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- The system should have Pure digital signal with high definition video of 1280x1024 (min) or more, native resolution and progressive scan technology
- It should be compatible with Aspect ratio of 4:3 and resolution of more than 1100 horizontal lines
- The system should have Digital Zoom to enhance the quality of image size & cross specially standardization of the camera system, regardless of the telescope used
- Digital zoom, white balance control and two peripheral controls on camera Head
- Integrated Gain/Shutter/Enhancement with automatic brightness control
- Video Outputs: two DVI, two SVHS, one RGB, one Composite output
- The system should be Menu driven, thus allowing the surgeon to program the camera head functions as per the surgical needs & requirement
- The system should have the facility of interchangeable 18 & 24mm coupler
- The system should 8 preset specialty settings on camera console

**Specifications for High Definition Digital Camera**  
Qty-1

**High Definition Digital Camera System**

**Blunt Tip Obturator**  
Qty-1  
Use with arthroscopy sheath, working length 12 cm.

- Diameter 5.8 to 6mm
- Working length 12 cm
- With 2 rotatable stopcocks
- Autoclavable, for use with Telescope 30° and 0°

**Arthroscopy Sheath, rotatable**  
Qty-1

- High Definition Wide Angle Forward-Oblique and lateral scope.
- Angle of view: 30°
- Diameter 4 mm,
- Length 14 cm to 18 cm,
- Fiber optic light transmission incorporated.
- Standard ocular window for coupling the camera head.
- Scratch resistance sapphire quoted tip lens.
- Rod lens system for optimum brightness, contrast and definition.

**HD Arthroscope: Autoclavable**  
Qty-1

**Specification: Arthroscopy Set**

S.N.	DESCRIPTION	QTY
1	Basic Instrument Set For Fracture	2
A	Diamond Pointed Bone Awl	2
B	Small Plate Bender - Pair	2
C	Hand Drill	2
	Universal Bone Drill With S.S. Gears	2
	Universal Open Hand Drill With S.S. Gears	2
D	Drill Bits	4
	Drill Bit - S.S. - Quick Coupling End Dia. 2.5mm X 115mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 2.5mm X 200mm Long	4
	Drill Bit - S.S. - Quick Coupling Dia. 2.7mm X 125mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 2.7mm X 200mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 3.2mm X 130mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 3.2mm X 200mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 3.2mm X 200mm Length	4
	Drill Bit - S.S. - Quick Coupling End Dia. 4.5mm X 130mm Long	4
	Drill Bit - S.S. - Quick Coupling End Dia. 4.5mm X 200mm Length	4
	Cannulated Drill Bit 4.5mm	4
E	Drill Taps	4
	Bone Tap - Quick Coupling End Dia. 3.5mm, Thread Length 50mm, Total Length 110mm	4
	Bone Tap - Quick Coupling End Dia. 4.5mm, Thread Length 70mm, Total Length 125mm	4
F	Periosteal Elevator	
A)	Straight End	2
	Periosteal Elevator - Straight 6mm	2
	Periosteal Elevator - Straight 8mm	2
	Periosteal Elevator - Straight 10mm	2
	Periosteal Elevator - Straight 12mm	2
	Periosteal Elevator - Straight 14mm	2
	Periosteal Elevator - Straight 16mm	2
	Periosteal Elevator - Straight 20mm	2
	Periosteal Elevator - Straight 25mm	2
B)	Curved End	2
	Periosteal Elevator - Curved 6mm	2
	Periosteal Elevator - Curved 8mm	2
	Periosteal Elevator - Curved 10mm	2
	Periosteal Elevator - Curved 12mm	2
	Periosteal Elevator - Curved 14mm	2
	Periosteal Elevator - Curved 16mm	2
	Periosteal Elevator - Curved 20mm	2
	Periosteal Elevator - Curved 25mm	2
G	Chisels With Fiber Handle	
	Chisel With Fiber Handle Size : 5mm	2
	Chisel With Fiber Handle Size : 10mm	2

B

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2	Chisel With Fibre Handle Size : 15mm
2	Chisel With Fibre Handle Size : 20mm
2	Chisel With Fibre Handle Size : 25mm
2	Chisel With Fibre Handle Size : 30mm
	<b>H</b>
2	<b>Osteome With Fibre Handle - Straight</b>
2	Osteome With Fibre Handle - Straight Size : 5mm
2	Osteome With Fibre Handle - Straight Size : 8mm
2	Osteome With Fibre Handle - Straight Size : 10mm
2	Osteome With Fibre Handle - Straight Size : 12mm
2	Osteome With Fibre Handle - Straight Size : 14mm
2	Osteome With Fibre Handle - Straight Size : 16mm
2	Osteome With Fibre Handle - Straight Size : 18mm
2	Osteome With Fibre Handle - Straight Size : 20mm
2	Osteome With Fibre Handle - Straight Size : 25mm
2	Osteome With Fibre Handle - Straight Size : 30mm
	<b>I</b>
2	<b>Osteome With Fibre Handle - Curved</b>
2	Osteome With Fibre Handle - Curved Size : 5mm
2	Osteome With Fibre Handle - Curved Size : 8mm
2	Osteome With Fibre Handle - Curved Size : 10mm
2	Osteome With Fibre Handle - Curved Size : 12mm
2	Osteome With Fibre Handle - Curved Size : 14mm
2	Osteome With Fibre Handle - Curved Size : 16mm
2	Osteome With Fibre Handle - Curved Size : 18mm
2	Osteome With Fibre Handle - Curved Size : 20mm
2	Osteome With Fibre Handle - Curved Size : 25mm
2	Osteome With Fibre Handle - Curved Size : 30mm
	<b>J</b>
2	<b>Gouge With Fibre Handle - Straight</b>
2	Gouge With Fibre Handle - Straight Size : 5mm
2	Gouge With Fibre Handle - Straight Size : 8mm
2	Gouge With Fibre Handle - Straight Size : 10mm
2	Gouge With Fibre Handle - Straight Size : 12mm
2	Gouge With Fibre Handle - Straight Size : 14mm
2	Gouge With Fibre Handle - Straight Size : 16mm
2	Gouge With Fibre Handle - Straight Size : 18mm
2	Gouge With Fibre Handle - Straight Size : 20mm
2	Gouge With Fibre Handle - Straight Size : 25mm
2	Gouge With Fibre Handle - Straight Size : 30mm
	<b>K</b>
2	<b>Gouge With Fibre Handle - Curved</b>
2	Gouge With Fibre Handle - Curved Size : 5mm
2	Gouge With Fibre Handle - Curved Size : 8mm
2	Gouge With Fibre Handle - Curved Size : 10mm
2	Gouge With Fibre Handle - Curved Size : 12mm
2	Gouge With Fibre Handle - Curved Size : 14mm
2	Gouge With Fibre Handle - Curved Size : 16mm
2	Gouge With Fibre Handle - Curved Size : 18mm
2	Gouge With Fibre Handle - Curved Size : 20mm
2	Gouge With Fibre Handle - Curved Size : 25mm
2	Gouge With Fibre Handle - Curved Size : 30mm

R

	2	Gouge With Fibre Handle - Curved Size : 30mm
<b>L</b>	2	<b>Bone File Half Round - Pointed</b>
	1	Bone File Flat - 100mm
	1	Bone File Flat - 150mm
<b>M</b>	1	<b>Amputation Saw</b>
	1	Finger Saw
<b>N</b>		<b>Brunns Bone Curette With Fiber Handle</b>
	2	Brunns Bone Curette With Fibre Handle Size : 3mm
	2	Brunns Bone Curette With Fibre Handle Size : 5mm
	2	Brunns Bone Curette With Fibre Handle Size : 8mm
	2	Brunns Bone Curette With Fibre Handle Size : 10mm
	2	Brunns Bone Curette With Fibre Handle Size : 12mm
	2	Bone Curette (Double Ended)
	2	Bone Curette Double Ended 4mm X 6mm
	2	Bone Curette Double Ended 6mm X 9mm
	2	Bone Curette Double Ended 9mm X 12mm
<b>O</b>		<b>Forceps</b>
	4	Burn Bone Holding Forceps
	4	Patella Bone Holding Forceps Four Prong
	2	Self Centering Bone Holding Forceps 150mm
	2	Self Centering Bone Holding Forceps 190mm
	2	Self Centering Bone Holding Forceps 240mm
	2	Self Centering Bone Holding Forceps 260mm
	2	Self Centering Bone Holding Forceps 280mm
	2	Pelvic Reduction Forceps, Oblique, Small Length-190mm, With Pointed Ball Tips, Speed Lock
	2	Pelvic Reduction Forceps, Oblique, Small Length-240mm, With Pointed Ball Tips, Speed Lock
	2	Pelvic Reduction Forceps, Oblique, Small Length-190mm, With Pointed Ball Tips, Speed Lock
	2	Pelvic Reduction Forceps, Oblique, Small Length-240mm, With Pointed Ball Tips, Speed Lock
	2	Pelvic Reduction Forceps, Length-400mm, With Pointed Ball Tips, Speed Lock
	2	Lane's Bone Holding Forcep With Ratchet
<b>P</b>		<b>Bone Cutting Forceps</b>
	2	Bone Nibbler - Straight (Double Action) 190mm
	2	Bone Nibbler - Straight (Double Action) 225mm
	2	Bone Nibbler - Straight (Double Action) 270mm
	2	Bone Nibbler - Curved (Double Action) 190mm
	2	Bone Nibbler - Curved (Double Action) 225mm
	2	Bone Nibbler - Curved (Double Action) 270mm
	2	Bone Nibbler - Angular (Double Action) 190mm
	2	Bone Nibbler - Angular (Double Action) 225mm
	2	Bone Nibbler - Angular (Double Action) 270mm

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	Tuder Edward Bone Cutting Forceps	2
Q	Steinman Pin Introducer	2
	Steinmann Pin Introducer With S.S. Chuck & Key	2
R	Hooks	4
	Spare Hook For K. Nail Extractor	2
	Bone Hook - Small	2
	Bone Hook - Medium	2
	Bone Hook - Large	2
	Sharp Hook	2
S	Impactors	2
	Impactor - Nylon Faced	2
	Impactor - Nylon Faced, Large Tip	2
	K. Nail Setting Device	2
T	Levers	2
	Lane Bone Lever - Plain - Small	2
	Lane Bone Lever - Serrated	2
	Lane Bone Lever - Plain - Large	2
U	Pliers	4
	Plier Cum Wire Bender Cum Wire Cutter - 11"	2
	Flat Nose Plier	2
V (1)	Reamers	2
	K. Nail Reamer Dia. 6mm	2
	K. Nail Reamer Dia. 7mm	2
	K. Nail Reamer Dia. 8mm	2
	K. Nail Reamer Dia. 9mm	2
	K. Nail Reamer Dia. 10mm	2
	K. Nail Reamer Dia. 11mm	2
	K. Nail Reamer Dia. 12mm	2
V (2)	Reamers (Cannulated) Rigid For Nailing	2
	Cannulated Rigid Reamers Dia. 7.0mm	2
	Cannulated Rigid Reamers Dia. 8.0mm	2
	Cannulated Rigid Reamers Dia. 9.0mm	2
	Cannulated Rigid Reamers Dia. 10.0mm	2
	Cannulated Rigid Reamers Dia. 11.0mm	2
	Cannulated Rigid Reamers Dia. 12.0mm	2
	Cannulated Rigid Reamers Dia. 13.0mm	2
W	Retractors	2
	Bristows Retractor	2
	Lagenback Retractor - Small	2
	Lagenback Retractor - Medium	2
	Lagenback Retractor - Large	2
	Volkman Retractors Two Prong	2
	Volkman Retractors Three Prong	2
	Volkman Retractors Four Prong	2
	Volkman Retractors Five Prong	2
X	Screw Drivers	2
	Small Hexagonal Screw Driver 2.5mm Tip	2

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2	Large Hexagonal Screw Driver 3.5mm Tip
	Canulated Screw Drivers
4	Canulated Hexagonal Screw Driver - 2.5mm Tip
4	Large Canulated Hexagonal Screw Driver 3.5mm Tip
	Hammer
4	Bone Hammer 350gms
4	Bone Hammer 200gms
2	K. Nail Extractor With Two Hooks

**Technical Specifications of BATTERY OPERATED DRILLING /CUTTING & REAMING SYSTEM**

2 (A)

**1. Oscillating Saw**

Working Voltage : 14.4V  
 Output Power : >90W  
 No-Load Frequency : >6000time/min  
 No Load Noise : < 90db  
 Speed : 2200  
 Torque : 2.5Nm  
 Autoclavable : Yes  
 Function : Single  
 Blades : Different Size Total 10 Nos

**2. Dual Function Drill (Drilling & Reaming )**

Working Voltage : 14.4V  
 Output Power : >90W  
 No-Load Frequency : >300r/m  
 No Load Noise : < 75db  
 Speed : 1000 RPM  
 Torque : 2.0 Nm  
 Autoclavable : Yes  
 Attachments : S.S.Drill Chuck : 1  
 A.O Reamer Attachment : 1  
 Screw Drivers Shaft 3.5 & 4.5 mm : 1 Each  
 Battery : Qty 4 Nos  
 Type : NIMH  
 Voltage : 14.4V



1	EXTRACTOR ROD
1	HANDLE FOR EXTRACTOR
1	HAMMER FOR EXTRACTION ROD
1	T WRENCH 10MM CANNULATED
	CONICAL BOLT
1	20MM TAPRED THREAD TPI
1	22MM TAPRED THREAD TPI

**NAIL EXTRACTOR SET**

2 (c)

QTY	Description
1	Screw Driver Shaft Q.C.End 2.5 mmTip
1	Screw Driver Shaft Q.C.End 3.5 mmTip
1	Sharp Hook
1	Hollow Reamer For Removal of Damage Screw 3.5 & 4.0 MM
1	Hollow Reamer For Removal of Damage Screw 4.5 & 6.5 MM
1	Extraction Screw Conical for 2.7/3.5/4.0mm Screws
1	Extraction Screw Conical for 4.5/6.5mm Screws
2	Drill Bit Plain Shank High Speed 2.5mmx55mm Length
2	Drill Bit Plain Shank High Speed 3.5mmx70mm Length
1	Gouge With Fiber Handle Straight 10mm
1	Q.C. Tap Handle Long
1	Screw Removal Forcep
1	Sterilization Box with Two Trays

**Broken Screw Removal Set ( Orthopaedic Assorted Instruments )**

2 ( B )

2	<b>Charger</b>
	Input Voltage : AC 220V,50Hz
	Charging Slot : Single
	Size : Compact
4	Transfer Ring

Autoclavable : Cannot be autoclaved.  
 Charging Time : 2 to 3hrs  
 Working Time : 40mins

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	<b>HIP HEMI ARTHROPLASTY SET</b>
	<b>INCLUDES</b>
1	Moor Hallow Chisel
1	Murphy Lane Bone Skid
1	Judet Auger Extractor
1	Rasp for Austin Moor with Tomy Bar
1	Measuring Gauge (37mm To 55 mm)
1	Nylon Faced Impactor
	<b>BIPOLAR HEMI ARTHROPLASTY SET (HIP)</b>
	<b>INCLUDES</b>
3	REAMERS (Pencil , Tapered & Slotted) 1 EACH
1	Rasp for Bipolar with Tomy Bar
1	Impactor

2 (D)

1	24MM TAPRED THREAD TPI
1	26MM TAPRED THREAD TPI
1	28MM TAPRED THREAD TPI
1	16MM TAPRED THREAD TPI
	CONICAL EXTRACTION REAMER (FOR Rempoval of I.L. Nails
1	For 9,10,11 mm Nails
1	For 12,13,14 mm Nails
1	Sterlization Box For Interlocking Nail Removal S.S.



**Technical Specifications of 4mm external fixator**

- 1 The raw material used for implants should be SS 316-L conforming to ASTM F 138-97 or ISO-5832-1 Certificate confirming to this from raw material supplier at billet level should be submitted.
- 2 The company should have ISO 9001-2000 certificate and should submit the relevant certificates along with technical specification.
- 3 The System offered should be CE marked.
- 4 FDI approval from DCGI is must and should be valid for the two years prior to the date of tender.

Sr. No.	Item Description
1	4mm external fixator system
	<b>Instrumentation set</b>
	Allen Wrench Universal 3 mm
	Drill bit 2.5mm x 80mm
	Drill Bit 1.8 x 80 mm
	Half Pin introducer Universal
	Parallel Screw jig for 4 & 2.5 mm
	Sleeve 6 x 4mm
	Sleeve 4 x 2.5mm
	Trocar 2.5mm
	Sleeve 4 x 2.6 mm
	Sleeve 2.5/1.8mm
	Trocar 1.8mm
2	<b>Appliances:</b>
	Fixator-Pediatric
	Fixing Element 4mm hole with Centrally tapped bore
	Fixing element 4mm untapped central bore
	Fixing element 2.5mm untapped central bore
	Rod 4mm-80mm-S.S.
	Rod 4mm-100mm-S.S.
	Rod 4mm-150mm-S.S.
	Rod 4mm-200mm-S.S.
	Bolts:M4
	Spacer-0.5mm
	<b>Container:</b>
	Container for 4 mm external fixator Instrument Set
3	<b>Implants</b>
	Half pin: 4x3.5mm
	Half Pin: 2.5mm
	Tapered 3.5 mm to 4.5 mm
	Length 100 mm Thread Length 20 mm
	Length 100 mm Thread Length 30 mm
	Length 120 mm Thread Length 30 mm
	Length 120 mm Thread Length 40 mm
	<b>Container for 4mm implants</b>

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Qty	Name of Equipment	Tender No.	Sl. No.
2	<p align="center"><b>SPECIFICATIONS FOR MOBILE X-RAY UNIT</b></p> <p>Supply and installation of a compact, lightweight, easily transportable mobile radiographic unit suitable for bedside X-ray forward patients, trauma, intensive care units, operation theaters and also in the Radiology department for conventional radiography.</p> <p>Generator and Tube offered should be from the same Manufacturer/Principal manufacturer.</p> <p>The unit must have following features:</p> <p>The Generator:</p> <ul style="list-style-type: none"> <li>Must be microprocessor controlled high frequency, output 10 kW or above to give a constant output suitable for radiography.</li> <li>It should have a digital display of mas and kV with two point technique and an electronic timer.</li> <li>kV range: Maximum range should be 40-125 kV</li> <li>mA range: 30-150 mA or more</li> <li>Exposure time - 4ms or less</li> <li>It should be capable of delivering upto 125 mas in different steps.</li> <li>The generator should be capacitor charged.</li> </ul> <p>X-Ray Tube:</p> <ul style="list-style-type: none"> <li>Output should match the output of the generator.</li> <li>Should have rotating anode tube.</li> <li>Please specify the Focal spot size, anode rotation per minute, filtration provided by the tube.</li> <li>Collimator : The collimator available in the equipment should or latest technology LED type. The average brightness of the light field should be greater than 150 Lux for clear visualization of the area of interest in open areas like wards/ICUs. It should have auto shut off facility.</li> <li>The unit must have an effective braking system for parking, transport and emergency braking. The tube stand must be fully counterbalanced with rotation in all directions.</li> </ul>	PG/M/RAD/6-17/09	1



06

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<ul style="list-style-type: none"><li>• It must have an articulated arm for maximum positioning flexibility in any patient position. The angles in various planes and the maximum distance till which the tube can be extended from the stationary machine are to be specified by the manufacturer.</li><li>• The exposure release switch should be membrane type and detachable with a cord of at least 5 meters.</li><li>• There should be Cassette storage box to store at least 4-6 cassettes.</li><li>• The equipment should be light weight (please specify weight) and the unit with Minimum foot print will be given preference. The equipment should not weigh more than 200 kg.</li><li>• The height of the unit (the column stand) should be less than 150 cm for easy transportation in the lift etc. and areas with small height doors.</li><li>• Unit should operate on single phase 230 Volt, 15 Amp plug without any external transformer.</li><li>• Equipment should be ARRB Certified</li></ul>		
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**PENTA HEAD MICROSCOPE**

**ADVANCED LABORATORY TRINOCULAR MICROSCOPE WITH PENTA HEAD ATTACHMENT:**

**Microscope:** Advance Laboratory Trinocular Microscope complete with 3W LED, quadruple ball bearing inward nosepiece, co-axial coarse and fine focusing control, high resolution **Infinity Corrected Super Plan Achromatic Objectives** 4x, 10x, 40x (spring), 100x oil (spring), 360 degree rotatable inclined Siedentopf Trinocular observation tube inclined at 30 degrees having IPD of 48-75 mm, fungus resistant coated optics for tropical conditions, widefield paired eyepiece WH10x (F.N.20), right hand control co-axial low drive mechanical stage with **double slide holder**, rack & pinion drive focusable Abbe condenser NA 1.25 with iris diaphragm.

**Features:** Plan Infinity Optics, Excellent Field Flatness, F.N.20, Siedentopf Head, hard coated stage with double slide holder, Easily replaceable lamp, Inward facing nosepiece, upper focus limit stopper to prevent accidental damage to objectives, Universal Power supply ensures constant voltage & International standard Quality manufacture.

**Penta Head Attachment:** Main Penta Head unit with light distribution on both sides (left & right) for connecting fitting (2 Nos.), Binocular observation tube (4 Nos.), 4 Nos. Paired widefield eyepieces (F.No. 20) with LED pointer. The co-observer gets the same orientation as main observer.



*SHARADH MICROWORKS*

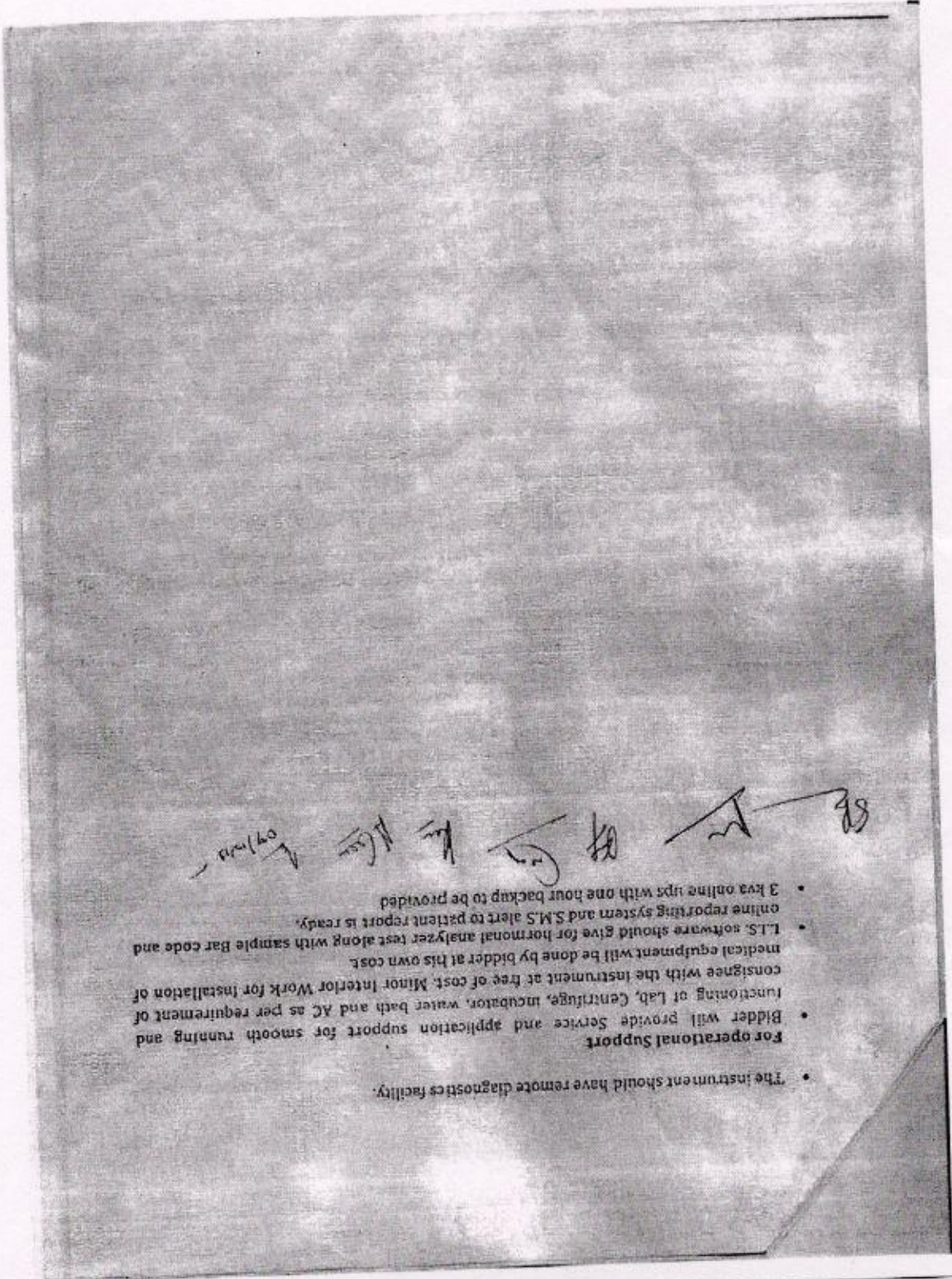
22

Sr. No.	Technical Specification of Automated Cell Counter 03 Part Hematology Analyzer (20 Parameter)
	<p>Should be fully automated three part hematology Analyzer providing 20 parameters including 3-part differential</p> <p>The system should give a differential count as Lymphocytes, mid population and Granulocytes</p> <p>System should be capable of processing samples at 70 sample/hour &amp; storage memory result capacity 10,000.</p> <p>The system should be based on Sample Rotary Valve (SRV) for precise sample all quoting for dilution</p> <p>System should have auto Probe wiper to clean the sample probe automatically after sample aspiration and with pre dilution mode.</p> <p>The system should use non cyanide based reagents for Hb estimation</p> <p>System for the reliability of the results should have "electrical impedance" method of cell counting with an integrated temperature sensor for monitoring and compensating for shift in room temperature</p> <p>The system should use proven and approved "Volumetric &amp; time Metering" of cell counting for WBC, RBC and PLT for high precision of the results and stability of the calibration with close measuring chamber</p> <p>The system should have a system of count and aperture monitoring every 30 sec. for precision and reliability of counts.</p> <p>The system should have automatic floating discriminator of RBC/PLT.</p> <p>The system should have Open mode as well as pre diluted mode of sample aspiration.</p> <p>The system should use high Intensity LED for Hb estimation</p> <p>System should be user friendly with color touch screen and should have option for attachment of laser external printer as well as data interfacing must be provided by the bidder.</p> <p>System should be US FDA approved and CE certified.</p> <p>The instrument should be equipped with direct capillary insertion facility for testing finger prick collections for pediatric/geriatric sample.</p>





D



- The instrument should have remote diagnostics facility.
- Bidder will provide service and application support for smooth running and functioning of Lab, Centrifuge, incubator, water bath and AC as per requirement of consignee with the instrument at free of cost. Minor Interior Work for installation of medical equipment will be done by bidder at his own cost.
- LIS software should give for hormonal analyzer test along with sample Bar code and online reporting system and S.M.S alert to patient report is ready.
- 3 kva online ups with one hour backup to be provided






1  
B

**Specification for Urine Analyzer**

6-16-14  
10/16/14

- Throughput : 300 tests/hour (quick Mode) & 36 Tests/hour (Routine Mode)
- Test parameter : Blood, Bilirubin, Urobilinogen, Ketones, Protein, Nitrite, Glucose, pH, SG, Leucocytes, Ascorbic acid, Color, Clarity
- Measurement method type: reflectance – photometers
- Measurement cycle: routine mode: 100 seconds, quick mode: 6 seconds
- Memory capacity: 2000 Patient data
- Sensor: CCD color image sensor
- Light Source : LED
- Wavelengths: 460, 540, 630nm
- Can Read 4- 11 parameters
- Result display: 4.3" touch screen Coloured TFT LCD & Inbuilt thermal printer
- Standard Bi-directional RS232 port, & USB ports. Barcode reader & External printer options
- CE & USFDA approved.
- In price bid bidder must be quote price for consumables, spares & other accessories for 10 years, if bidder does not quote any price for the items as above mentioned, it will be considered to be provided free of cost.



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ELECTROPHORESIS AUTOMATED SYSTEM	
1	Automatic control of reagents and automatic washing cycle before switching off the device;
2	Archive on the hard disk (more than 100,000 samples);
3	Audible and visual alarm signals in case of failure;
4	Adalya 40 market-oriented small laboratories (4 to 40 tests / day);
5	kind of application: serum proteins, hemoglobins, lipoproteins, urinary proteins and also immunofixation.
6	media: membrane of cellulose acetate on the support;
7	the ability to handle up to 1 times: 40 samples (5 x 8 tracks);
8	speed: 40 tests / 1 hour and half.
9	Densitometer: 8 LEDs;
10	fixation chamber: plastic block with a titanium electrode;
11	containers with reagents: automatic filling up to the optimal level;
12	interface: usb;
13	power supply: 220 V 50 Hz;
14	dimensions: cm 56 x 54 x 46;
15	eight: 35 kg;
16	interface: the monitor, keyboard and mouse;
17	operating System: Windows XP, Win7, Win10

# Radiant Warmer

Servo Controlled Radiant Warmer with fixed bassinets.

	Heater Element	: Quartz Encapsulated 600 watts heater with
	Heater Output	: Parabolic Reflector
		: 0 to 100%, 20% increment
	Probe	: Thermistor based interchangeable probe
	Range	: 25° C to 40° C
	Accuracy	: +/- 0.2° C
	Resolution	: 0.1° C
	Power	: 180V to 250V at 50Hz 700W
	Temperature Display	: Bright 1" numerical LED display for Infant
		: Temperature
		: Bright 0.5" numerical LED display for Set
		: Temperature
	Safety	: Automatic cutoff of heater at 40°C
		: Key Lock facility
	Heater Module Swivel	: + 90°
	Matress Size	: 800 x 500mm (2" THICK)
	Alarms	: High Temperature
		: Low Temperature
		: Temperature probe failure
		: System failure
		: Heater failure
	Coating	: Epoxy/Powder coated body for scratch and rust Prevention

- Should be provided with an instrument tray (Monitor Shelf)
- Should have a provision for x ray cartridge placement below the mattress of the Infant to take x ray without disturbing the Infant.
- The heater unit should swivel away to accommodate the x ray unit above the bed of the infant.
- Should be provided with an IV pole and should have sufficient strength and diameter to carry 2 infusion pumps.
- Should have one tray and a utility drawer.
- Should have halogen based examination lamp and should have a provision on either side as an accessory.
- Should confirm to IEC-601 safety standard for medical equipment

Dr Manoj Kumar Singh  
Lecturer (Pediatrics)  
Medical College, Raigarh

*[Signature]*



DR

**Fully Automated HPLC Technology for HBA1C Estimation (Specifications)**

PAI  
NM/  
PA/80  
/617  
/88

1. Principle – High Pressure Liquid Chromatography the gold standard and reference technology.
2. Primary Sampling: No sample preparation is required.
3. Can be used for thalassemia and Hb variants testing also.
4. Automatic Sampling from 10 positions with Barcode facility for samples control and calibrators.
5. Dual Test flexibility both HbA1C and HbA2/F/A1c without changing reagent and Cartridges.
6. Sample cycle of 3.5 minutes for HbA1C and 6.5 minutes for Thalassemia
7. Results should be displayed on screen also and can be transferred to another computer.
8. 500 chromatograms can be stored on board.
9. User friendly touch screen.
10. Integral printer providing Chromatogram for all Hemoglobin Variants.
11. The product should be NGSP certified and also the method is traceable to Diabetes Controls and Complication Trials (DCCT) reference study.
12. Two point calibration and the calibrator should be traceable to IFCC reference method.
13. The instrument should be CE marked & USFDA approved.
14. At least 60-70% of the reagents should be of the same make as that of machines, whereas for 30-40% of reagents of other manufacturers with USFDA / manufactured in European Countries will only be allowed.
15. Price of reagents will be quoted in the attached format of price bid
16. Price evaluation will be done as per clause mentioned in Special Conditions of Contract



## Technical Specifications of Plethysmograph Assorted

- Plethysmometer should measure the inflammatory oedema in the rat and mouse paw.
- It should display the exact paw volume on the graphic LCD read out or on the PC.
- A zero key should provide to zero the meter before each measurement.
- Foot pedal switch to freeze the readings.
- Interchangeable water cells.
- Should use electric solenoid valve to fill and drain the water from water cell by pressing the push button switch.
- Hand free operation.
- Same instrument for Rat and mice.
- Calibration probes should be provided along with the standard package.
- Water cell dia should be 1.8mm.
- Should have facility to enter height sequenceno, gender Left/ right, experiment no & dates.
- Facility to take data on computer should be quoted separately.

10

BB

DB

NB

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<p>Student Physiograph, single channel, with accessories consists of :</p> <ul style="list-style-type: none"> <li>• Should be supplied as a standalone recorder to monitor &amp; record the data on three channel colored TFT Monitor.</li> <li>• System should have built in stimulator.</li> <li>• System should have facility to store the recorded data on inbuilt TFT screen without need of any computer.</li> <li>• A software should be provided free of cost along with the system to review and printing the recorded data from PC whenever required. (No need to quote cost of computer).</li> <li>• Should be supplied with Force Transducer, Isotonic Transducer &amp; Volume transducer.</li> <li>• For human experiment, transducers/ electrodes to perform following tests i.e ECG, EEG, EMG, GSR, Pulse, Respiration, Hand dynamometer, Phonocardiogram &amp; Temperature should be supplied.</li> </ul>	<p>58</p> <p>Should be supplied as a standalone recorder to monitor &amp; record the data on single channel colored TFT Monitor.</p> <ul style="list-style-type: none"> <li>• System should have built in stimulator.</li> <li>• System should have facility to store the recording and review the recorded data on inbuilt TFT screen without need of any computer.</li> <li>• A software should be provided free of cost along with the system to review and printing the recorded data from PC whenever required. (No need to quote cost of computer).</li> <li>• Should be supplied with Force Transducer, Isotonic Transducer &amp; Volume transducer.</li> <li>• For human experiment, transducers/ electrodes to perform following tests i.e ECG, EEG, EMG, GSR, Pulse, Respiration, Hand dynamometer, Phonocardiogram &amp; Temperature should be supplied.</li> </ul>	<p>59</p> <p>Centrifuge Digital, maximum speed 5200 RPM. Microprocessor base Square MS body dully powder coated. Double walled light weight ABS lid. Fitted with microprocessor base 2 lines 16 characters LCD panel for 0-59 minutes countdown timer, digital rpm meter and programmable speed controller. Supplied with 8x15 ml. Swing Out Head.</p>	<p>60</p> <p>Photoelectric calorimeter with 8 filter Digital calorimeter – highly stable and accurate, ideal clinical instruments for blood and chemical analysis. Should be provided with filter 8 filter with battery option. Range: 400nm to 700nm filters 5 high standard filters, Accuracy: +/-0.020.D., Out Put Optional, Density 0 to 1.99, display 2.5 digit LED display, detector selenium photo cell, light source 6.2V 0.3 Amp. Tungsten filament lamp, Min. volume 1ml, power 230V+/- 10% 50Hz Ac., Accessories Test Tubes 5 Nos, Light Source Bulb, Dust Cover, Instruction Manual. Photoelectric calorimeter with 8 filter</p>	<p>61</p> <p>PH meter electroc Range:- 0 to 14 Resolution: 0.01, Accuracy :-+ or -0.01 Repeatability :-+ or -0.01, Stability:-+or-0.05 in 8 hrs. Temperature Compensation: 0 to 1000C automatic Readout:- 3 1/2 digit 7 segment LED Power Requirement :- 230V+or - 10%, 50HZ Accessories supplied:- Combined Electrode, Temp, Probe for ATC, Electrode Stand, Three wide mouth Plastic bottles having one tablet each of 4.72 and 9.2 pH, Instruction manual and dust cover</p>
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RP

**Technical Specifications of Psychology Test Equipment (Project Test , Intelligence Test , Neuropsychology Test , Personality Test) :**

- TAT
- CAT
- INK BLOT TEST
- SENTENCE COMPLETION TEST.
- WESCHELLER INTELLIGENCE TEST CHILD
- WESCHELLER INTELLIGENCE TEST ADULT
- EMOTIONAL INTELLIGENCE TEST.
- SPM
- NON VERBAL INTELLIGENCE TEST
- 16 PF TEST
- HSPQ TEST
- CPQ TEST
- DIMENSIONAL PERSONALITY INVENTORY
- MEDICO PSYCO QUESTIONARE
- BENDER GASTALT TEST.
- C.M.I. HEALTH QUESTIONARE
- MENTAL HEALTH QUESTIONARE
- PSYCHO-ANALYSIS APPARATUS
- MULTI BEHAVIOUR THERAPY MACHINE
- DIGITAL MEMORY SCOPE
- DIGITAL MIRROR DRAWING APPARATUS
- DIGITAL AUDIO VISUAL REACTION TIME MACHINE
- ROTARY PURSUIT MACHINE

Price should be quoted separately for Each Item. Qty may be purchased as per requirements

①

<b>Technical Specifications of BIOFEEDBACK MACHINE</b>
Should be able to monitor following parameters: GSR, Temp, Pulse Rate, Respiration, EMG, EEG
Audio Visual Feedback
Should have user friendly software
changes in physiological data should be synchronized with the video feedback displayed on second monitor as well as with the audio feedback
a variety of musical variation to set at different level of relaxation.
option for multiple picture animation
Separate monitor for video animation
Modular system to enable use of parameters of choice at a particular time
User friendly sensors to provide simple plug in connection
3D graphics for feedback
Should be supplied with suitable computer hardware along with sperate monitor for animation graphics and other standard accessories required with biofeedback

1/2 chystal side lens

Mobile Examination LED Light with Wireless Battery Backup

The Mobile Light should have the following features/specs:

1. The Central illumination should be at least 60,000 lux
2. Dimming provision should be between 50-100%
3. Light field dia d10 at a distance of 1M should be at least 170 mm
4. Light field dia d50 at a distance of 1 M should be at least 80mm
5. The color rendering index Ra and Red rendering index R9 should  $\geq$  96
6. The light should be based on reflector technology for better shadow resolution
7. The lifetime of LED's should be minimum 50,000 hrs
8. The color temperature should be at least 4500 K
9. Should have scratch proof safety glass
10. Illumination depth without refocussing (L1+L2) at 20% 1780 mm
11. Illumination depth without refocussing (L1+L2) at 60% 1160 mm
12. Light wt. aluminum housing for better cool light
13. Light head wt should  $\leq$  to 3 kg
14. Should have company fitted inbuilt wireless Battery backup of minimum 14 hours. Battery charging time should around 2 hrs
15. Battery should be easy clip on facility
16. UL, European CE declaration and US FDA Listing
17. Protection class should be IEC 60601-1 certified.
18. Rated Power ( W ) : 15
19. Classification according MDD: I
20. Protection Class according IEC 601: I
21. Suspension protection class: IP 30
22. Light housing protection class: IP 42





## Technical Specifications of Pulmonary Function Test (PFT) with Diffusion Capacity

1. The System should be capable of doing Spirometry, DLCO, MIP/MEP, ROCC, TLC all Tests in one system.
2. Integrated ROCC and MIP/MEP Measurement software and hardware.
3. The system should be able to perform the test with single DLCO gas cylinder at low pressure of 15 PSI.
4. The System should use with low dead space Demand valve to reduce excess use of gas.
5. The DLCO gas should of CH<sub>4</sub>, CO Mixture for fast and linear analysis of results
6. The DLCO test should be fully automated to detect and deliver the DLCO gas automatically. NO manual key press by operator to deliver the gas to patients.
7. The systems flow sensor should come with shutter and demand valve with low dead space.
8. The flow sense should be variable orifice Pneumatic diaphragm with low resistance at all flow rates.
9. The Flow sensor should not be influenced by any breathing humidity ie drying tube like expensive naphiontubings should not be used.
10. The system should come with safe auto zeroing ie patients can breathe during the auto zeroing.
11. The System should be able to measure DLCO test for patient with FVC less than 1 liter.
12. The system should be able to do spirometry parameters like FVC, SVC, MVV etc.
13. The system should not use gas bags, Drier tubes and gas observers to nil consumables cost per test for DLCO study.
14. The systems software should come with a report generator allows the modifications of the existing print templates and to create new print templates.
15. A fractional exhaled nitric oxide (FeNO) breath testing monitor to measure airway inflammation and improve asthma management.
16. The system should have optional facility to upgrade to Body box/body plethysmography in the later stage.(Quoted option)
17. ISO, CE / other safety / quality certificate to be provided with the system.
18. Calibration certificate to be provided during the warranty period.

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## Technical Specifications for RESUSCITATION KIT

Emergency Kit should be specifically designed to meet all emergency situations where Resuscitation, Suction, Intubation or continuous Oxygen inhalation therapy is needed to establish and maintain patient airway.

Emergency Kit should be supplied in an Unbreakable, watertight, chemical resistant and corrosion proof case offering extra protection.

The Box/case should be made of Lightweight Strong HPX Resin/ polypropylene copolymer material to withstand extreme conditions.

The Case should be tested and comply with Medical /Defense/ Military standards for vibration, Low & high Temperature & impact.

Should have Durable caster wheels and double layered soft grip Telescoping Handle for easy lugging.

Emergency Kit should have separate compartments for drugs and intubation accessories and equipment.

Emergency Kit should be supplied with transport ventilator with ventilation monitor and patient tube.

Should have dual suction capability: manual suction pump, additionally the ventilator unit should offer venturi driven aspirator suction.

Should be supplied with 3L capacity portable cylinder, made of light weight metal alloy pin index type without requirement of cylinder key.

Cylinder should be supplied with regulator, gauge and flexible adapter for cylinder refilling.

Should be able to supply oxygen under pressure to drive ventilator

Supplier should be ISO-9001 : 2008, ISO-13485: 2003 certified

The weight should not exceed 30 Kgs

### Resuscitator Unit:

a. Pneumatically Controlled, automatic time/volume cycled ventilator with IPPV, Manual override & Pressure Alarms suitable for emergency and transit situations.

b. Should be suitable for both Adult & Pediatrics.

c. Should have inflation pressure manometer.

d. Should have Audio Visual Alarms for Apnea/Low Airway Pressure Barotrauma, Low Drive Gas Pressure, Low Battery.

e. Should have pneumatic Low gas supply indicator to change color when gas finishes.

f. Suitable for functioning with portable oxygen cylinder with pressure regulator and also Gas pipeline where available.

g. The Oxygen regulator should be pin index type and lightweight and have port to drive ventilator and also oxygen flowmeter for 0-25L/min to connect to Oxygen therapy mask or oxygen catheter.



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- h. Should last more than 30 minutes on Cylinder.
- i. Automatic pressure release valve for excessive airway pressure
- j. Should have provision of PEEP from 0-20 cm H<sub>2</sub>O
- k. Ventilator Circuit should be made of Silicon or Smooth bore Tubing.
- Following Parameters should be available in the Ventilator:
- a. Tidal Volume: 200-1200ml, Breathing Frequency: 6-30 min
- b. Oxygen Concentration Adjustments: 60% and 100%
- c. Minute Volume Range: 2-15 L/m at 100% O<sub>2</sub>, 3-20L/m at 60% O<sub>2</sub>
- It should have the following Diagnostic and Dressing Instruments in separate compartments:-
- For IV Fluid therapy**
1. Stethoscope, Aneroid Sphygmomanometer
- II. Percussion Hammer, Tongue Spatula
- III. Examination Torch, No touch infra Red/Ear Thermometer in C/F.
- IV. Dressing forceps, Dressing scissors, Sterile gauze, Needle holder, B.P. Blade, Sterile Gloves,
- I.V. Cannula, 3 way stop, I.V. Giving sets, I.V. Stand
- V. Adhesive plaster, Rolled bandage, Disposable syringe
- Hand Held ECG:**
- I. Should offer fast measurement within 30 secs
- II. Large and High resolution LCD screen with backlight
- III. Auto evaluation of heart health condition
- IV. Connection to transfer ECG record to PC. Should be supplied with Software and Data Cable.
- V. Automatic power off
- Finger Pulse Oximeter:**
- I. Should offer quick measurement on Color Display
- II. Easy and Convenient to operate and carry
- III. Should measure and display SpO<sub>2</sub>, PR, Plethysmogram, and pulse bar.
- IV. Low power consumptions, More than 30 hours continuous operation
- V. Should be made of silicon housing for superior comfort and strength.
- VI. Automatic power off
- Accessories:**
- a. Resuscitator Manual self inflating silicon bag unit complete (AMBU bag) with reservoir bag and patient valve for Adult 1600 ml, Paed 500 ml and infant 280 ml.
- b. Laryngoscope with four Macintosh Blades and Handle (Infant-Adult)
- c. Transparent face mask of size 0,2,3,4 and 5
- d. Pharyngeal airway of different sizes 000, 00, 2,3
- e. PVC endotracheal tubes of various adult and pediatric sizes 3.0, 5,7,8 & 9
- f. Reusable Laryngeal Mask Airway (LMA) size 3.0 and 4.0 (one Each)
- g. PEEP Valve for ventilator circuit.
- h. Oxygen nasal Catheter & Oxygen Therapy Mask
- i. Suction Catheter and tubing
- j. Aspirator Suction Collection Jar.
- k. Silicon Head Harness.
- l. Patient Circuits - 5 sets
- m. Instruction Manual

Sr. No.	Technical Specification of PCB
1	0.5ml capacity
2	0.2ml capacity
3	384 well block
4	Gradient block
5	In-situ block
6	User interchangeable
A	Block Temperature
1	Gradient Range
2	Maximum Gradient
3	Maximum ramp rate
4	Block Uniformity at 50 Deg C
5	Column uniformity with a 10 Deg C Gra
6	Temperature Range
7	Temperature set point precision
8	Heated Lid
1	Selectable heated lid temperature
2	Heated lid enable/disable
3	Over temperature cut out
4	Regulated lid pressure
C	Programming
1	Memory cards
2	Number of programs
3	Password protection
4	Programming
5	Graphical display
6	Incremental/decremental temperature
7	Incremental/decremental hold time
8	Maximum hold time
9	Minimum hold time
10	Variable programmable ramp rate
11	Run end time calculation
12	Pause and stop facility
13	End of program alarm
14	Auto restart on power failure
D	Miscellaneous
1	Serial port
2	Dual Voltage 115/230V
3	Temperature sensor
4	Peltier elements/block
5	Connection to PC control program
6	Free software upgrades from website
7	Power consumption
8	Frequency
9	Voltage
E	Online UPS with required Power back up
F	Extended warranty with CMC written warranty from manufacturer
G	Dust free plastic cover
H	Requirement of compatible computer

Technical Specification of PCB

Sr. No.

PC cycles



Technical Specifications of Spirometer DLCO and Lung Volume Measuring Device:

1. The System should be capable of doing Spirometry, DLCO, MIP/MEP, ROCC, TLC all Tests in one system.
2. Integrated ROCC and MIP/MEP Measurement software and hardware.
3. The system should be able to perform the test with single DLCO gas cylinder at low pressure of 15 PSI.
4. The System should use with low dead space Demand valve to reduce excess use of gas
5. The DLCO gas should of CH<sub>4</sub>, CO Mixture for fast and linear analysis of results
6. The DLCO test should be fully automated to detect and deliver the DLCO gas automatically. NO manual key press by operator to deliver the gas to patients.
7. The systems flow sensor should come with shutter and demand valve with low dead space.
8. The flow sense should be variable orifice Pneumatic diaphragm with low resistance at all flow rates.
9. The Flow sensor should not be influenced by any breathing humidity, ie drying tube like expensive naphiontubings should not be used.
10. The system should come with safe auto zeroing ie patients can breathe during the auto zeroing.
11. The System should be able to measure DLCO test for patient with FVC less than 1 liter.
12. The system should be able to do spirometry parameters like FVC, SVC, MVV etc.
13. The system should not use gas bags, Drier tubes and gas observers to nil consumables cost per test for DLCO study.
14. The systems software should come with a report generator allows the modifications of the existing print templates and to create new print templates.
15. A Fractional exhaled nitric oxide (FeNO) breath testing monitor to measure airway inflammation and improve asthma management.
16. The system should have optional facility to upgrade to Body box /body plethysmography in the later stage.(Quoted option)
17. ISO, CE and other safety & quality certificate to be provided with the system.
18. Calibration certificate to be provided during the warranty period.



Company should be ISO, CE Certified

<b>Pneumatic Tourniquet Digital</b>
i. For Hip, Knee & Joint Replacement Surgery
ii. Battery back-up of minimum 3-4 hours
iii. Noiseless operation
iv. Quick pressurization of cuffs
v. Online increase & decrease of pressure
vi. Audible alarm on timer reaching set value
vii. Feather touch electronic switches
viii. Option for manual use
ix. Cuff pressure range : 10 to 450mm Hg
x. Pressure regulation : + 10mm Hg of set point
xi. Timer : Can be set from 9 hours to 59 minutes
xii. Timer least count : 1 minute
xiii. Internal least count : 1 millisecond
xiv. Quick release of pressure from the cuff without affecting the timer
xv. Memory Function : Last set pressure to be stored and displayed when the machine is switched on again
xvi. Power supply : 230 VAC, 50 Hz $\pm$ 10%; built in battery for 3 Hrs backup works on generator and does not required stabilizer
xvii. Weight : Approx. 3.8 Kg to 4.2 Kg
xviii. Cuff Sizes : Large : 33"x5", Big : 24"x4", Medium : 18"x3", Small : 11"x3", Pediatric : 8"x2"

## Technical Specifications of ECT Machine

- Electroconvulsive Therapy machine (ECT) with ECG & EEG monitoring
- Should have constant current bi-directional square wave Ultra Brief Pulses.
- Parameter display on LCD as well as on monitor screen.
- Should be able to deliver ECT from voltage 50-400 volts.
- Should have protection against paddle-to-paddles short circuit or open circuit conditions.
- Should have stimulus current 500-800 MA Frequency 20-120 Hz, Pulse Width 0.5-1.5 m.sec stimulation duration of 0.1-5.9 Sec.
- Minimum Power - 0.6 Joules for 220-ohm Patient Impedance.
- Maximum Power 205.8 Joules for 220-ohm Patient Impedance.
- Charge : 5.0 - 1152 milli coulomb in both manual and timer mode.
- Should be provided with optical motion sensor for monitoring motor movement during seizure.
- Should have facility to upgrade to 32 channel digital EEG Systems (Price should be quoted separately)
- Should have provision of monitoring EEG, EMG, ECG, Stimulus and Movement with optical Motion sensor for providing assessing seizures efficacy.
- Should have auto seizure detection facility.
- Should be provided with monitoring software to view physiological monitoring of upto 4 traces.
- The trace should be available in real time through out the treatment.
- Should have facility for the data to be stored with all the treatment parameter on the PC Hard disc.
- Should having a comprehensive database to store the complete patient information and can be configured according to user needs.
- Output should displays in Joules as well as in millicoloumbs.
- ECT module can be used in stand - alone mode also.
- Should be supplied with suitable hardware with atleast compatible processor (intel), 2GB RAM, 500GB HDD, 18" TFT monitor, UPS, Keyboard, Mouse & Trolley.
- Should be supplied with following accessories : Spring loaded ECT Headband, EEG, EMG & ECG Electrodes, OSM sensor, Bite Block, Earthingwire , Conductive Jelly, Rubber Strap Electrodes.

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	Specification of Fowler Bed		
	<ol style="list-style-type: none"> <li>1. Overall Size: Approx. 2100mm to 2160 L x 1000mm to 1020mm W x 500 to 600 mm</li> <li>2. Mattress Platform size: 1950mm L x 850mm W</li> <li>3. Two section carbon steel top fitted on bed frame.</li> <li>4. Manual adjustments: Backrest through one crank system with thrust bearings individually man euvred by a single handle.</li> <li>5. Back rest shall retract as they are individually raised. Provision for 1.V.Rod at four or more locations.</li> <li>6. The base frame shall be mounted on 125mm dia. non-rusting high grade castor wheels two with Brakes and two without brake. (If possible all with Brakes).</li> <li>7. Castor wheels made from high grade non floor-staining synthetic materials with integrated tread guards. Wheel center having precision ball bearing to run smoothly.</li> <li>8. The bed shall have easily detachable and lockable molded head and foot side panels.</li> <li>9. Four corner rubber/Suitable buffers to be provided for bed safety.</li> <li>10. There shall be four locations on the bed near corners of the bed to hold stainless steel Telescopic Saline rod.</li> <li>11. Finishing &amp; workmanship in the medical 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.</li> <li>12. All Process Parameters to be as per documented IMS Procedures for Quality Assurance (European CE, ISO9001:2008, ISO14001:2004 &amp; ISO13485:2003).</li> <li>13. Essential Accessories:           <ul style="list-style-type: none"> <li>• Urine Bag Holder/Hook - 4no. (Two on each side)</li> <li>• Two Section Mattress with 4" thick Foam of 40 or more Density covered with Rexene- 1no.</li> <li>• Stainless steel I V rod - 1 no.</li> </ul> </li> </ol>		





Technical specifications of Harmonic / Ultrasonic Scapel

It should be an ultrasonic cutting and coagulation system with the following specifications:

1. The system should have ultrasonic generator of 36 kHz frequency.
2. The hand piece for the system should come with a separate transducer with waveguide and connecting cable.
3. The system should have a footswitch and also finger switch compatibility.
4. The system should be capable of incising tissue and providing homeostasis with minimal thermal injury. Also it should have capability to seal vessels up to 5mm vessels.
5. It should be compatible for Open surgery as well as laparoscopic surgery.
6. It should have only 5mm instruments for less instrument exchange.
7. It should have all in one grasper, coagulator and dissector.
8. There should not be any distal drilling from the instrument tip.
9. Both open and laparoscopic instruments should operate at the same frequency.
10. The system should display selection of speed - minimum 3 options.
11. The generator should have a display indicating power levels.
12. The display panel should advise the user of the errors or warnings.
13. The system should not conduct electricity through the patient.
14. It should come equipped with a System diagnostics and troubleshooting guide to pinpoint any problems in the system.
15. The system should have electromagnetic compatibility.
16. It should have the following types of shears for open and laparoscopic surgery:
  - a) 5mm curved coagulating shears 200° rotatable capable of sealing blood vessels of 5mm diameter or more (packet of 10 nos. each for open and laparoscopic surgery)
  - b) It should have palm fit grip
  - c) It should have spring loaded trigger
  - d) The shears should be finger activated for instant activation and power level changing.
  - e) Reusable transducers (separate for open and laparoscopic lengths)
17. The generator should be able to provide messages e.g. over-heating of transducer, replacement of transducer, time out for transducer after excessive continuous activation, release of jaw or switches, final surgery of transducer etc. ...
18. The generator should have adjustable volume
19. The system should conform to US FDA standards (certificate attach).

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- Should be accommodate all the items mentioned above in one

**Compact Trolley**

- Endoscopy software compatible with video processor unit capable of recording and archiving still and video images alongwith capability to provide reporting in modifiable format.

**Endoscopy reporting software**

19" to 21" Colour Monitor

**Monitor**

- 1. Should be Single Chip Camera
- 2. Should be digital signal output DVI:1
- 3. Weight should not be more than 5 Kg
- 4. When camera head is disconnected, a color bar chart can be displayed
- 5. Should have iris feature & Brightness control can be adjusted
- 6. Camera head should be immersible in disinfection solution.

**Specification for Camera**

- 1. Should be compatible with semi automatic leakage tester
- 2. Unit should be compact and light weight.
- 3. Light source - 150 watt halogen.
- 4. Should have Inbuilt air pump.
- 5. Compatible with all Olympus Fiberoptic Scope.

**Specification for Halogen Light Source**

- 1. Field of View should be 120 degree or more
- 2. Depth of field should be 3 - 50 mm or better
- 3. Distal end diameter should be 5.9 mm or less
- 4. Insertion tube diameter should be 5.0 mm or less
- 5. Channel diameter should be 2.8 mm or more
- 6. Should be light weight and easy to use
- 7. Working length should be 600 mm or more
- 8. Total length should be 890 mm or better
- 9. UP and DOWN Angulation should be 180 degree and 130 degree or better
- 10. Should have telescopic eye piece
- 11. Can be fully immersed in disinfectant solution and water
- 12. Should have autoclavable suction valve to avoid cross-contamination risk.
- 13. Should have facility to check leakage by automatic pressure regulated leak tester.
- 14. Should be compatible with 150 watt halogen light source

**Features**

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SR.NO.	PARTICULARS	UNIT
1	snellen entropion clamp right (steel)	1
2	snellen entropion clamp left (steel)	1
3	Berke ptosis clamp (steel)	1
4	stallard ptosis plate (steel)	1
5	Jager's lid plate (steel)	1
instruments set for entropion, eversion, enucleation		

1	All instruments should have FDA / CE.
2	Instruments should meet the international Certification as per DIN EN ISO 13485 : 2003.
3	Instruments should meet the international Certification as per OHSAS 18001 : 2007
4	Instruments should meet the international Certification as per ISO 9001 : 2008, ISO 7153-1: 2016
5	Instruments should meet the international Certification as per WHO : GMP
6	Instruments should meet the international Certification as per Test reports
7	All the instruments should be made of high grade stainless steel and quality of steel should comply with the DIN standards.
8	All instruments should adhere to the following steel composition :
	a. It should be of high quality and precision
	b. It should be light weight, strong and durable
	c. It should be non-magnetic
9	The equipment comply with the requirement of the medical device directive of class I equipment and electromagnetic compatibility, all supporting documents must be provided.
10	All instruments should have bar coding.
11	All instruments should have anti glaring surface for better vision
12	The equipment should have brand name / Model Number embossed / etched on the instrument
13	Certificate issued from Ministry of Commerce should be provided as a proof of supply at the time of delivery.
14	All instruments and containers should be from same manufacturer.
15	Bidder should submitted offer indivisually of each instrument as per attached list.
16	Demonstration of instruments mandatory at hospital premises at Origina Equipment Manufacturer (OEM) cost.
17	Installation / Demonstration process should be perform by O.E.M trained service engineers / service representatives on Original Equipment Manufacturer (OEM) letterhead.
18	The installation process must be completed by O.E.M / Service provider within 30 days of supply
19	Instrument Manufacturer should provide Instruction for User Manual (IFU) regarding correct and safe practice of cleaning & sterilization process of instruments.
20	Service centre of the Original Equipment Manufacturer (OEM) should be in India.
21	The page of technical bid should be numbered and check list should be dually filled.
22	All the technical specifications in the compliance statement must be supported by <b>Original Literature from the firm.</b>

Bidder Criteria:-

Specification for Instruments set for entropion, eversion, enucleation

**Specification for CATARACT SET**

**Bidder Criteria:-**

1	All instruments should have FDA / CE.
2	Instruments should meet the international Certification as per DIN EN ISO 13485 : 2003.
3	Instruments should meet the international Certification as per OHSAS 18001 : 2007
4	Instruments should meet the international Certification as per ISO 9001 : 2008, ISO 7153-1: 2016
5	Instruments should meet the international Certification as per WHO : GMP
6	Instruments should meet the international Certification as per Test reports
7	All the instruments should be made of high grade stainless steel and quality of steel should comply with the DIN standards.
8	All instruments should adhere to the following steel composition :
	a. It should be of high quality and precision
	b. It should be light weight, strong and durable
	c. It should be non-magnetic
9	The equipment comply with the requirement of the medical device directive of class I equipment and electromagnetic compatibility, all supporting documents must be provided.
10	All instruments should have bar coding.
11	All instruments should have anti glaring surface for better vision
12	The equipment should have brand name / Model Number embossed / etched on the instrument
13	Certificate issued from Ministry of Commerce should be provided as a proof of supply at the time of delivery.
14	All instruments and containers should be from same manufacturer.
15	Bidder should submitted offer individually of each instrument as per attached list.
16	Demonstration of instruments mandatory at hospital premises at Original Equipment Manufacturer (OEM) cost.
17	Installation / Demonstration process should be perform by O.E.M trained service engineers / service representatives on Original Equipment Manufacturer (OEM) letterhead.
18	The installation process must be completed by O.E.M / Service provider within 30 days of supply
19	Instrument Manufacturer should provide Instruction for User Manual (IFU) regarding correct and safe practice of cleaning & sterilization process of instruments.
20	Service centre of the Original Equipment Manufacturer (OEM) should be in India.
21	The page of technical bid should be numbered and check list should be dually filled.
22	All the technical specifications in the compliance statement must be supported by <b>Original Literature from the firm.</b>

SR.NO.	PARTICULARS	UNIT
1	CATARACT SET	
1	Barrquer wire speculum small standard wire 15 mm blades	1
2	Kelman McPherson IOL forceps	1
3	McPherson tying forceps-	1
4	Barrquer colibri forceps--1x2 teeth, 0.12mm tip, total length 75mm	1
5	Lims forceps-- 0.12mm tip, 1x2 teeth , length 93 mm	1

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6	Sinsky hook-- angled	1
7	castroviejo corneal scissors-- universal	1
8	McPherson Westcott scissors-- 3 3/8' angled, 11mm blades, sharp tip	1
9	Gillis Vanas scissors-- curved, 10 mm blades, sharp tips	1
10	Barrquer iris scissors-- (steel)-	1
11	Barrquer needle holder-- .5 1/4' gently curved, 9 mm jaw without lock	1
12	Dastoor superior rectus forceps-- (steel)- serrated shaft	1
13	Eye dressing forceps-- (steel)-	1
14	Castroviejo calliper-- (steel)- straight, measures 0-20 mm	1
15	Cyclodialysis spatula-- (steel)- double end	1
16	serrafine clamps-- (steel)-	1
17	Iris reposit-- (steel)- double ended	1
18	wire vectis-- (steel)- angled, serrated	1
19	Smith lens expressor vectis-- (steel)- double ended	1
20	Irrigating vectis -- serrated	1
21	Simcoe I/A canula-- (steel) - direct 23 G	1
22	Air injection canula-- (steel)- 23 G	1
23	A.C. wash canula-- (steel)- 16 G	1
24	Pearce hydrodissection canula-- (steel)- 25G, flattened tip	1
25	sterilization case (steel) 8x12x 0.75 "	1

**Specification for RETRACTOR SET**

**Bidder Criteria:-**

1	All instruments should have FDA / CE.
2	Instruments should meet the international Certification as per DIN EN ISO 13485 : 2003.
3	Instruments should meet the international Certification as per OHSAS 18001 : 2007
4	Instruments should meet the international Certification as per ISO 9001 : 2008, ISO 7153-1: 2016
5	Instruments should meet the international Certification as per WHO : GMP
6	Instruments should meet the international Certification as per Test reports
7	All the instruments should be made of high grade stainless steel and quality of steel should comply with the DIN standards.
8	All instruments should adhere to the following steel composition : a. It should be of high quality and precision b. It should be light weight, strong and durable c. It should be non-magnetic
9	The equipment comply with the requirement of the medical device directive of class I equipment and electromagnetic compatibility, all supporting documents must be provided.
10	All instruments should have bar coding.
11	All instruments should have anti glaring surface for better vision
12	The equipment should have brand name / Model Number embossed / etched on the instrument
13	Certificate issued from Ministry of Commerce should be provided as a proof of supply at the time of delivery.
14	All instruments and containers should be from same manufacturer.
15	Bidder should submitted offer indusivally of each instrument as per attached list.
16	Demonstration of instruments mandatory at hospital premises at Origina Equipment Manufacturer (OEM) cost.
17	Installation / Demonstration process should be perform by O.E.M trained service engineers / service representatives on Original Equipment Manufacturer (OEM) letterhead.
18	The installation process must be completed by O.E.M / Service provider within 30 days of supply
19	Instrument Manufacturer should provide Instruction for User Manual (IFU) regarding correct and safe practice of cleaning & sterilization process of instruments.
20	Service centre of the Original Equipment Manufacturer (OEM) should be in India.
21	The page of technical bid should be numbered and check list should be dually filled.
22	All the technical specifications in the compliance statement must be supported by Original Literature from the firm.

SR.NO.	PARTICULARS	UNIT
1	Baffour Abdominal Retractor	SET
2	Doyen Abdominal Retractor	1
3	Morris Retractor 9-3/4"	2
4	Haberer Abdominal Spatula 12"	2
5	Mikulicz Retractor	1

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6	Reverdin Abdominal Retractor	6
7	KELLY'S RETRACTOR	6
8	MASTOID RETRACTOR	6
9	RIGHT ANGLE RETRACTOR	1
10	CZERNY RETRACTOR	24
11	CAT'S PAW RETRACTOR	6
12	DOUBLE HOOK RETRACTOR	6