 2400x650x90 0 mm	<ul style="list-style-type: none"> • Made from stainless steel 304 quality materials. Handle on both sides. Provided with three nos shelves. All three sides enclosed and one side will have double door. 5" dia castor wheels of which two withbrakes

BLOOD BANK	
Donar Chair	<ul style="list-style-type: none"> • Comfortable chair type with soft padding for cushioning and rexin cover. • Seat, back rest and leg rest size designed for donor comfort. Seat height approximately 58 – 60 cm. • Adjustable arm rest for donor’s comfort and phlebotomist friendly. Easily tilted to head low position, electrically operated. To be operational on 220 to 240 V at 50 Hz with G type top plug
Blood collection Monitor	<ol style="list-style-type: none"> 1. Should have facility to preset total volume of blood to be collected& accordingly monitor& display amount collected. 1. Battery backup should be > 8 hours with continuous work load. 2. Should have a facility for gentle and uniform mixing of blood and anticoagulant. 3. Should have facility to view the collection time 4. Should have detachable tray for easy cleaning 5. Should have motor activated clamping system and automatic clamping for low rate, <20 ml/mt for more than 2 mts 6. Should have protection against Electrical shock. 7. Oscillation details: 12+2 RPM, Motor driven 8. Should have volume setting ranges from 50ml to 500ml in steps of 9. 5ml, Automatic storage and recall of set volume. 10. Should have a LCD display with backlight. 11. Accuracy: + 2% of programmed volume 12. Should have the following alarm indications <ol style="list-style-type: none"> a. LCD/LED indication and audible alarm for debit flow when flow rate goes below 20 ml/mt or high flow rate above 180 ml/mt. b. LCD / LED indications and audible alarm at the end of collection c. LCD /LED indications & audible alarm during power failure, LED blinking when battery low. d. LCD/LED indications and audible alarm during power failure 13. Should be operated on 200-240Vac, 50Hz supply with G type top plug and have an inbuilt

	<p>maintenance free lead acid battery with charger and a battery having a minimum of 5 hours backup.</p>
<p>Cryoprecipitate bath</p>	<ul style="list-style-type: none"> • Features Setpoint Fixed at 4°C (Variable Setpoint 4° to 40°C on -V models) Thaws up to 24 units of FFP or Whole Blood (WB) simultaneously Bright temperature and elapsed time displays Built-in over-temperature and flow alarms Calibration capability High efficiency fluid filter, removable air filter, reservoir drain Hinged polycarbonate gabled cover Common Specifications • Working Temperature Range °C Setpoint Fixed@ 4°C (For a Variable Setpoint option, please contact Sales) Reservoir Capacity (gallons) 13.8 Reservoir Capacity (liters) 52.24 • Reservoir/Tank Material Stainless Steel Reservoir Cover Included Cleanable Air Filter Yes Working Access (L x W x D) (inches) 20.6 x 13 x 12 in Working Access (L x W x D) (cm) 52.4 x 33 x 30.5 cm Temperature Stability °F ±0.2° Temperature Stability °C ±0.1° Display Two Digital Readouts Display Resolution (Set) 0.1 Display Resolution (Read) 0.1 Over-Temperature Protection / Failsafe Heater Control Yes Low Liquid Level Protection Yes Reservoir Drain Yes Maximum Ambient Temperature °F 95° • Maximum Ambient Temperature °C 35° • Overall Dimensions (L x W x H) (inches) 28 x 14.5 x 36.6 in Overall Dimensions (L x W x H) (cm) 71.1 x 37 x 93 cm Shipping Weight (pounds) 200.0 Shipping Weight (kilograms) 90.7 Catalog Page Number 75 50 Hz Only Part Number 6250MYCRY30E / 6250MYCRY30E-V • Electrical Requirements (VAC/Hz/Ph/A) 240/50/1/9.0 Regulatory Approvals CE 60 Hz Only Part Number 6260MXCRY10C / 6260MXCRY10C-V • Electrical Requirements (VAC/Hz/Ph/A) 120/60/1/11.25 Regulatory Approvals TUV
<p>Blood bank refrigerator</p>	<p>Description of Function</p> <ul style="list-style-type: none"> • For storing blood & blood products. It should be microprocessor based. <p>Technical Specifications</p> <ul style="list-style-type: none"> • Blood Bank Refrigerator should have capacity to hold 300-350 blood bags of 450ml capacity • Temperature range from 2 deg C to 6 deg C. • Holdover time : full load of blood bags at 4 deg C should take more than 1.5 hrs to rise above 6 deg C if power off and it should be

	<p>supported by providing performance curves</p> <ul style="list-style-type: none"> • Cooling down time: A full load of blood bags at 25 deg C should not take more than 12 hrs for all the bags to reach below 6 deg C and it should be supported by providing performance curves. • It should have galvanized sheet steel construction, powder coated and adjustable feet. • No welded joint to be exposed for rusting. • Insulation of high-grade pressure – foam material. • Lockable door with front glass and tight sealing (Magnetic closing) surround to prevent cold loss. Should have at least 4 rollout type drawers with stainless steel make Automatic defrosting and condensed melt water evaporation. • Re-circulating air-cooling system. • Hermetically enclosed, low noise, vibration proof/ low vibration compressor. • Visual and audio signal alarm system for over temperature, undertemperature, power failure, door opening • Epoxy coated outside finish and GS interior. • Low noise, automatic defrosting, CFC free & HCFC free. • Digital temperature display should be provided. Should providedatalogger or circular chart recorder. • Calibration certificate shall be provided at the time of installation in respect of all the parameters that require calibration. • Power input to be 220-240VAC, 50Hz with G type top plug. • Should be European CE or US FDA or BIS approved product • The units shall be capable of being stored continuously in ambient temperature of 0 - 35 deg C and relative humidity of 15-90%. • The units shall be capable of being operating continuously in ambient temperature of 10 - 40C and relative humidity of 15-90%. • Accessories Datalogger - 1 no or Circular chart recorder 1000 nos Suitable voltage regulator/stabilizer meeting ISI specification - 1 no
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<p>Ultra Low Temperature Research Cabinet of 400 Litre with Horizontal</p>	<p>Specifications:</p> <ul style="list-style-type: none"> • Door: Double walled door inner lined with SS, SS handle, lock with key and magnetic gasket • Mobility: Heavy duty castor wheels • Compressor: Emerson / Danfoss • Refrigerant: CFC Free • Condenser: Fin and Tube type • Trays: SS tra
<p>Medical Refrigerator 300Lts.</p>	<p>Our company offers a premium-class RLR 300 Laboratory Refrigerator with a capacity of 300 liters that can be used in small to large-scale medical as well as chemical laboratories to store test samples, pharmaceutical liquids, and vaccines at the desired temperature to keep them safe for a longer period. It is installed with a forced circulation as well as auto-frost technologies that make them capable to operate efficiently. RLR 300 Laboratory Refrigerator availed by us is capable to achieve a wide range of temperatures in between - 20 to 80 degrees Celsius.</p> <ul style="list-style-type: none"> • Specially designed biological refrigerator for efficient vaccine storage • Microprocessor based precise temperature controls at 2-80C • Wide LED for display of temperature & alarm • Inner body made up of medical grade compression molded plastic • Automatic defrost for frost free operation • Uniform temperature with forced air circulation • Clear product visibility with dual glass door • Adjustable coated wire mesh shelves • Available in three capacity of 200, 300 & 400 Liters <p>Specification</p> <ul style="list-style-type: none"> • Capacity: 300 Liters • Product Dimensions (WDH): 584 x 584 x 1702 • Number of Basket / Trays: 4 • Number of Doors 1

	<ul style="list-style-type: none"> • Type: Vaccine Refrigerator • Temperature Range:-20 to 80 C • Door Type:" Vertical Swing Door(Front Loader) • Production Capacity: 500-1000 • Product/Service Code: RLR 300
<p>Plasma freezer - 40deg.C</p>	<p>General Features:</p> <ul style="list-style-type: none"> • Temperature range from -25°C to -80°C with micro • Controller based temperature controller includes digital • Temperature display of set value and process value. <p>Cabinet Construction:</p> <ul style="list-style-type: none"> • The cabinet of Meditech refrigerators is insulated with highdensity CFC free Poly Urethane Foam 120 mm thick insulation • Interior chamber is finished resistant stainless Steel (304, 0.8 mm thick)
	<ul style="list-style-type: none"> • The exterior is Sky Blue/white Pure Polyster powder coated (1.0 mm thick) Mild Steel and the door has a magnetic gasket with a keyed lock • Stainless steel trays are provided for storage inside • The refrigerators are provided with handle and lock for safety and security <p>Refrigeration:</p> <ul style="list-style-type: none"> • Heavy-duty, air-cooled refrigeration system • Forced air circulation maintains chamber uniformity of +/-1°Cand provides quick recovery after door openings • Non-CFC, commercially available refrigerant • Automatic condensate evaporator is standard • Internal evaporator fan(s) shut off during door openings • Defrost cycle required to maintain constant temperature <p>Temp Controller:</p> <ul style="list-style-type: none"> • Micro processor based temperature control with accuracy of1°C <p>Audio Visual Alarm:</p> <ul style="list-style-type: none"> • Audio Visual Alarm when the door is opened • Audio Visual Alarm when temperature deviates from presettemperature

	<p>Chart Recorder: 7 days circular Chart recorder is provided emission-leak-testing-systems-for-astm-d3078/</p>
<p>Ultra Low Deep freezer - 80 degree C</p>	<ul style="list-style-type: none"> • Application- Storage of Blood, Capacity- Min 100 bags of 450ml. • Operating temperature -50 deg C to -86 deg C Vertical model with internal capacity 500 to 600 liters • Constant Temperature control with digital display, continuous recording of temp. • Power Supply 220V +/- 10%, 50 Hz. Unbreakable glass door, • CFC Free refrigerants, • Special Insulation to maintain temperature control, Interior of stainless steel, • Exterior-Powder Coated steel, • Facility for preventing moisture condensation around mouth of cabinet, Audio visual alarm with adjustable high and low alarm limits, Should be supplied with min 30 min battery backup. • Energy saving consumption, Key operated power switch,
	<ul style="list-style-type: none"> • Auto Defrosting, Door opening alarm, • Facility for Self-diagnostics, Safety thermostat, Memory storage.
<p>Platelet Agitator</p>	<ul style="list-style-type: none"> • Stainless steel chamber with adjustable shelves and a toughened glass inner viewing door. • The outer cabinet is to be rust resistant. • Temperature Control detail required:- • An LED display to show the chamber temperature, Indicator • Lamps to show when the heater is active and if an overtemperature condition exists. • The over temperature safety cut-out to be set by the user. • Fitted with circulation fan. • Temperature Range : At least 5°C above ambient to +60°C • Control (fan) : ±0.1°C at +37°C • Variation (fan) : ±0.25°C at +37°C • Chamber Capacity: : 200 Litres • Shelves: : 4
<p>Tube Sealer</p>	<ul style="list-style-type: none"> • Heavy Duty radio frequency sealer • Capable of doing 500+ sealings in 8 hrs.

	<ul style="list-style-type: none"> • Electrically operated, • 1000-1200 seals/battery charge, • Compatibility with the tube thickness of any size. • Safety as per EN61010-1, IEC 60601-1 (IEC601-1), • EMC approval -IEC 60601-1-2 , • Electrical safety class II Type,
Elisa Plate Rotator	<ul style="list-style-type: none"> • Elisa plate shaking at adjustable speed from minimum to maximum required for Elisa test. • The Rotator having platform of size 300 × 300 which can take Elisa plates in the special framed cavities. • An imported time 0–1 hr. is also fitted to control the shaking duration. Supplied complete with cord & plug. • Suitable to work on 220 V Single Phase 50 HZ Ac supply.
Plasma Separator	<ul style="list-style-type: none"> • Manual /automatic system, spring activated pressing plate, Facility for Clamping, Detection of red cells, Detection of buff coat, Audio alarm, Specify Detection method, Facility for automatic calibration. • Air flow vertically from top to bottom, Thick ply board bench reinforced with Teak wood, mounted on top of tabular frame with acrylic side panels and used as a work bench, The back of frame should be covered with laminated board of aluminium sheet, Visible surfaces should be are laminated, Interior surfaces painted with air drying epoxy paint, • Filter seat should have rubber padding for perfect sealing, Perspex sheet side panels framed in Anodized Aluminium frame.
Syringe Needle Destroyer	<p>Specifications for Syringe/ Needle Destroyer:</p> <ul style="list-style-type: none"> • Able to cut the needle along with hub of any size. • Syringe i.e. glass or plastic should get destroyed by cutting the needle, device should be connected to a secure sharps disposal container. • The system should be manually operated so that it can be used inside the biological safety cabinets. • Needle hub container should be multi-use reusable.
Binocular microscope	<p>Description</p> <ul style="list-style-type: none"> • The equipment should have the following features: • Optical system: • Infinity corrected system

	<ul style="list-style-type: none"> • Focus • Vertical stage movement 25mm or more per coarse • Stroke Vertical stage movement 100micron or less per Fine stroke. • Illuminator • Lamp House for LED with connecting cable having life Span of 20,000hrs approx • Revolving nosepiece: • Reversed Sextuple revolving nosepiece. • Objectives: • Plan 2X N.A 0.06 4X N.A 0.10 • 10X N.A 0.25 • 20X N.A 0.40 • 40X N.A 0.65 (spring loaded) 100X N.A 1.25 (Spring loaded, oil) • Observation tube: • Wide field Trinocular Eyepiece Tube with FOV 25mm or more • Stage • Ceramic coated surface mechanical stage with right-hand low drive
	<p>control with left</p> <ul style="list-style-type: none"> • hand for two specimens • Condenser: • Swing out condenser N.A. 0.9- 0.22. Accessories for Polarized microscopy upgradation • should be possible. • The equipment should be USA- FDA/BIS/European- CE (with 4 digit no. approved by • validated Agencies) approved Model.
Coagulometer	<p>Specifications of coagulometer:</p> <ul style="list-style-type: none"> • Twin channel coagulometer for routine tests: PT, a PTT, TT, Fibrinogen and clotting factors. • To have 30 sample capacities 37 deg C dry incubation block. • To have automatic counter, to grig off when starter reagent is added to sample and to stop when clot is formed. Results to be displayed and printed. • To have recorder output for platelet aggregation • Number of channels 2 • Measuring system Photometric • Beam source Infra-red LED

	<ul style="list-style-type: none"> • Incubation 37 deg C + 0.2 deg C • Capacity 30 cuvette and 3 reagent bottles • Display twin 3 digit 00.0 to 99.9 seconds. • Keyboard 6 keys • Printer 20 column, 64 characters.
PH Meter	<ol style="list-style-type: none"> 1. pH range : 0-14, Resolution : 0.1, 0.01, 0.001, Accuracy : ± 0.02 2. Temperature range: -5°C to $+ 150^{\circ}\text{C}$, 3. Resolution: 0.1, Accuracy: $\pm 0.1\text{mV}$: ± 2000, Accuracy: $\pm 0.01^{\circ}\text{C}$, Resolution: 0.1, Accuracy: ± 0.2 4. Automatic temperature compensation with slope correction 5. Three point calibration 6. Buffer solution of pH 4, 7 and 10 for calibration. 7. Spare set of electrode with washing bottle. 8. Simultaneous measurement of pH, mV and temperature. 9. Calibration data with date and time. 10. Calibration reminder alarm. 11. Audible beep indication during valid key operation. 12. Combined pH and conductivity measurement. 13. CE compliance
	<ol style="list-style-type: none"> 14. Power : AC adapter, optional AA batteries 15. Water proof Interface : USB or RS 232 16. Display : 4 Digit LCD 17. With automatic temperature controller probe, 18. Automatic temperature compensation with slope correction 19. Temperature range - -5°C to $+ 100^{\circ}\text{C}$
Cell Counter	<ul style="list-style-type: none"> • Parameters: WBC, RBC, Hgb, Hct, MCV, MCH, MCHC, Plt, Pct, RDW • MPV, Ly%, Ly#, Mo%, Mo#, Gr%, Gr#, Eosinophil Screening, PDW, RDW% • All in pre-diluted mode, LPLT, Option of test, CBC / Diff., CBC, Hgb, • Through put-50 or more, Cycle time and start up time to be specified • Bar code reading-Optional, Reagents- should be available locally. • Cost per test and shelf life of reagents to be mentioned. • Display- LCD Monitor, Histogram, Scatterogram, Flag message for abnormal results, Printer- inbuilt. • Data management- Data storage capacity to be specified, Data archiving. Specify technology used for calculating various

	<p>parameters and also specify linearity and precision parameters.</p> <ul style="list-style-type: none"> • Should be upgradable. Blood controls with 21 d stability
Haemoglobinometer (Electronic)	<ul style="list-style-type: none"> • Features • Digital Hemoglobinometer is also known as Hb Reader. • Direct Display in Hb. units • 1 ml Sample Volume • Highly Stable & Easy To Operate • Storage of Factor in Memory • Microprocessor Haemoglobin Meter is used to determine the haemoglobin concentration in the blood sample. • The measurement haemoglobin concentration is carried out at wavelength of 546 nm. • Using state-of-the-art LED technology the green light produced is projected through the sample and measured by sensitive photodiode. • The measurements are made using cyanmethemoglobin method. • Haemoglobin is an iron-containing protein found in the red blood cells. It enables the red cells, to carry oxygen from lungs to the rest of the body and carry carbon dioxide back. • The haemoglobin level indicates the blood's oxygen-carrying capacity and can play a major role in the early diagnosis of many illnesses such as thalassemia, sickle cell anemia, leukemia, malaria and hook worm etc. • Measuring Method - Cyanmethemoglobin • Measuring Range - 0 – 30 gm/dl of Hb.
	<ul style="list-style-type: none"> <input type="checkbox"/> Dilution Ratio - 1:25 I <input type="checkbox"/> Sample Volume - 1 ml <input type="checkbox"/> Display - 3 Digit <input type="checkbox"/> 7-Segment Red LED Display <input type="checkbox"/> Wavelength - 546 nm <input type="checkbox"/> Keyboard - 3 Keys, Soft Touch Membrane Type <input type="checkbox"/> Zero Setting - Automatic <input type="checkbox"/> Detector - Highly sensitive silicon photodiode <input type="checkbox"/> Power - 230 V ± 10% AC, 50 Hz with G type top plug <input type="checkbox"/> Dimensions (L x B x H) - 195 x 235 x 105 mm (Approx.) <input type="checkbox"/> Weight - 2.5 Kg. (Approx.) <input type="checkbox"/> Accessories - Matched Test Tube: (A set of 5), Operation Manual and Dust Cover <input type="checkbox"/> We are Manufacturer, Exporters and Suppliers of Digital Hemoglobinometer Deluxe at wholesale competitive prices from India.

SURGICAL INSTRUMENTS

Gyane Set	<ul style="list-style-type: none"> • Cannulas • Clamps • Curettes • Dilators and Sounds • Electrodes • Extractors • Forceps and Graspers • Hooks • Instruments for use with Lasers • LEEP - Insulated Instruments • Needle Holders and Needles • Punches • Retractors - hand held and self-retaining • Rigid Scopes such as hysteroscopes • Scissors • Speculums
Obst Set	<p>Gynecological and obstetrics Instruments</p> <p>Artery Forceps</p>
	<p>INDICATIONS • It can be used as a hemostat used for clamping bleeding vessels during haemorrhage. • It is also used for grasping tissue at the time of operation(Opening and closing peritoneum) . • It is also used to hold stay sutures.</p> <p>Allis' Forceps</p> <p>INDICATIONS □ This instrument is used for grasping tough structures like Rectus sheath or fascia in operations like tubectomy, LSCS (lower segment caesarean section) ,abdominal hysterectomy.</p> <p>Ayre's Spatula</p> <p>INDICATIONS □ Is Used for taking Pap Smear for screening of carcinoma cervix. Made of wood so that cells can adhere to its porous surface. □ The long end is inserted into cervical canal and rotated in 360 degrees. The exfoliated cells obtained are smeared on glass slide and fixed in Koplicks jar which contains ether and alcohol in equal amount. □ The other broad end is used for obtaining cells from lateral vagina for knowing the hormonal status.</p> <p>Babcock's Forceps</p> <p>INDICATIONS • This instrument is used for grasping tubular structures like fallopian tube in tubectomy in</p>

	<p>modified Pomeroy's operation , ureter , appendix etc. • The tip is atraumatic as there are no sharp tooth.</p> <p>Band Applicator for Lap Tubal Ligation (TL) Tip of Band Applicator for Lap TL</p> <p>Tip of Band Applicator for Lap TL</p> <p>INDICATIONS • This instrument is used for applying silastic bands to fallopian tubes in laparoscopic tubal ligation. • The tube is identified and grasped in the ampullary region by opening the prongs. • The prongs are pulled inside the sheath and the loaded ring is then pushed over the tube. • The prongs are then released. The part of the tube above the band looks blanched. The bands are loaded just prior to grasping the tube.</p> <p>Cusco's Speculum (Duck's Speculum)</p> <p>INDICATIONS • Self retaining double bladed vaginal speculum. • Used in OPD for routine examination. Because of limited opening only few procedures like taking of Pap smear , insertion and removal of Copper T can be done.</p> <p>Doyen's Retractor</p> <p>Deaver's Retractor for retraction of deep structures</p> <p>Balfour self retaining retractor</p> <p>Right Angle Retractor used for Tubectomy/ landon's bladder retractor</p> <p>INDICATIONS • This instrument is used for retracting bladder during abdominal operations like LSCS , abdominal hysterectomy ,</p>
	<p>laparotomy.</p> <p>SCISSORS</p> <p>Mayo scissors Straight mayo scissors Curved mayo scissors Bonney scissors</p> <p>Metzenbaum scissors</p> <p>Episiotomy Scissors/ perineorrhaphy</p> <p>INDICATIONS • This is used for giving episiotomy. • Episiotomy is given in primi (rigid perineum) before forceps or vacuum OR in breech delivery and in preterm delivery. • Episiotomy is usually given under local anesthesia (1% Xylocain) at the time of crowning of head. • The sharp blade of the instrument is inserted in the vagina protecting fetus by two fingers of the doctor. • The cut is given medio laterally (Midline or Lateral episiotomy is usually not given) • The episiotomy is sutured in 3</p>

	<p>layers with no 0 (one zero) chromic catgut. • The first layer is vagina starting with the apex. The second layer is perineal muscles and the third layer is skin. • The episiotomy can extend if proper perineal support is not given. Extension to anus is seen in median episiotomy.</p> <p>Towel clip</p> <p>INDICATIONS □ It is used in draping the operative area abdominal or vagina □ The towels or sheets are fixed to the skin and each other with these clips</p> <p>Barkelay bonney vaginal clamp</p> <p>INDICATION • To occlude vaginal canal prior to cutting the vagina in wertheim's hysterectomy</p> <p>Punch biopsy forceps</p> <p>INDICATIONS • To take biopsy from the cervix • The biopsy is taken as an outdoor procedure without anaesthesia • The site of biopsy is either from the suspected area or schiller's iodine or colposcopy directed</p> <p>Dissecting forceps (toothed and non-toothed) Toothed Non toothed</p> <p>INDICATIONS • To hold tough structures like rectus sheath, cut margins of vaginal flaps PFR (pelvic floor repair) or the skin margins during suturing</p> <p>Foleys Catheter</p> <p>INDICATIONS • This is a self retaining catheter most commonly used for drainage of the urinary bladder after surgery. • It is used in operations like Abdominal , Vaginal Hysterectomy , Wertheim's Hysterectomy, Repair of Vesico-vaginal fistula. • It is also used for diagnosis of incompetent cervix and for sono-salpingo-graphy • It has a bulb below the tip. This can be inflated by normal saline. It has two channels. One for inflating bulb and has a valve • The other channel is for drainage of urine to which urobag is attached. No 14 or 16 are used in adult. No 8 for sono-salpingo-graphy.</p>
	<p>Plain catheter / female rubber catheter</p> <p>INDICATIONS • To empty the bladder in retention of urine • To use as a tourniquet in myomectomy operation as alternative clamp</p> <p>Female metal catheter</p> <p>INDICATIONS • To empty the bladder prior to major vaginal operations • It minimizes the injury to the bladder • To confirm the diagnosis of Gartner's cyst from cystocele • It is not used in obstetrics to avoid trauma</p> <p>Auvar'd's self retaining posterior vaginal speculum</p> <p>INDICATIONS • It is used as posterior vaginal wall</p>

retractor in operations like anterior colporrhaphy, vagina hysterectomy etc • It should be used only when the operation is done under general or regional anesthesia as the instrument is heavy. It requires no assistance.. (prolonged use may cause perineal pain in postoperative period)

Green Armytage Forceps

INDICATIONS □ This forceps is used as a hemostat in caesarean operation. As the tips are broad wide area can be compressed. □ In LSCS the cut uterine edges bleed, this forceps is applied to the two angles and lower and upper edge of the incision. □ The common indications for LSCS are fetal distress in first stage, CPD (chronic pelvic disease) , abnormal presentations like transverse lie , brow , breech in primi , previous two scars on the uterus.

CERVICAL DILATORS

Hegar's Dilator/ Das's dilator Hawkin-ambler dilator

INDICATIONS • Its a long rod like instrument with gentle curve and tapering tip. • It is used for dilatation of the cervix in procedures like D&C , D& E , Fothergills operation , Hysteroscopy, Cervical Stenosis , Primary dysmenorrhoea. • It can cause perforation if too much force is used. Very large dilatation can cause cervical incompetence.

Kocher's Forceps (Clamp)

INDICATIONS • This instrument is used for holding fallopian tube in hysterectomy. • The tips of the blades have teeth so that the tissue does not slip. • The blades can either be straight or curved. This instrument is used in hysterectomy to clamp fallopian tube which are then transfixed. • It is also used for salpingectomy in ectopic or oophorectomy in ovarian mass. This can also be used for clamping umbilical cord of new born at the time of delivery or for artificial laceration of membranes (ARM).

Karman's Syringe (Menstrual Regulation)

INDICATIONS □ This syringe is used for Menstrual Regulation and endometrial aspiration. The capacity is 50 ml. □ The tip has a rubber attachment with valve. The piston when withdrawn can be locked. It creates negative suction. □ To the rubber attachment at the tip, plastic

cannula is attached and is inserted in uterine cavity. □ The valve is released and with negative pressure contents of the uterine cavity are sucked. □ This should be repeated till the cavity is empty. Complication of the procedure is incomplete evacuation because of limited suction pressure.

Rubin's Cannula / insufflation cannula

INDICATIONS □ This cannula is used for tubal patency test for infertility like HSG (Hystero- salpingo-graphy) or Chromo perturbation in laparoscopy. □ In HSG radio opaque iodine(Urographin) is used (it is colorless to naked eye but on X Ray is seen as opaque white). □ For Laparoscopy Methylene Blue dye is injected through the cannula. □ This cannula has a rubber guard which needs adjustment. It prevents backward leak of the dye. □ These tests are also performed after tuboplasty .

Leech Wilkinson's Cannula / hysterosalpingography cannula

INDICATIONS □ This cannula is also used for tubal patency . □ It is straight instrument with conical tip. □ This cone is screwed into the cervix. □ Then dye is injected.

Combined Uterine manipulator and cannula for laparoscopy It is an instrument used in laparoscopy to manipulate uterus

Needle Holder

INDICATIONS □ This instrument is used for grasping needle at the time of suturing. □ The inner surface of tip has serrations and a small groove for firm grasp of the curved needle. □ The box joint is placed very close to tip to give adequate pressure because of the lever effect.

Ovum Holding Forceps

INDICATIONS □ This instrument is used for removing the products of conception in inevitable , incomplete abortion and in MTP operations. □ The tip of this instrument is rounded cup like to avoid perforation and to hold large tissue. □ This instrument has no catch This is to avoid perforation of wall.

Purandare's Dilator

INDICATIONS □ This cervical dilator has a guard and long tapering end. □ The guard helps in preventing insertion beyond that length and protect against perforation. □ In the picture it is numbered 2,3,4,5 representing diameter in mm from the tip to the guard.

Sims' Anterior Vaginal Wall Retractor

INDICATIONS □ This instrument is used with Sim's

	<p>Speculum. Its long instrument with blunt loops at both the ends making an angle for easy visualization of cervix and vagina, especially useful in case of cystocele.</p> <p>Sims' Speculum</p> <p>INDICATIONS □ Sims Speculum is used for inspection of vagina and cervix in the OPD. It retracts posterior vaginal wall. □ For complete visualization anterior vaginal wall retractor must be used. □ Used in Gynae OPD for following procedures : Taking Pap Smear , Insertion</p>
	<p>and removal of Copper T , Colposcopy , Taking swabs, Hysterosalpingography (HSG) Use in Gynae Operations : D&C , Cervix Biopsy , Vaginal Hysterectomy , Fothergills Operation, Repair of Vesico vaginal fistula, Hysteroscopy.</p> <p>Sponge Holder / Sponge holding forceps</p> <p>INDICATIONS □ This instrument is used for holding sponge or a gauze piece for painting the area before operation. □ This also used for grasping the cervix in obstetrics in Os tightening operation. □ Second trimester MTP (to hold the cervix before insertion of Foleys catheter).</p> <p>□ In exploring cervix after forceps delivery (three sponge holding forceps are used). In LSCS this can be used instead of Green Armytage for clamping the bleeding edges of uterine incision)</p> <p>Suction Curette</p> <p>INDICATIONS □ This instrument is used for first trimester MTP, suction of vesicular mole. □ It is numbered as per outer diameter. The size of the cannula selected is equal to no of weeks of pregnancy.</p> <p>□ The tip is blunt (to prevent perforation) below the tip are two sharp openings for suction and curetting the cavity. □ Usually suction force of 60 mm Hg is applied. Rotational and to-fro movements are done to empty the cavity. □ Grating sensation and gripping of the cannula indicates the procedure is complete.</p> <p>Shirodkars Cerclage Needle</p> <p>INDICATIONS □ This is specially designed needle for putting stitch around the cervix. □ The needle is inserted around the cervix through the opening made in vagina . □ The suture material (Merciline tape) is threaded on the eye present at the tip and withdrawn. □ Another needle with curvature in reverse direction is used for other side. □ The knot is placed post. Vagina is closed.</p> <p>Surgical Blades/ Scalpel</p> <p>Uterine Curette Flushing curette</p> <p>INDICATIONS □ Use for scraping endometrial cavity to</p>

	<p>obtain sample for histopathology. □ The tip is angled by about 15 degrees for easy scraping. □ The tip comes in two shapes. Sharp and Blunt. Sharp curved is used in gynecology and blunt in pregnancy check curettage. □ Diagnostic D&C is done commonly for Menorrhagia, Endometrial Carcinoma, Infertility, Tuberculosis of endometrium. □ It also has secondary beneficial advantage of reducing the bleeding in menorrhagia.</p> <p>Uterine dressing forceps</p> <p>INDICATION • To swab the uterine cavity following D+E operation with a small gauze piece • To dilate the cervix in lochiometra or pyometra • To plug the uterine cavity with gauze twigs in continued bleeding after removal of polyp</p> <p>Uterine sound</p> <p>INDICATIONS □ Its a long instrument with blunt tip (To avoid perforation) □ About 5 cms from the tip its bend to make angle of 30</p>
	<p>degrees. □ It has marking on it for measurements. □ The angle helps to negotiate curvature of the uterus (Anteflexion). □ It is used for measuring uterocervical length, length of the cervix, To feel for any pathology inside the cavity like fibroid (Sub mucus, polyp) Congenital anomalies like septa or bicornuate ut., Adhesions. To feel for the misplaced IUCD.</p> <p>Lanes tissue forceps</p> <p>INDICATIONS • To hold parietal wall (bulk of tough tissues) for retraction during abdominal operations with transverse incision • To hold the polyp or fibroid in polypectomy or myomectomy operations • To hold the towel during draping</p> <p>Uterine holding forceps</p> <p>INDICATIONS • To fix and steady uterus when conservative surgery is done on the adnexae</p> <p>Cervical occlusion clamp</p> <p>INDICATIONS • Evaluation of tubal patency during laparotomy (following tuboplasty) • Cervix is occluded with instrument and methylene blue dye is injected into the uterine cavity through the fundus using a syringe and a needle</p> <p>Myoma screw</p> <p>INDICATIONS • To fix the myoma after the capsule is cut open and to give traction while the myoma is enucleated out of its bed (myomectomy) • To give traction in a big uterus (multiple fibroid) requiring hysterectomy while the clamps are placed</p> <p>Bonney's myomectomy clamp</p>

	<p>INDICATIONS • The clamp is used in myomectomy • It curtails the blood supply to the uterus temporarily thereby minimising the blood loss during operation</p> <p>Bladder Sound</p> <p>INDICATIONS □ It is long instrument with gentle curve (not angled like uterine sound) and has no markings on it. □ It is used to define extension of bladder cystocele and vaginal hysterectomy.</p> <p>Loop hook</p> <p>INDICATIONS • To remove IUCD from the uterine cavity when the threads are missing</p> <p>Electrocautery</p> <p>INDICATIONS • Thermal cauterisation of the cervix for cervicectomy</p> <p>Laparoscopy instruments □ Telescope □ Trochar n cannula □</p> <p>Veress needle</p> <p>Telescope Trocar and cannula</p> <p>Veress needle Cannula and trocar seperated</p> <p>INDICATIONS • It is used in laparoscopy operation to produce pneumoperitoneum</p>
	<p>Trocar and Cannula</p> <p>INDICATIONS □ Trocar is put in to the cannula and then inserted into abdominal cavity for laparoscopy. □ It is also called port (port of entry to telescope and other instruments.) It is numbered as per outer diameter. □ 10 mm is used for operative telescope, 7 mm is used for Band Applicator for Tubal Ligation, 5mm is used for other hand instruments like grasper etc. □ A Reducer sleeve is available to use large size port for small instrument. □ It has a trumpet valve to prevent gas leak. On one side there is opening for connecting it to gas (CO2 or Air).</p> <p>Varies Needle</p> <p>INDICATIONS □ This needle is used for creating pneumoperitoneum (Putting Air or CO2 in the peritoneal cavity) for laparoscopy. □ The tip of the needle is special. □ The inner round tip retracts when meets the resistance (Like entering skin and Rectus sheath) and allows outer sharp bevel to pierce. After entering the peritoneal cavity (When the resistance is lost) the inner round tip comes out with spring action. □ This prevents damage to inner structures Before inserting it is grasped like a dart at its base. □ The test for successful entry into peritoneal cavity is 1. Drop of saline gets sucked. 2. Nothing comes after aspiration with syringe</p>

	<p>Hysteroscopic instruments □ Telescope □ Telescope with working element □ Electrodes</p> <p>Telescope with working element Telescope with working element Electrodes(coagulating roller ball electrode)</p> <p>Hodge-smith pessary Ring pessary</p> <p>Multiple toothed Vulsellum</p> <p>INDICATIONS □ This instrument is used for grasping the cervix (Usually anterior lip of the cervix is grasped) □ Its a long instrument with gentle curve so that the line of vision is not obstructed. □ The tip of the blades have 3-4 teeth to hold and steady the cervix in procedures like Insertion of IUCD , Cx Biopsy D&C, First trimester MTP with Suction Evacuation. Cx Biopsy , Fothergills operation, Vaginal Hysterectomy □ Posterior lip of the cervix is grasped for post. colpotomy . □ Since the teeth are sharp it is not used in pregnancy as it may cause cervical tears and lacerations □ Instead sponge holding forceps is used to</p> <p>Single toothed vulsellum</p> <p>INDICATIONS • To hold the cervix after opening the vault of vagina and to give traction while the remaining vault is being cut in total abdominal hysterectomy • To hold new cervical stump after amputation of the cervix and fothergill's operation • To hold the cervical stumps left after subtotal hysterectomy • Sometimes to hold anterior lips of multiparous cervix in operation of D+C (Allis tissue for</p> <p>Tenaculum</p>
	<p>INDICATIONS □ This instrument is straight instrument and has only single bite for grasping the cervix. □ It is used for Hysterosalpingography, Hysteroscopy, Laparoscopic chromo pertubation.</p> <p>Wrigley's Forceps</p> <p>INDICATIONS □ Obstetric forceps for out let forceps delivery. It has pelvic curve. Parts of the forceps are blades (which has windows or fenestrate for firm grip of the head) ,Shank , Lock(English lock for Wriglys forceps) , Handle. Simson's Short forceps is straight forceps with only cephalic curve and no pelvic curve. Some of the Pre requisites for forceps application : Dilatation of the cervix must be full(10cm) □ Station of Vertex at plus 2 or plus 3 (for outlet forceps)</p> <p>Membranes should be ruptured □ pelvis must be adequate □ Uterine contractions must be good □ Rotation of vertex near complete □ Local anesthesia and episiotomy</p>

	<p>must be given ☐ Bladder should be empty</p> <p>Pinard's Fetal Stethoscope</p> <p>INDICATIONS ☐ This is used for auscultation of fetal heart. The tapering rim is applied to ear and the other side to mothers abdomen.</p> <p>☐ With other instruments available for auscultation of fetal heart, this is now rarely used.</p> <p>Umbilical Cord Clamp</p> <p>Umbilical Cord Cutting</p> <p>Scissors</p> <p>Vaccum Extractor (Vantouse) - Sialastic Cup</p> <p>Vaccum Extractor (Vantouse) - Metallic cup</p> <p>INDICATIONS ☐ Alternative to forceps delivery. Causes less trauma to mother and fetus. Pre requisites almost same. Available in two forms : Metal cup and sialistic cup. ☐ Can be used when rotation is not complete. ☐ Produces artificial caput called chignon. Not to be used ipre term delivery.</p> <p>Chromic catgut (One Zero) on round body needle</p> <p>INDICATIONS ☐ This is an absorbable suture manufactured from gut of large animals. ☐ The chromic catgut is brown in color and is treated with chemicals to delay the absorption up to 7 days. ☐ This suture material is used most commonly for suturing of episiotomy, perineal tares, tubal ligation with modified Pomeroy's Method, for closing peritoneum in LSCS and hysterectomy.</p>
<p>General Surgery Set</p>	<ul style="list-style-type: none"> • S.S tray with lid- len 350 mm, width 250mm, height 50mm • Kidney tray -len 200mm ,width 90mm, height 40mm • Galliot's-12 cms • Towel clips (Mayo's /Backhaus)-len 10 cms • Allis forceps 6" • Needle holder 6"&8" • Scalpel handle no 4
	<ul style="list-style-type: none"> • Artery forceps mosquito -150mm • Artery forceps (spencerwell's/crlie) -150mm • Kockers artery forceps straight 6" • Forceps (toothed plain)6" • Czerny retractor • Langenbeck retractor Blade size 1 3/4"x1/2

	<ul style="list-style-type: none"> • Scissor suture cutting (mayo's)-150mm • Sponge holding forceps -240mm • Scissor dissecting (Metzenbaum)-7"
Orthopaedics Set	<ul style="list-style-type: none"> • 2.4/2.7 mm Locking Instruments Set Mini Instruments Set • 3.5 mm Locking Instruments Set Small Instruments Set • 4.5/5 mm Locking Instruments Set Large Instruments Set • DHS-DCS Instrument Set • Tibia & Femur Nail Instrument Set with 3 Zigs • PFNA Instrument Set • Expert Tibia Nail Instrument Set • PFN Instrument Set • PFNA2 Instrument Set • Humeral Nail Instruments Set • Titanium Elastic Nail Instrument Set • Kuntscher Nail Instruments Set • Herbert Screws Instruments Set • Headless Screws Instruments Set • 4 mm Cannulated Cancellous Screws Instruments Set • 6.5 mm Cannulated Cancellous Screws Instruments Set • Spine Instrument Set • Cervical Plate Instruments Set • Cervical Cage Instruments Set • Laminectomy Instruments Set • Bipolar Instrument Set • Angle Blade Plate Instruments Set • Austin Moore Instruments Set • Broken Screw Removal Instruments Set • Mini Screws Box • Small Screws Box • Large Screws Box • Polyaxial Screws Box
Neuro Surgery Set	<p>Neurosurgical Instruments</p> <ul style="list-style-type: none"> • Neurosurgical Bayonet Forceps, Scissors, and Needle Holders • Fukushima Tear Drop Suction Tubes • R-type Dissectors & Dissection Sets

	<ul style="list-style-type: none"> • Hand-Held Silicone Retractors (Black) • Spine Instruments • Cervical Spine Instruments • Lumbar Spine Instruments • Rod Cutters, Forceps, Grippers, and Holders • Spine Retractors • Clear-Line Complete Retractor Set • Clear-Line Compact Retractor Set • Clear-Line TL Retractor Set • Clear-Line LS Retractor Sets • Deep Gelpi Retractors • Anterior Cervical Fusion Instruments • Cloward Blade Retractors • McCulloch Retractor Set • Minimally Invasive Microdiscectomy System • Bipolar Forceps • Bipolar & Monopolar Forceps • Bipolar Malis Forceps • Kerrisons • Clean Wave & Cleanable Kerrisons • Wide Jaw Micro Kerrison Rongeurs • MRI-Safe Instruments • Titanium, MRI-Safe Instruments
<p>Surgical Set, Minor and Surgical Instruments</p>	<ul style="list-style-type: none"> • PB Handle No 3 • Yankauer Suction Tube • Operating Scissors 14cm • Mayo Scissors Straight 14.5cm • TC Metzenbaum Scissors Str 18cm • Mosquito Forceps Straight 12.5cm • Mosquito Forceps Curved 12cm • Kelly Forceps Curved 14cm • Sponge Holding Forceps 18.5cm

	<ul style="list-style-type: none"> • Needle Holder 6 • Probe With Eye • Senn-Mueller Retractor Sharp 16cm • Allis Tissue Forceps 16 Cm • Vulsullam Retractor 3 Prong • Butterfly Director 14 Cm
<p>Surgery Set, Wound Dressing Instruments</p>	<ol style="list-style-type: none"> 1 Description of Function <ol style="list-style-type: none"> 1.1 Dressings set are frequently used in first aid and Dressing is in direct contact with the wound. Our dressing kit contains all the necessary tools to perform dressing and bandage. 2 Technical Specifications <ol style="list-style-type: none"> 2.1 All tools are made from high grade surgical stainless steel. 2.2 Flawless finish, Dimensional accuracy. 2.3 Should have Rugged design. 2.4 Material: Stainless Steel 2.5 Reusable or Disposable: Reusable 2.6 Packing: Individually Packed 2.7 Usage: For dressing 2.8 QC Passed: Yes 3 System Configuration <ol style="list-style-type: none"> 3.1 Mayo Scissors 14.5cm Straight TC 3.2 Dissecting Scissors 14.5cm Sharp/Blunt 3.3 Lister Bandage Scissors 15cm 3.4 Spencer Stitch Scissors 11cm 3.5 Foerster Sponge Forceps 25.5cm 3.6 Dressing Forceps 16cm 3.7 Dressing Forceps 1 :2 16cm 3.8 Kelly Forceps 14cm Straight 3.9 Adson Forceps 12cm 3.10 Lotion Bowl 04 Oz 3.11 Kidney Dish 08" 4 Standards and Safety Requirements <ol style="list-style-type: none"> 4.1 Must submit ISO 9001 or ISO 13485 4.2 CE or USFDA approved product certificate.

Laparotomy	<ul style="list-style-type: none"> • Poll suction canula
Instruments Set	<ul style="list-style-type: none"> • Yankur suction canula • 6" Str. Artery Forceps • 6" Cvd. Artery Forceps • Artery forceps 20cm str / cvd • Small Str. Artery Forceps • Small Cvd. Artery Forceps • Kockers 6" str / cvd • Kockers 8" str / cvd • Babcock forceps 6" • Babcock forceps 8" • Right angle forceps 8" • Toothed Dissecting Forceps Long • Plain Dissecting Forceps Long • Toothed Dissecting Forceps Small • Plain Dissecting Forceps Small • Gillies dissecting forceps plain / Toothed (1 x 2) • Wagh dissecting forceps 20 cm • Allis Tissue Forceps 15cm & 20 cm • Long Needle Holder • Medium Needle Holder • Small Needle Holder • Metzenbaum Scissor 6" • Metzenbaum Scissor 8" • B.P Blade handle # 4 • B.P Blade handle# 3 • B.P Blade handle # 7 • Sinus forceps • S.S simple probe • MacDonald Dissector • Mayo scissor str / cvd 16.5 cm • Mayo scissor str / cvd 19.5 cm • Fine scissor str / cvd • Langenberk Retractor • Dayon Retractor • Deavers Retractor • Belfour retractor

	<ul style="list-style-type: none">• Pyres clamp small / medium
	<ul style="list-style-type: none">• Towel clip• Towel forceps• Sponge holding forceps• Suture scissor• Mayo safety pin medium• Intestinal clamp• Sterilization box

Laundry

Sluice Machine	<p>Sluicing Machine</p> <table border="1"> <thead> <tr> <th>Model Description</th> <th>Maq2 B/11</th> <th>Maq2 B/13</th> <th>Maq2 B/18</th> <th>Maq2 B/25</th> <th>Maq2 B/35</th> </tr> </thead> <tbody> <tr> <td>Brand / Supplier</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Capacity 1/10 (Kg)</td> <td>11</td> <td>13</td> <td>18</td> <td>25</td> <td>35</td> </tr> <tr> <td>Width (Mm)</td> <td>719</td> <td>719</td> <td>788</td> <td>885</td> <td>979</td> </tr> <tr> <td>Depth (Mm)</td> <td>749</td> <td>879</td> <td>892</td> <td>1029</td> <td>1140</td> </tr> <tr> <td>Height (Mm)</td> <td>1157</td> <td>1157</td> <td>1307</td> <td>1307</td> <td>1411</td> </tr> <tr> <td>Net Weight (Kg)</td> <td>204</td> <td>235</td> <td>268</td> <td>360</td> <td>468</td> </tr> <tr> <td>Extract Speed (Rpm/G's) Min – Max</td> <td>538/100</td> <td>538/100</td> <td>507/100</td> <td>483/100</td> <td>458/100</td> </tr> <tr> <td>Motor Power (Kw)</td> <td>0,75</td> <td>1,5</td> <td>2,2</td> <td>2,2</td> <td>3</td> </tr> <tr> <td>Electrical Rating</td> <td>220v</td> <td>220v</td> <td>220v</td> <td>220v</td> <td>220v</td> </tr> <tr> <td>Cylinder Volume (L)</td> <td>100</td> <td>130</td> <td>181</td> <td>247</td> <td>350</td> </tr> </tbody> </table>	Model Description	Maq2 B/11	Maq2 B/13	Maq2 B/18	Maq2 B/25	Maq2 B/35	Brand / Supplier						Capacity 1/10 (Kg)	11	13	18	25	35	Width (Mm)	719	719	788	885	979	Depth (Mm)	749	879	892	1029	1140	Height (Mm)	1157	1157	1307	1307	1411	Net Weight (Kg)	204	235	268	360	468	Extract Speed (Rpm/G's) Min – Max	538/100	538/100	507/100	483/100	458/100	Motor Power (Kw)	0,75	1,5	2,2	2,2	3	Electrical Rating	220v	220v	220v	220v	220v	Cylinder Volume (L)	100	130	181	247	350
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Washing Machine	<p>Scales to be highly accurate and stable.</p> <ul style="list-style-type: none"> • Touch controls with splash proof keyboard. • The baby weighing pan to removable. • Automatic hold, slow and tare controls to be standard. • Capacity: 200Kg x 100 Gm. • To have a measuring rod. • Imperial and metric height measure to be fitted to the machine 																																																																		
Hydro extractor	<ul style="list-style-type: none"> • High quality Centrifuge Hydro Extractors that have high rotating speed for 																																																																		
	<p>quick and maximum hydro extraction. The high production capacity and very low power consumption makes this machine must for every yarn dye house. Robust in structure, these textile processing machines are compact in size and occupies very less floor space. Our Centrifuge Hydro Extractor are available in different capacities as per the requirement of the customer.</p> <ul style="list-style-type: none"> • Suitable for centrifuge of garments after washing/dying inner basket & outer drum stainless steel. Vibration free and noiseless operations due to self- balancing suspensions. High speed ensures shorter extraction, less energy consumption. <p>Direct Drive</p> <ul style="list-style-type: none"> • Basket directly mounted on specially designed high torque heavy duty motor resting on spigot of the base frame with rubber buffer cushion for self- balancing No V belts required, self-balancing noise less & vibration less performance. • Full electrical instrumentation & protection • Auto time, Auto DC injection brake, safety devices single 																																																																		

	<p>phasing, reverse phasing and motor overload. No foot pedals, no leaves, no brake liners, less maintenance.</p> <ul style="list-style-type: none"> • Usage/Application Industrial • Capacity 12Kg • Material Stainless Steel • Automation Grade Automatic • Motor 0.7 Kw • Weight 205 Kg • Motor Power 2.20 Kw • Drain Size 50 (2"BSP) • Model Name/Number SJTMWE-12 • Brand Shri Jai Textile Machinery Pvt. Ltd. • Basket Dia x Depth 450mm x 300mm • Basket Speed 1000 RPM • Dimension (WxDxH) 760mm X 920mm X 100mm • Power Source Electric
Calendaring Machine	<p>Specifications:</p> <ul style="list-style-type: none"> • Suitable for steel cord and nylon cord • Maximum speed 40 mt/min • Size 12" x 36", 16" x 42", 22" x 64 • Auto conveyor for rubber feeding purpose <p>Features:</p> <ul style="list-style-type: none"> • Provided with gear motors and sensors • High mechanical strength • Dimensionally accurate
	<ul style="list-style-type: none"> • Durable <p>Application:- We also make the high precision cord and profile calenders, with Bearings and Hydraulic Bending system for steel cord, cross Axis on roll, Nip adjustment through Gear motor and Sensors.</p> <p>Technical data:-</p> <ol style="list-style-type: none"> 1. Size 12" x 36", 16" x 42", 22" x 64". 2. Maximum speed 40 mt / min. 3. Provided with Auto Conveyor for Rubber Feeding.
Drying machine	<ul style="list-style-type: none"> • Capacity of 35 Kg per cycle. • Micro processor controlled. • Standard reversing. • Electrical heating 48 kW approx. • Easy access to vital parts from front and rear . • Large door opening for easy loading and unloading.

	<ul style="list-style-type: none"> • Stainless steel front and drum. • Motor must be frequency controlled. • Indicator lamp for finished drying cycle. • Energy consumption 27.4 kW approx. • Suitable exhaust duct and linen trap for each machine. • Dimension • Width : 1290 mm • Depth : 1485 mm • Height: 2465 mm (approx.)
Hard Press	<p>Product Specification</p> <p>Automatic Type Automatic, Manual Condition New Minimum Order Quantity 1 Piece</p> <p>Product Description - Products information: Max. Length : 450mm Creasing Material : Hard Cover Power : 220V Book Thickness : 50mm Thickness : 3mm Weight : 45 kgs</p>
Stitching Machine	<ul style="list-style-type: none"> • Computer high speed direct drive lockstitch sewing machine with integrative computer controller, can be used when it's plugged in electricity, leaving out the problem of all kinds of plugs chaos and installing • It has the sewing patterns of auto-trimmer automatic needle positioned, automatic snitch storage, soft start, filling needle and so on. • It used good feeding mechanism, which greatly improves the production efficiency,
	<ul style="list-style-type: none"> <input type="checkbox"/> It's internally installed bobbin winder which is elegant and easy to handle <input type="checkbox"/> Low noise, no radiation and environmental friendly <input type="checkbox"/> It can prevent oil flowing from head to servo control system so that reducing stoppage and extending service life <input type="checkbox"/> Normal computer lockstitch with auto needle position and with auto-trimmer ZY9000-D2. <input type="checkbox"/> Computer lockstitch with auto-trimmer and auto-thread clamp - ZY9000-D3 . <input type="checkbox"/> Computer lockstitch with auto-trimmer and auto-thread clamp and with auto-footlift - ZY9000-D3 . <input type="checkbox"/> Heavy duty computer lockstitch ZY9000H-D .
Racks	<ul style="list-style-type: none"> • Pvc Made Storage Racks for laundry Clothes Separated for Dirty and Clean Clothes as Well.

KITCHEN

<p>Cooking Pot</p>	<p>Specifications per item:</p> <ul style="list-style-type: none"> • 1 x COOKING POT, 7l (frying pan lid fits) • Capacity: 7 litres minimum total inner volume • Material: stainless steel (or aluminium where specified in contract) • Diameter: min 25cm, max 28cm internal diameter • Thickness: min 0.8mm in the center of the bottom and minimum 0.6mm at 20mm from the top of the wall (aluminium min 1.75mm) • Handles: 2 stainless steel handles, attached with leakage-proof rivets, or welded, bent upward to allow a hanging bar to pass through (aluminium handles for aluminium pots) • Handles to resist to 20kg load in the normal usage position • Lid: refer to frying pan • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 1 x FRYING PAN, 2.5l, used as lid for the 7L cooking pot • Capacity: 2.5 litres minimum total inner volume • Material: stainless steel (or aluminium if specified in contract)
	<ul style="list-style-type: none"> • Diameter: Adapted as a lid for the 7 litre cooking pot. • Handle: 1 detachable stainless steel or aluminium handle 190mm +/-10mm • Handle to resist to 10kg vertical load measured at 15cm distance from the inside of the pan • Thickness: min 0.8mm in the center of the bottom (aluminium min 1.75mm) • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 1 WOK, 7L, black steel

	<ul style="list-style-type: none"> • Capacity: 7 litres • Material: black steel, protected from rust for storage with a foodcontact product • Diameter: min 37cm, max 39cm • Thickness: min 1mm in the center of the wok • Finish: no sharp edges, food grade finish • 5 x BOWL, 1L, metallic • Capacity: 1 litres • Material: stainless steel • Height: 5 to 7cm • Thickness: min 0.5mm in the center of the bottom • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 5 x PLATE, 0.75L, metallic • Capacity: 0.75 litres minimum • Material: stainless steel • Thickness: min 0.5mm in the center of the bottom • Diameter: 24 to 25cm (must be adapted to the size of the cookingpot to be packed inside) • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 5 x C UP, 0.3L, metallic • Capacity: 0.3 litres minimum
	<ul style="list-style-type: none"> • Material: stainless steel • Thickness: min 0.5mm in the bottom and 0.4mm at 20mm from the top of the wall • Handle: Securely welded. Handle to resist to 1kg pulling • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 5 x SPO ON, table, 10ml, stainless steel • Capacity: 10ml minimum • Material: One-piece stainless steel, solid

	<ul style="list-style-type: none"> • Length: 17cm minimum • Thickness: min1mm in the center of the scoop, must not bend to a weight of 2kg applied at the extremity of its scoop when clamped horizontally at its middle • Finish: no sharp edges, food grade surface finish Ra 0.8micrometer • 5 CHO PSTICK, 25cm • Material: plastic or bamboo. • Length: 25cm • Thickness: min. 4x4mm • Finish: no sharp edges, food grade, rounded at the end • 1 x KNIFE, kitchen, 15cm stainless steel blade • Material: stainless steel blade of appropriate grade, wood or plastic handle • Thickness: blade base min 1.5mm, measured at the middle of the blade • Length: Blade 15cm usable length minimum • Finish: no sharp edges apart from one cutting edge only, food grade surface finish • Ra 0.8micrometer for the blade • 1 x SPOON, wooden, stirring, 30cm • Material: Hardwood. • Thickness: 10mm diameter min for the handle • Length: 30cm minimum
	<ul style="list-style-type: none"> • Finish: no sharp edges, smooth finish, no chips, no knots, food grade surface finish • 1 x SCOURING PAD • Material: stainless steel wire scouring pad, 20g minimum • Packaging and Marking • Type: 1 carton box, outer dimensions 0.4 x 0.4 x 0.25m. • Height dimension shall be adjusted to the parcel content.

	<ul style="list-style-type: none"> • Material: double-corrugated, 5 plies, export-quality cardboard • Strength: withstands 6m-high stacking for more than 48h, and 10 handlings. The final package should resist without any damage to a weight or a pressure of 120 kg applied on a strong rigid board on top of the box. • Seal: Long lasting 50mm tape • Name: KITCHEN SET, type B • Content: Name and content list to be printed on the outside of the box 												
Potato Peeler	<p>Product Description</p> <ul style="list-style-type: none"> • We are a paramount organization that is involved in manufacturing, supplying and distributing superior quality Potato Peeler. Used in hotels, restaurants and commercial kitchens, these peelers are widely appreciated by the clients across the market. These peelers are available in different models and sizes at market leading prices. <p>Features:</p> <ul style="list-style-type: none"> • Corrosion resistant • Easy operation • Low maintenance <p>Specifications:</p> <ul style="list-style-type: none"> • Available in various capacities (5 kg, 10 kg) • Made up of stainless steel body • Strong emery bonding which does not contaminate the potato • Used for mass preparation activities • Continuous operations carried out with timing cycle of 1 to 2 min • Inlet & outlet provisions for water are available • High quality motors • Available in various capacities (5 kg, 10 kg) 												
Gas Cooker	<p>Product Specification</p> <table border="0"> <tr> <td><input type="checkbox"/> Usage/Application</td> <td>Hospital</td> </tr> <tr> <td><input type="checkbox"/> Capacity</td> <td>100 L</td> </tr> <tr> <td><input type="checkbox"/> Color</td> <td>Silver</td> </tr> <tr> <td><input type="checkbox"/> Material</td> <td>Stainless Steel</td> </tr> <tr> <td><input type="checkbox"/> Warranty</td> <td>1 Year</td> </tr> <tr> <td><input type="checkbox"/> Handle</td> <td>Single Handle</td> </tr> </table> <p>Product Description</p> <ul style="list-style-type: none"> <input type="checkbox"/> Heavy guage pressure 	<input type="checkbox"/> Usage/Application	Hospital	<input type="checkbox"/> Capacity	100 L	<input type="checkbox"/> Color	Silver	<input type="checkbox"/> Material	Stainless Steel	<input type="checkbox"/> Warranty	1 Year	<input type="checkbox"/> Handle	Single Handle
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Weighing machine	<ul style="list-style-type: none"> • "Capacity 60 kg • Readability 50 g • Display Big easy readable red LED display (1" high) • Power 9 V AC adapter or 6V, 300mA rechargeable battery • Operating Temperature -10 °C to +50 °C"
Food Trolley	<ul style="list-style-type: none"> • Overall size: 1400 X 750 X 1675mm. • Capacity: 24 trays in each compartment. • Stainless steel construction. • 2 numbers of doors in 18swg stainless steel sheet. • Heating element with digital controller and temperature display, switch and contactor.
Meet Mincer	<p>STAINLESS STEEL MEAT MINCER, PMMM 433</p> <ul style="list-style-type: none"> - overall size: 300 X 335 X 410mm - output: 70 Kg/h - electrical load: 0.25Kw / 230V / 1 Φ - sturdy aluminium construction - standard plate: 6mm - ABS shockproof sides - ventilated motor - oil bath gear box - ground tempered helical gears - bright finished mouth and feeding worm - stainless steel plates and knives - compartment for knives and plates - net weight: 10 Kg
Lactometer	<ul style="list-style-type: none"> • 6 inches in length; it has a paper scale range up to 1.000 degree to - 1.040 degree and has a calibration power of 60 degree F to 15.5 degree Celsius also known as Zeal type lactometer.
Flasks	<ul style="list-style-type: none"> • Made of: Steel • Bottle Type: Flask
	<ul style="list-style-type: none"> • Capacity: 25000 ml • Pack of: 1 • Double Insulated Wall
Refrigerator -domestic	<ul style="list-style-type: none"> • "Energy Rating Inverter Compressor Star • 253 Ltr Double Door Refrigerator • Defrosting Technology Frost Free • Model No RT28K3343R2

	<ul style="list-style-type: none"> • Capacity 253 Litres"
Dish Washer	<ul style="list-style-type: none"> • Model No.: 1400007 / DF15A • Product Color : Anthracite • Energy Class: NA • Volume: 15 PS • Number of Programs : 9 • Water Consumption : 9.5 L • Connectivity: Home Whiz™ + Wifi • AquaFlex™ • Corner Intense™ • Fast+ • ProSmart™ Inverter Motor • Place Setting : 15 • Warranty : 2 Year Comprehensive + Additional 10 year on Motor • WxDxH (cm) : 59.8 x 60 x 85 • Product Size: Full • Cutlery Tray : Full Size • Mug Shelf: Adjustable • Dirt Sensor: Yes • Number of Spray Levels: 3