SITC of equipment (part-A Medical equipments and Part-B Medical furnitures) at emergency medical services /casuality department in JIPMER,Puducherry

PART-A MEDICAL EQUIPMENTS

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**1**
Instrument ref. No:		1.1
Biomedical Asset. No:		
Quantity:		**10**
Similar items:		
Item Name		**DEFIBRILLATOR MONITOR**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Defibrillator should be Bi- Phasic, light weight and latest model
	2	Should monitor vital parameters and display them.
	3	Should print the ECG on thermal recorders.
	4	Should work on manual and automated external defibrillation (AED) mode. Should have manual selection up to **200 J.**
	5	Should be capable of doing synchronized & asynchronized cardioversion.
	6	Can be operated from mains as well as battery.
	7	Should have defibrillator testing facility.
	8	Should have non invasive pacing facility.
	9	Should be a low energy biphasic defibrillator monitor with recorder, having capability to arrest all arrhythmia within a maximum energy of **200 J.**
	10	Should monitor ECG through paddles, pads and monitoring electrodes and defibrillate through pads and paddles.
	11	Should have automatic lead switching to see patient ECG through paddles or leads.
	12	Should measure and compensate for chest impedance for a range of 25 to 200 ohms
	13	Should have a built in strip printer/ thermal recorder

	14	Should have charging time of less than 5 seconds for maximum energy. Charging indicator should be present.
	15	Should have bright display for viewing messages and ECG waveform for 4 seconds
	16	Should have external **paddles** with paddles contact indicator – for good paddle contact.
	17	Single Adult and pediatric paddles should be available.
	18	Should have event summary facility for recording and printing at least 250 events and 50 waveforms
	19	Should have a battery capable of usage for at least 90minutes or 30 discharges.
	20	Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc
	21	Should have facility for self test/check before usage and set up function
	22	Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.
	23	Power input to be 220-240VAC, 50Hz Indian plug.
2		**System Configuration Accessories, spares and consumables**
	1	Patient ECG Cables-02
	2	ECG Rolls-05
	3	ECG electrodes-**10 pacs of 100 each**
	4	Gel bottle - 2 Nos
	5	**External Pacing Paddles**
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**Documentation**
	1	Two numbers of complete User/Technical/Maintenance manuals to be supplied in English .
	2	Certificate of calibration and inspection from factory.
	3	Downtime: Provision for replacement of table in case a table remains unworkable for more than a week.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**2**
Instrument ref. No:		1.2
Biomedical Asset. No:		
Quantity:		**36**
Similar items:		
Item Name		**MULTIPARAMETER TRANSPORT MONITOR**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS.**
	1	Capability of measuring, displaying and storage of patient data and printing and networking capabilities.
	2	Should be compatible with third party Hospital information systems
2		**TECHNICAL SPECIFICATION:**
	1	Minimum **12** inches multi colored TFT display screen.
	2	Modular Design.
	3	Capable of simultaneous display of Six waveform and eight digital parameters with configurable design.
	4	Combination of single, dual and multi parameters module modes.
	5	Parameter modules freely exchangeable between all the monitors.
	6	Multi Channel (up to 12 leads) ST segment analysis.
	7	Facility to monitor and display – ECG, respiration, NIBP, SPO2 with pleth, **EtCO2 with capnography**, Temperature, **Cardiac output & IBP**
	8	Automatic arrhythmia detection & alarm for standard and lethal arrhythmia.
	9	Should provide hemodynamic, oxygenation, ventilation, calculation package.
	10	Should have drug calculation package.
	11	Trend of at least 24 hours.

	12	200 Nos. event recall/snapshot facility both manually and automatically triggered by alarm.
	13	Automatic zoom in facility in the monitor display.
	14	The monitors should have monitor-to-monitor overview facility and data transfer over the network.
	15	Integrated or external printer for report output **(optional).**
3		**SYSTEM CONFIGURATION, ACCESSORIES, SPARES AND CONSUMABLES**
	1	ECG / Resp : one module with a set of 5 Lead ECG cable with clip-2 per monitor
	2	NIBP : One module per monitor. Adult cuff – 2 nos. per monitor and two sizes of pediatric cuffs – one per monitor neonatal reusable cuff two / monitor (complete sets)
	3	SP02: One module per monitor. Reusable master/mother cable 2 nos per monitor. Reusable, Adult sensor, finger clip type – 2 nos, Reusable Pediatric sensor clip/sleeve/wrap around type – 1 no
	4	IBP: One module per monitor with 2 Nos. of reusable transducer cable and disposable transducers 20 Nos. per monitor.
	5	Temperature : One module per monitor. Rectal temperature probe 2 per monitor and skin temperature probe one per monitor
	6	EtCO2 : Sidestream, one module per six monitors with all accessories. 10 sets of sampling tubes for each module to be included
	7	Cardiac Output : Continuous cardiac output module one per six monitors with accessories.
	8	Facility to mount the monitor on patient bed/transport trolley
4		**POWER SUPPLY**
	1	Power input to be 220 -240 V AC, 50 Hz.
5		**STANDARDS, SAFETY AND TRAINING**
	1	Should be FDA/CE/BIS approved product.
	2	Manufacturer should have ISO certification for quality standards.
		On Site Comprehensive training for lab staff and support services till customer satisfaction with the system.
6		**DOCUMENTATION**
	1	User/Technical/Maintenance manuals to be supplied in the English.
	2	Certificate of calibration and inspection.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**3**
Instrument ref. No:		1.3
Biomedical Asset. No:		
Quantity:		**22**
Similar items:		
Item Name		**INFUSION PUMP**
SL NO		**SPECIFICATION**
1		**Operational Requirements:**
	1	The syringe pump should be programmable, user friendly, safe to use and should have battery back up and comprehensive alarm system.
	2	Demonstration of the equipment is a must.
2		**Technical Specifications:**
	1	Flow rate programmable from 0.1 to 200 ml / hr or more in steps of 0.1 ml/hr with user selectable flow set rate option.
	2	Bolus rate should be programmable to 400 – 500 ml/hr or more with infused volume display. Reminder audio after every 0.5 ml delivered bolus. SAVE last Bolus rate even when the AC power is switched OFF.
	3	Display of Drug Name with a provision of memorizing 10~15 names by the operator
	4	Keep Vein Open (KVO) must be available 1.0 ml/hr or set rate if lower than 1.0 ml. User should have choice to disable KVO whenever desired.
	5	Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg
	6	Must Work on commonly available ISI/CE/FDA APPROAVED/CERTIFIED 20,**30,** 50/60 ml Syringes with accuracy of minimum of +/-2% or better.

	7	Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc.
	8	Anti bolus system to reduce pressure on sudden release ofocclusion
	9	Should have comprehensive alarm package (certified for meeting IEC 60601-1-8: Medical Electrical equipment – Part -1-8: General requirements for safety –collateral standard: Alarm systems) including: Occlusion limit exceed alarm, Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery prealarm and alarm, AC power failure, Drive disengaged, air-in-line and preventive maintenance.
	10	Rechargeable Battery having at least 5~6 hour backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.
3		**System Configuration Accessories, spares and consumables:**
	1	Syringe Infusion Pump –01
	2	Mounting device/ Docking Station for two or four pumps as per requirement so as to enable to power up to 2-4 pumps with one power cord when mounted on IV pole. – 01
4		**Environmental factors:**
	1	Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
	2	The unit shall be capable of operating continuously in ambient temperature of 30 deg C and relative humidity of 80%
	3	The unit shall be capable of being stored continuously in ambient temperature of 0 **-50 C** and relative humidity of 15-90%
5		**Power Supply:**
	1	Power input to be 220-240VAC, 50Hz
6		**Standards, Safety and Training:**
	1	Should be FDA or CE approved product
	2	Electrical safety conforms to standards for electrical safety IEC- 60601-1 General Requirements
	3	Manufacturer should be ISO certified for quality standards.
	4	Certified for meting IEC60601-2-24: Particular requirements for the safety of infusion pumps and controllers
	5	Should meet IEC 529 Level 3 and 4 (IP3X)(spraying and splashing water) for enclosure protection, water ingress.

	6	Electrical Safety Classification Class I/II, Type CF and Internally powered equipment.
	7	Certified for meeting IEC 60601-1-4 Medical electrical equipment - Part 1-4: General requirements for safety - Collateral Standard: Programmable electrical medical systems
	8	Comprehensive warranty for 3 years and provision of AMC for next 5 years.
	9	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.
7		**Documentation**
	1	Certificate of calibration and inspection from factory.
	2	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
	3	User Manual in English
	4	Service manual in English
	5	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.
	6	List of important spare parts and accessories with their part number and costing.
	7	User list to be provided with performance certificate.
	8	Performance report in the last 5 years from major hospitals should be enclosed.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**4**
Instrument ref. No:	1.4
Biomedical Asset. No:	
Quantity:	**10**
Similar items:	
Item Name	**PORTABLE VENTILATOR**

SL NO		**SPECIFICATION**
		The portable ventilator should be light weight (<10 kg)
1	**1**	Should be microprocessor controlled.
	2	Should operate with main electric supply as well as with battery.
	3	Should be able to work both with cylinders, pipeline & room air. Connectors and high pressure tubing of appropriate length to be supplied.
	4	Should have turbine / Venturi / jet mixing – technology for supplying air - oxygen mixture.
	5	Should have following modes of ventilaton:
	6	CMV,**PCV** Assist – Control, SIMV, PS-PEEP & SIMV – pressure control (SIMV – PC)
	7	Audio visual alarms for:
		a. Low supply pressure
		b. High/ low airway pressure
		c. Leakage / Disconnection
		d. Power failure
		e. Apnea
		f. Low battery
		Should have following settings:
		a. TV 50 – 1500 mL.
	8	b. PEEP/CPAP & PS
		c. RR up to 40 bpm
		d. I :E ratio 1:2 to 2:1
		e. FiO2 21 – 100%
	9	Should have battery back up for minimum 2 hours, and additional port for recharging from ambulance.
	10	Should fix on rails of transport trolley and on stand with wheels.
	11	Power input to be 220 – 240 VAC, 50 Hz.
	12	**Should have integrated display of minimum 6 inch diameter**
2		**SYSTEM CONFIGURATION ACCESSORIES, SPARES AND CONSUMABLES**
	1	Adult reusable / autoclavable silicon patient circuit – 04 Nos. (Each ventilator)
	2	Oxygen Hose – 01 (Each ventilator)
	3	Air Hose – 01 (Each ventilator)
	4	Rechargeable batteries – 01 set (Each ventilator)

	5	12 V car charger – 02 Nos. (in total)
	6	HME filters – 200 Nos. (Each ventilator)
3		**STANDARDS, SAFETY AND TRAINING**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**DOCUMENTATION**
	1	User / Technical /Maintenance manual to be supplied in English
	2	Certificate of calibration and inspection from factory.
	3	**Should have 1 years (one years) on-site comprehensive warranty for all components excluding the consumables, and comprehensive maintenance contract (comprehensive CMC) for 7 years (seven years; effective from the fourth year of installation).**

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**5**
Instrument ref. No:		1.5
Biomedical Asset. No:		
Quantity:		**16**
Similar items:		
Item Name		**HIGH END ICU VENTILATOR**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS**

	1	Microprocessor Controlled ventilator with integrated facility for ventilation monitoring suitable for use on adults, small sized adults and adolescents. Should NOT be a machine working on turbine technology or any modification thereof.
2		**TECHNICAL SPECIFICATIONS**
	2.1	Standard hinged arm holder for holding the circuit
	2.2	Color TFT screen, 12 inch or more, **vertical display**
	2.3	Facility to measure and display
		a) 3 waves – Pressure and Time, Volume and Time and Flow and Time.
		b) 3 loops – P-V, F-V, P-F with facility of saving of 3 Loops for reference
		c) Graphic display to have automatic scaling facility for waves
		d) Status indicator for Ventilator mode, Battery life, patient data, alarm settings, clock
	2.4	Trending facility for minimum 24 hours (preferably 72 hours) with minimum 5 minutes resolution for recent 24 hours
	2.5	Automatic compliance & Leakage compensation for circuit and ET tube
	2.6	Following settings for all age groups.
		a) Tidal Volume – 50 to 2,000 ml
		b) Pressure (insp): 5 to 70 Cm H2O
		c) Pressure Ramp
		d) Respiratory Rate: 5 to 100
		e) SIMV Respiratory Rate
		f) CPAP/PEEP
		g) Pressure support
		h) FIO2: 21 to 100%
		i) Pause Time
		j) Pressure & Flow Trigger
	2.7	Monitoring of the following parameters
		a) Airway Pressure (Peak & Mean)
		b) Tidal volume (Inspired & Expired)
		c) Minute volume (Inspired and Expired)
		d) Spontaneous Minute Volume
		e) Total frequency
		f) FIO2 dynamic,**with sensor having image life of at least 3 years**
		g) Intrinsic PEEP and PEEPi Volume

		h) Plateau Pressure
		i) Resistance & Compliance
		j) User selected Alarms for all measured & monitored parameters
	2.8	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) Non Invasive ventilation (Contd.)
		g) Volume-targeted pressure mode
		h) At least one automated weaning mode
	2.9	Apnea /backup ventilation
	2.1	Expiratory block should be autoclavable and no routine calibration required
	2.11	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
	2.12	Nebuliser with capability to deliver particle size of< 3 micron & to be used in both Off and On line
	2.13	Battery back up for minimum 1 hour
	2.14	RS 323C interface for communications with networked devices.
3		**Technical Specifications for reusable NIV mask**
	3.1	Reusable face mask with textured dual flap silicon cushion flap for easy fit.
	3.2	Removable forehead support and pad to match the angle of patient's forehead stability selector for easy fit and angle. Ball & Socket headgear attachments.
	3.3	The full complement of masks supplied should include a balanced assortment of all commercially available sizes - small, medium, and large. **With individual harness**
4		**System Configuration Accessories, spares and consumables**
	4.1	ICU Ventilator – 01
	4.2	Adult autoclavable silicone breathing circuits – 04 each
	4.3	(a) Full-face NIV mask – 01 each.

		(b) All Accessories for non-invasive ventilation
	4.4	Humidifier – Servo controlled with digital monitoring of inspired gas temperature at patient-end, manually selectable temperature control with temperature display, heater wires – 02 Nos.
	4.5	Filter paper for humidifier for 100 uses – 02.
5		**Power Supply**
	5.1	Power Supply; 230V, 50 Hz
6		**Standards, Safety and Training**
	6.1	Should be FDA/CE/BIS approved product.
	6.2	Manufacturer should have ISO 9001 certification for quality standards.
	6.3	On site Comprehensive training for lab staff and support services till customer satisfaction with the system
7		**Documentation**
	7.1	User / Technical / Maintenance manuals to be supplied in English.
	7.2	Certificate of calibration and inspection.
8		**Should have 3 years (three years) on-site comprehensive warranty for all components excluding the consumables, and comprehensive annual maintenance contract (comprehensive AMC) for 5 years (five years; effective from the fourth year of installation).**

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**6**
Instrument ref. No:	1.6
Biomedical Asset. No:	
Quantity:	**5**
Similar items:	

Item Name		**ECG-MACHINE 12 CHANNEL**
SL NO		**SPECIFICATION**
1		**Description of Function**
		ECG Machine is a primary equipment to record ECG signal in various configurations. 12 channels with interpretation are required for recording and analyzing the waveforms with special software.
2		**Operational Requirements**
	1	The ECG machine should be able to acquire all 12 Leads simultaneously and interpret them.
3		**Technical Specification**
	1	Should acquire simultaneous 12 LEAD ECG for both adult and pediatric patients.
	2	Should have real time display of ECG waveforms with signal quality indication for each lead.
	3	Should have Artifact, AC, and low and high pass frequency filters.
	4	.Should have a storage memory of at least 100 ECGs with easy transfer by optional modem and data cord.
	5	Should have full screen preview of ECG report for quality assessment checks prior to print.
	6	Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and pediatric patients.
	7	Should have alphanumeric keyboard for patient data Entry (Virtual or hard keys).
	8	Should have high resolution (200 dpi x 500 dpi on 25mm/sec speed) digital array A4 size printer.
	9	Should have report formats of 3x4; 6x2 ; Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.
	10	Should have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge.
	11	Should be able to be connected to HIS/LAN/Wireless LAN (Optional)
	12	Should display ECG on LCD/TFT Display of 640x460 pixel resolution.
	13	USB support (optional) for storage on external portable memories.
	14	Multimode of ECG storage capability on floppy (min 2) 150 ECG on internal flash memory.
4		**System Configuration Accessories, spares and consumables.**
	1	ECG machine 12 Leads with interpretation – 01.
	2	Patient cable -02

	3	Chest Electrodes (Adult) (set of six) - 2 sets
	4	Chest Electrodes Pediatric (set of six) – 2 sets
	5	Limb Electrodes (set of 4) – 2 sets
	6	Thermal paper A4 size for 500 patients.
5		**Environmental factors**
	1	The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%.
	2	The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%
	3	Shall meet IEC-60601-1-2:2001 (or equivalent BIS) General requirements of safety for electromagnetic compatibility or should comply with 89/366/EEC ; EMC-directive.
6		**Power supply**
	1	Power input to be 220-240VAC, 50 Hz fitted with Indian Plug.
7		**Standards, Safety and Training**
	1	Should be FDA, CE, UL or BIS approved product.
	2	Electrical safety conforms to standards for electrical safety IEC-60601-1 General requirements and IEC-60601-2-2S safety of Electrocardiograms (or equivalent BIS standard)
8		**Documentation**
	1	User Manual in English.
	2	Service manual in English
	3	List of important spare parts and accessories with their part number and costing.
	4	Certificate of calibration and inspection
	5	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.
	6	List of equipments available for providing calibration and routine preventive maintenance support as per manufacture documentation in service/technical manual.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**7**
Instrument ref. No:		1.7
Biomedical Asset. No:		
Quantity:		**6**
Similar items:		
Item Name		**OT-TABLE FOR MINOR OT**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Should be multi purpose powered OT table, C- Arm Fluoroscopic compatible, suitable for surgical procedures, complete with moulded, anti-static, seamless mattress.
	2	Table top should have full length X-ray translucent top with removable &
	3	Should have interchangeable head and leg sections with an auto-locking mechanism.
	4	Table must allow for unrivalled C-arm access and kidney break positioning without the need to move the patient.
	5	Should offer controls for trendelenberg / reverse trendelenberg, lateral tilt, flexion/extension (90/230 degree), longitudinal tabletop traverse and height functions (min. height around 700-800mm and max. height around 1000-1200mm).
	6	The brakes, wheels and castors should be controlled by two foot pedals
	7	The table stem should be located under the middle of the back section making the tabletop eccentric.
	8	Table should be able to carry heavy patients and have a capacity of up to 300kgs with an option for width extension of obese patients.
	9	Table should also be suitable for tall patients and have a length of at least 2000 mm
	10	Table should offer low minimum height enabling the surgeon to operate even when seated **(Range 2 to 2.5 feet)**
	11	The table should have divided leg section with mattresses, arm board & universal clamp
2		**System Configuration Accessories, spares and consumables**

	1	The table should be supplied with following necessary accessories including knee crutches:
	2	Arm supports – 2 nos
	3	Gel heel pads – 1 pair
	4	Patient positioning gel strap, 200-250cms – 1no
	5	Hand Surgery Board – 1
	6	Elevated Arm Support – 1
	7	Padded head, shoulder and arm rest – 1 set each
	8	Padded lateral support and shoulder supports – 1 set
	9	Appropriate accessories' clamp.
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English
	2	Certificate of calibration and inspection from factory.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**8**
Instrument ref. No:	1.8
Biomedical Asset. No:	
Quantity:	**2**
Similar items:	

Item Name		**OT-TABLE HIGH-END**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Should be multi purpose powered electro hydraulic OT table, C- Arm Fluoroscopic compatible, suitable for all major surgical procedures, including trauma, orthopedic and neurosurgical, complete with a corded handset with battery level indicators and moulded, anti-static, seamless mattress.
	2	Table top should have feature of movement with a traverse of minimum of 250 mm or more, either cranially or caudally
	3	Should have full length X-ray translucent top with removable & interchangeable head and leg sections with an auto-locking mechanism.
	4	Table must allow for unrivalled C-arm access and kidney break positioning without the need to move the patient.
	5	The handset should offer controls for trendelenberg / reverse trendelenberg, lateral tilt, flexion/extension (90/230 degree), longitudinal tabletop traverse and height functions (min. height around 700-800mm and max. height around 1000-1200mm).Should have facility to return to neutral position (auto zero)
	6	The brakes, wheels and castors should be controlled by two foot pedals
	7	The table should feature an integrated stand by panel for controlling the movements in case of handset loss or battery failure
	8	The table stem should be located under the middle of the back section making the tabletop eccentric.
	9	Table should be able to carry heavy patients and have a capacity of up to 300kgs with an option for width extension of obese patients.
	10	Table should also be suitable for tall patients and have a length of at least 2000 mm **(RANGE: 2-2.5 FEET)**
	11	Table should offer low minimum height enabling the surgeon to operate even when seated
	12	The table should have divided leg section with mattresses, arm board & universal clamp
	13	Should have facilities for manual operations in case of power failures.
2		**System Configuration Accessories, spares and consumables**
	1	The table should be supplied with following necessary accessories including knee crutches:
	2	Arm supports – 2 nos
	3	Gel heel pads – 1 pair

	4	Patient positioning gel strap, 200-250cms – 1no
	5	Hand Surgery Board – 1
	6	Elevated Arm Support – 1
	7	Padded head, shoulder and arm rest – 1 set each
	8	Padded lateral support and shoulder supports – 1 set
	9	Appropriate accessories' clamp.
	10	Boot type stirrups for lithotomy position
	11	Telescopic extension bars made of chrome nickel steel with traction bars installed so as to be pivotable making possible trouble free intra-operaative use of image intensifier in AP , lateral and oblique planes (2 pieces)
	12	Support feet (2 pieces)
	13	Screw tensioners (2 pieces)
	14	Traction boots (Leather boots with bottom plates attached to screw tension device with a ball joint):Adult 1 pair, Child 1 pair
	15	Stirrup clamp with rotation for fixing Kirchner bow traction
	16	90 degree extension device
	17	Leg rest: Radiolucent with support post and clamp that attaches to extension bar
	18	Knee support (Table): height adjustable, radio translucent(carbon fibre), padded attached to adapter that can be fixed to both sides of the table
	19	Knee support (extension bar): height adjustable, radio translucent(carbon fibre), padded attached to support port and clamp that attaches to the extension bar
	20	Knee crutch (Goepel type): with clamp and Velcro strap and attachment to extension bar.
	21	Femoral counter post for nailing in both supine and lateral position.
	22	Accessories for prone positioning including chest / breast support , adjustable
	23	Spine support frame.
	24	Hand operating side attachment : padded height adjustable radiolucent top measuring with roller wheels
	25	Accessories stand : mobile with castors ; frames and baskets made of stainless steel for storing small parts and extension bars
	26	L shaped anesthesia frame
	27	Raised arm support with pad: one
	28	Inner thigh support: one
	29	Neuro surgery head rests.
	30	Knee holder attachment for arthroscopy/TKR

	31	Gel pads for patient protection (all types & sizes)
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**Documentation**
	4.1	User/Technical/Maintenance manual to be supplied in English
	4.2	Certificate of calibration and inspection from factory.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		9
Instrument ref. No:		1.9
Biomedical Asset. No:		
Quantity:		**1**
Similar items:		
Item Name		**HIGH-END OT LIGHT WITH CAMERA**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
1.A		**OT Light**

	1	Should be dual dome LED surgical lighting system, ceiling mounted type with one dedicated spring-arm suspension for progressive scan, HD flat panel with an integrated in-light camera system.
	2	Operating room surgical lighting system should provide an ideal combination of brightness, maneuverability, and shadow resolution without sacrificing color accuracy through a consistent LED technology with a unique faceted reflector design technology.
	3	Should have two number of light heads per suspension
	4	Should have minimum 90 LEDs
	5	Color temperature should be 4000 - 5000 K
	6	Field size diameter depth should be 6 inch – 12 inch
	7	Depth of field should be 30 – 35 inch
	8	Illumination level should be minimum 160,000 Lux each
	9	Should have wall control touch panel
	10	Rotation should be 360 degrees
	11	Should have vertical adjustment range of + 20 inch – 25 inch
	12	Handle should be sterilizable
	13	Lighthead diameter should be 20 – 30 inch
	14	Dimming range should be 30% - 100%
	15	Light source should have life >30,000 Hrs
1B		**Camera System**
	1	Integrated in-light camera system should be integrated at the centre of one of the domes of this lighting system in order to capture images & video sequences of the open cases.
	2	Signal to noise ratio (S/N Ratio) should be <50 DB
	3	Minimum Illumination should be <3 lx
	4	Should have optical zoom of 25 – 30x
	5	Digital zoom should be 12-15x
	6	Power Supply should be Through Light / max. 12W
	7	Should have S-Video & Composite Video out put
	8	White Balance & Gain : Automatic/Manual
	9	Such Light and Integrated Camera should have a control through Touch Panel of the control equipment placed inside the operating room at documentation station / nurse works station.
1c		**Flat Panel Monitor**

	1	Should be 23” High Definition progressive scan flat-panel monitors with ceiling mounted spring arm suspension to support high-definition/HDTV progressive scan images and should be able to support and display DVI/HDTV, RGBHV, S-Video, Composite video signals
	2	The flat Panel suspension should be ready with the cables for integration of High Definition Digital (DVI/HDTV), RGBHV (High Resolution), SVHS (S-Video), Composite video signals to travel from the various sources of video like endoscopic camera, room camera, in light camera, high definition flat panel monitors, while assuring native resolution / signal
	3	Resolution should be 1600 dots x 1200 dots, Progressive scan
	4	Display Colors should be 16 Million Colors
	5	Should have inputs of DVI, RGBHV, S-Video, Composite Video
	6	Response time should be <25ms
	7	Travel should be 330° - 340°
	8	Forward tilt should be 30° - 40°
	9	Backward tilt should be 45° - 50°
	10	Should have cable kit for integration DVI, Fiber Optic, RGBHV, S-Video, Composite
2		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
	3	Training should be provided for users and biomedical engineers
3		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English
	2	Certificate of calibration and inspection from factory

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**10**
Instrument ref. No:		1.1
Biomedical Asset. No:		
Quantity:		**2**
Similar items:		
Item Name		**PORTABLE OT LIGHT**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Should be mobile operating light on lockable castors with shadow less light
	2	Should be LED based microprocessor control technology
	3	Light output should be 1,00,000 Lux or more
	4	Colour temperature should be **4000-5000K**
	5	Focusing handle should be sterilizable
	6	Should withstand wide voltage fluctuation
	7	Should have intensity control from 40-100%
	8	Should have emergency power unit having in-built CVT with automatic change over from mains to battery mode in the event of power failure
	9	Battery should provide atleast 60 minutes back up
	10	Power input suitable 220-240V/ 50 Hz AC Single phase fitted with appropriate Indian plugs and sockets
2		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
3		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English
	2	Certificate of calibration and inspection from factory

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**11**
Instrument ref. No:		1.11
Biomedical Asset. No:		
Quantity:		**6**
Similar items:		
Item Name		**OT LIGHT FOR MINOR OT**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Light should comprise of 2 units, one major(diameter around 90 cm) and one minor (diameter around 55 cm). Each unit should have a central light bulb.
	2	Should have a facility of continuous brightness adjustment.
	3	The light should be easily maneuverable and should have a swivel radius of at least 150 cms and height adjustment of at least 100 cms
	4	Major unit should have 130000 lux and minor 100000 lux
	5	The optimum colour temperature of the light should be between 4200 –4700 kelvin, with colour rendering index of atleast 90.;22
	6	Each unit should provide a prefocussed beam of light with atleast 50 cmsdepth of field.
	7	It should be a cool light and should not interfere with the laminar air flow system. The absorption of infrared radiation should be more than 99% and infrared radiation to feet at 100000 lux should be less than 35 w per sq metre
	8	Each unit should have halogen lamp of average life of 1000 hours
	9	There should be reserve light source (halogen) with automatic activation incase of a fuse bulb
	10	Should have option of electro magnetic brakes to maintain the light in a steady position
	11	The light should have 360 degree turning radius with unbreakable head glass
	12	Light should automatically switch on in case of resumption of electricity after power failure

	13	The handle should be autoclavable & detachable.
2		**System Configuration Accessories, spares and consumables**
	1	25spare bulbs should be included
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
	3	Training should be provided for users and biomedical engineers
4		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English
	2	Certificate of calibration and inspection from factory.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**12**
Instrument ref. No:	1.12
Biomedical Asset. No:	
Quantity:	**2**
Similar items:	
Item Name	**HIGH END COLOUR DOPPLER ULTRASOUND**

SL NO		SPECIFICATION
1		**OPERATIONAL REQUIREMENTS**
	1	State of art high end colour doppler system with full digital technology for whole body applications to include (both adults and paediatric) which include abdominal, obs/gyn, peripheral vascular, musculoskeletal, small parts imaging and endocavitary (transvaginal / transrectal) **Cardiac/Chest transcranial doppler.**
	2	Latest generation electronic phased array color doppler system with minimum 50,000 electronic processing channels. System should be DICOM 3 or higher version compatible and capable of being interfaced with HIS/RIS/PACS and connectivity to any PC/computer etc in DICOM format.
	3	Should be field upgradeable to next generation system on site. All new softwareshould be upgraded free of cost for at least 3 years.
	4	Speckle reduction filter, real time spatial compounding, frequency compounding or better technology should be available in convex and linear probes for better resolution and penetration. The system shall have automatic system optimization (One Button) for Both B Mode and Doppler.
2		**Technical specification**
	1	Latest generation electronic phased array color doppler system with minimum 50,000 digital processing channels.
	2	256 gray shades or more for sharp contrast resolultion.
	3	**System should be offered with following electronic broad band width transducers**
		1:Broad band convex array transducer with frequency range of 1 – 6 MHz suitable for general purpose abdominal, obstetrical and gynecological applications.
		2:Broad band Linear array transducer frequency range of **3 to 12** MHz suitable for vascular and small parts applications.
		3: Broad band Linear array tranaducer frequency range of **3 to 17** MHz suitable for vascular ,superficial ,musculoskeletal ,superficial and small parts applications.
		4. Phased array sector probe of 2 to 5 MHz
		5.Endocavitary probe (Transvaginal/ Trans rectal) 5-9 MHz or more- Endocavitary probe should have biopsy facility with needle guides .
		6. 3D volume acquisition transducer of 2 to 6 MHz for 3D and Live 4D imaging

	4	Harmonic Imaging should be available in all probes with the following modes and setting for**:**
		Tissue harmonic
		Contrast harmonic
		Harmonic Angio
		Quantification of harmonics imaging
	5	Harmonic imaging in power doppler imaging mode for improved sensitivity and specificity in differentiating blood/agent from tissue.
	6	Gain control in two dimensions for additional level of flexibility to image quality control.
	7	Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes.
	8	Frame rate should be 500 FPS or more.
	9	Steerable PW/CW on all phased array probes.
	10	High-definition acoustic zoom for enlarging sections of 2D and color flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.
	11	Modes – 2D, 3D, 4D, B Mode, B/B Mode, M-Mode, steerable PW/CW Doppler, color Doppler,tissue doppler,B/M Mode, B/PW Doppler, B/CW Doppler, B/ I Power Angio,B and Power Angio should be available. System shall have 3D imaging on all transducers. System shall have curved and endovaginal 4D capabilities,Non Doppler 2D Strain imaging, 2D Tissue Doppler color coded
		The system shall support full screen display of all 3D views including individual X, Y and Z MPR views and simultaneous display of thumbnail views on the same system display monitor.
		The system shall support display of all multiplanar views and the rendered image during 4D acquisition. The system shall support volume measurements and analysis on quantitative 3D and 4D data.
		The system shall support simultaneous display of volume and multiplanar (MPR) views.
	12	Monitor should be High resolution, non interlaced LCD Color monitor of 20 inches or more with tilt and swivel facility to view in all angles and all light conditions.
	13	Color flow imaging for
		Increased lateral & spatial resolution
		Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate
		Color flow with capability of automatically picking up color flow as a function of focal depth.
	14	Tissue colorization (B-Color) for improved contrast resolution.

	15	Should have facilities and application software for adult abdominal, obs/gyn, peripheral vascular, musculoskeletal, small parts imaging and endocavitary applications. (All application package should be built into the system). **Transcranial, cardiac,chest,tissue doppler.**
	16	Cine loop facility, both frame by frame and in cine mode, with a memory for atleast 2000 2D color images' review and atleast **100** seconds of doppler and M mode data.
	17	High frame rate review for better clarity of playback images study in slow motion.
	18	Quad loop with memory for pre and post image comparison of any procedure.
	19	Memory – 2000 frames or more in quad loop. M Mode & Doppler scroll memory -40 seconds or more.
	20	Frame grabber facility for post analysis
	21	Various maps for pre and post processing.
	22	System Dynamic Range should more than 160db
	23	User defined system and application presets for multi-user department. The number of application presets is to be mentioned
	24	In- built hard disk storage capacity of atleast 160 GB with facility of direct storage and retrieval of B/W and color images (both frozen and cine loops). CD, DVD drive for read and write of stored images.
	25	Depth of Field of 30 cm should be available
	26	PRF Range should be 500 Hz to 50,000 Hz
	27	Alpha numeric key board with illuminated keys and status display. Key panel Height Adjustment Should be Possible. All panel key should be customized, including Freeze Key.
	28	Color Map resolution up to 128 levels.
	29	Facility for high definition digital acquisition, review and editing for complete patient studies.
	30	Unit should have 4 transducers holders and one gel bottle holder
	31	**4** Active Ports should be available.**4** parking ports **or more** Any Probes any Port interchangeable connectivity should be possible with simple electronic selection method for interchanging transducers
	32	Detailed Radiology, obs & gyn and vascular measurement packages should be available.
		System should have extensive calculation packages
		a. Distance, volume ,Area, % stenosis on B mode
		b. Distance, Time, Heart Rate, Slope on M mode
		c. Velocity, Acceleration time, Slope, PI, RI, S/D Ratio with Auto Doppler calculation on Doppler mode ,**d. Diastolic,systolic and 2D Strain cardiac function packages**
	33	The system should have Up / Down & Right / Left Image rotation, One touch Image optimization and Edge Enhancement settings

		· The system shall be capable of supporting color Doppler imaging on all phased, linear, motorized 3D, and curved array transducers.
		· Color Power Angio imaging which enhances visualization of blood flow in very small vessels and tissue vascular beds shall be supported.
		· Spectrum Imaging: Both PW and CW Doppler Modes should be available.
		· Doppler sample volume size shall be adjustable from 0.5-20 mm.
		· The system should have gate adjustments on spectral modes, auto angle correction, filter adjustment, base line and sweep speed adjustments
		Real time panoramic imaging to have an extended field of view of structures
		System should have facility for separate 2D quick scan (auto 2D optimization)/ Doppler Quick Scan(auto baseline and PRF adjustment).
		System should have automatic real time quantification of doppler parameters .
		Virtual Convex (Trapezoid) format with both Linear as well as convex Probes should be available
3		**SYSTEM ACCESSORIES AND CONSUMABLES**
	1	Colour Laser printer with direct printing connectivity for printing stored images
	2	Online UPS with capacity for 30 mins back-up of all functions of the equipment i.e performing ultrasound procedure, exposure onto films
	3	100 CDs and 100 DVDs
	4	Color printer paper – 500 sheets
	5	PC based Peripheral system should comprise of dedicated computer at least 400 GB storage space (Hard disc) with **4** GB RAM or more with a Microprocessor speed of more than 3.00 GHz, frame grabber incorporated (All Software Inclusive) interfaced with the machine with DVD writer and a high quality Color Laser printer. CD/DVD produced should be playable on any system. **Should also be USB Compatible.**
4		**Power supply**
	1	Power input to be 220 – 240 VAC , 50 Hz fitted with Indian plug. Resettable overcurrent breaker shall be fitted for protection.
	2	Standards, Safety, and Training.
	3	Should be FDA or CE approved product
	4	Manufacturer should have ISO certification for quality standards.
	5	On site comprehensive training for lab staff and support services till customer satisfaction with the system

5		**Documentation**
	1	User manuals to be supplied in English
	2	Service manual to be supplied in English

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**13**
Instrument ref. No:		1.13
Biomedical Asset. No:		
Quantity:		**4**
Similar items:		
Item Name		**MID-END ULTRASOUND SCANNER**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS**
	1	State of art high end colour doppler system with full digital technology for whole body applications to include (both adults and paediatric) which include abdominal, obs/gyn, peripheral vascular, musculoskeletal, small parts imaging and endocavitary (transvaginal / transrectal) **Cardiac/chest,transcranial doppler**
	2	Latest generation electronic phased array color doppler system with minimum 1000 electronic independent channels. System should be DICOM 3 or higher version compatible and capable of being interfaced with HIS/RIS/PACS and connectivity to any PC/computer.
	3	Should be field upgradeable to next generation system on site. All new softwareshould be upgraded free of cost for at least 3 years.

	4	Speckle reduction filter, real time spatial compounding, frequency compounding or better technology should be available in convex and linear probes for better resolution and penetration.
2		**Technical specification**
	1	Latest generation electronic phased array color doppler system with minimum 1000 electronic independent channels.
	2	256 gray shades or more for sharp contrast resolultion.
	3	**System should be offered with following electronic broad band width transducers**
		1:Broad band convex array transducer with frequency range of 2 – 6 MHz suitable for radiology applications.
		2:Broad band Linear array tranaducer frequency range of 6 to 12 MHz suitable for vascular and small parts applications.)
		A: Phased array sector probe of 2 to 5 MHz for **cardiac studies**
		B:Endocavitary probe (Transvaginal/ Trans rectal) 5-9 MHz or more- . Endocavitary probe should have biopsy facility with needle guides .
	4	Harmonic Imaging should be available in all probes with the following modes and setting for**:**
		Tissue harmonic
		Contrast harmonic
		Harmonic Angio
		Quantification of harmonics imaging
	5	Harmonic imaging in power doppler imaging mode for improved sensitivity and specificity in differentiating blood/agent from tissue.
	6	Gain control in two dimensions for additional level of flexibility to image quality control.
	7	Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes.
	8	Frame rate should be 300 FPS or more. **The frame rate in triplex mode should not be less than 12 frames per seconds.**
	9	Steerable PW/CW on all phased array probes.
	10	High-definition acoustic zoom for enlarging sections of 2D and color flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.
	11	Modes – 2D B Mode, B/B Mode, M-Mode, steerable PW/CW Doppler, color Doppler,B/M Mode, B/PW Doppler, B/CW Doppler, B / Power Angio,B and Power Angio should be available..
	12	Monitor should be High resolution, non interlaced LCD Color monitor of 17 inches or more with tilt and swivel facility to view in all angles and all light conditions.

	13	Color flow imaging for
		Increased lateral & spatial resolution
		Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate
		Color flow with capability of automatically picking up color flow as a function of focal depth.
	14	Tissue colorization (B-Color) for improved contrast resolution.
	15	Should have facilities and application software for adult abdominal, obs/gyn, peripheral vascular, musculoskeletal, small parts imaging and endocavitary applications. (All application package should be built into the system).
	16	Cine loop facility, both frame by frame and in cine mode, with a memory for atleast 300 2D color images' review and atleast 20 seconds of doppler and M mode data.
	17	High frame rate review for better clarity of playback images study in slow motion.
	18	Quad loop with memory for pre and post image comparison of any procedure.
	19	Memory – 256 frames or more in quad loop. M Mode & Doppler scroll memory -40 seconds or more.
	20	Frame grabber facility for post analysis
	21	Various maps for pre and post processing.
	22	System Dynamic Range should more than 150db
	23	User defined system and application presets for multi-user department. The number of application presets is to be mentioned
	24	In- built hard disk storage capacity of atleast 80 GB with facility of direct storage and retrieval of B/W and color images (both frozen and cine loops). CD, DVD drive for read and write of stored images.
	25	Depth of Field Minimum 28 cm should be available
	26	PRF Range should be 500 Hz to 50,000 Hz
	27	Alpha numeric key board with illuminated keys and status display. Key panel Height Adjustment Should be Possible. All panel key should be customized, including Freeze Key.
	28	Color Map resolution up to 128 levels.
	29	Facility for high definition digital acquisition, review and editing for complete patient studies.
	30	Unit should have 3transducers holders and one gel bottle holder
	31	3 Active Ports should be available. Any Probes any Port interchangeable connectivity should be possible with simple electronic selection method for interchanging transducers
	32	Detailed Radiology, obs & gyn and vascular measurement packages should be available.
		System should have extensive calculation packages
		a. Distance, volume ,Area, % stenosis on B mode
		b. Distance, Time, Heart Rate, Slope on M mode

		c. Velocity, Acceleration time, Slope, PI, RI, S/D Ratio with Auto Doppler calculation on Doppler mode , **systolic, diastolic cardiac function,and IMT Quantification Package**
	33	The system should have Up / Down & Right / Left Image rotation, One touch Image optimization and Edge Enhancement settings
	34	The system should have gate adjustments on spectral modes, auto angle correction, filter adjustment, base line and sweep speed adjustments.
		Real time panoramic imaging to have an extended field of view of structures
		System should have facility for separate 2D quick scan (auto 2D optimization)/ Doppler Quick Scan(auto baseline and PRF adjustment).
		System should have automatic real time quantification of doppler parameters .
		Virtual Convex (Trapezoid) format with both Linear as well as convex Probes should be available
3		**SYSTEM ACCESSORIES AND CONSUMABLES**
	1	Colour Laser printer with direct printing connectivity for printing stored images
	2	Online UPS with capacity for 30 mins back-up of all functions of the equipment i.e performing ultrasound procedure, exposure onto films
	3	100 CDs and 100 DVDs
	4	Color printer paper – 500 sheets
	5	Computer should be preloaded with licensed latest window operating system and full fledged image management software capable of storing still images, recording loops,archiving,printing in various formats, Making CDs/DVDs ,post process image manipulation etc
4		**Power supply**
	1	Power input to be 220 – 240 VAC , 50 Hz fitted with Indian plug. Resettable overcurrent breaker shall be fitted for protection.
	2	Standards, Safety, and Training.
	3	Should be FDA or CE approved product
	4	Manufacturer should have ISO certification for quality standards.
	5	On site comprehensive training for lab staff and support services till customer satisfaction with the system
5		**Documentation**
	1	User manuals to be supplied in English
	2	Service manual to be supplied in english

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**14**
Instrument ref. No:		1.14
Biomedical Asset. No:		
Quantity:		**2**
Similar items:		
Item Name		**PORTABLE ULTRASOUND MACHINE FOR RESUS ROOM MICU**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS**
	1	Should should be latest generation state of the art portable color Doppler for abdominal, vascular, musculoskeletal, small parts basic cardiac and nerve block application with suitable evaluation and measurement packages.
2		**TECHNICAL SPECIFICATION**
	1	**System should be offered with following electronic multi-frequency Broad Band width transducers:**
		FOR 6 DOPPLER UNITS
	1	Convex array transducer (frequency range of 2 to 6 mHz) for general purpose, abdominal, gynecological and obstetric imaging.
	2	Linear array transducer 6 to 13 mHz for small parts, breast, vascular, musculoskeletal, nerve and superficial imaging. **With biopsy facility**
	3	phased array sector transducer 1 to5 mHz for cardiac imaging. **4.Transcranial doppler probe (OPTIONAL)**
	4	**System should have following modes:**
		i) 2 D, M Mode, Pulsed Wave, Continuous Wave, Color flow imaging & color power angio.
		ii) Tissue harmonic imaging should be available in all transducers.

	5	Digital Processing Channels – 120 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
	6	The system shall process a dynamic range that is at least 150db
	7	The system shall support a gray scale range of 256 levels
	8	Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
	9	Extended Field of View Imaging
	10	System should have facility for gain adjustments.
	11	System should have a High resolution Fully Articulating Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
	12	System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports.HDD capacity to be **80 GB.**
	13	Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
	14	The system shall provide a timeline Cine function
	15	Speckle reduction technology or higher technology to reduce artifacts and to improve image contrast.
	16	The system shall provide the user with a zoom function
	17	The system shall allow the user to scan with at least three simultaneous focal zones in B-Mode in order to maximize gray scale resolution
	18	The system shall have to perform color Doppler examinations with all transducers during a clinical procedure. The color frequency range to be specified.
	19	system should have gate adjustments on spectral modes, auto angle correction, filter adjustment, base line and sweep speed adjustments.
	20	Image Archival: Inbuilt CD/DVD writer / Flash drive with the facility to transfer images/**USB**
	21	DICOM 3.0 Compatible
	22	System should have extensive Calculation software package for General Imaging, obstetrics & Vascular Imaging with basic cardiac calculation software.
	23	system should have the capability to enhance echogenicity of needles for nerve block applications **& biopsy**
	24	The in built battery backup time and battery life to be specified
	25	Weight of the equipment should allow easy manual portability preferably less than 5 to 7 kg..
3		**Accessories:**

	1	A mobile docking station shall be available to store and/or transport the system with an option for at least three active transducer ports in a convenient to access location.
	2	The system shall be able to be connected to external peripheral devices such as an external monitor, printer, and/or DVDR.
	3	The system shall be able to be connected to an optional footswitch for hands-free operation.
	4	B/w Thermal Printer of latest model (with CE or FDA mark)
	5	UPS of appropriate rating with 60 mins back up; additional to in-built battery back-up.
4		**POWER SUPPLY**
	1	Power input to be 220 -240 V AC, 50 Hz.
5		**STANDARDS, SAFETY AND TRAINING**
	1	Should be FDA/CE/BIS approved product.
	2	Manufacturer should have ISO certification for quality standards.
	3	On-Site Comprehensive training for lab staff and support services till customer satisfaction with the system.
6		**DOCUMENTATION**
	1	User manuals to be supplied in English.
	2	Service manuals to be supplied in English.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**14-A**
Instrument ref. No:	1.15
Biomedical Asset. No:	
Quantity:	**1**
Similar items:	

Item Name		**PORTABLE ULTRASOUND FOR OT**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS**
		Should should be latest generation state of the art portable color Doppler for abdominal, vascular, musculoskeletal, small parts basic cardiac and nerve block application with suitable evaluation and measurement packages.
2		**TECHNICAL SPECIFICATION**
		System should be offered with following electronic multi-frequency Broad Band width transducers:
	1	Convex array transducer (frequency range of 2 to 6 mHz) for general purpose, abdominal, gynecological and obstetric imaging
	2	linear array transducer.10 to 15 mHz for small parts vascular, musculoskeletal, nerve blocks and superficial imaging
	3	phased array sector transducer 1 to5 mHz for cardiac imaging. **4. Transcranial doppler probe (optional)**
	5	**System should have following modes:**
		2 D, M Mode, Pulsed Wave, Continuous Wave, Color flow imaging & color power angio.
		Tissue harmonic imaging should be available in all transducers.
	6	Digital Processing Channels – 120 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
	7	The system shall process a dynamic range that is at least 150db
	8	The system shall support a gray scale range of 256 levels
	9	Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
	10	Extended Field of View Imaging
	11	System should have facility for gain adjustments.
	12	System should have a High resolution Fully Articulating Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
	13	System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports.HDD capacity to be specified.
	14	Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
	15	The system shall provide a timeline Cine function
	16	Speckle reduction technology or higher technology to reduce artifacts and to improve image contrast.

	17	The system shall provide the user with a zoom function
	18	The system shall allow the user to scan with at least three simultaneous focal zones in B-Mode in order to maximize gray scale resolution
	19	The system shall have to perform color Doppler examinations with all transducers during a clinical procedure. The color frequency range to be specified.
	20	The system should have gate adjustments on spectral modes, auto angle correction, filter adjustment, base line and sweep speed adjustments.
	21	Image Archival: Inbuilt CD/DVD writer / Flash drive with the facility to transfer images
	22	DICOM 3.0 Compatible
	23	System should have extensive Calculation software package for General Imaging, obstetrics & Vascular Imaging with basic cardiac calculation software.
	24	system should have the capability to enhance echogenicity of needles for nerve block applications.
	25	The in built battery backup time and battery life to be specified
	26	Weight of the equipment should allow easy manual portability preferably less than 5 to 7 kg..
3		**ACCESSORIES**
	1	A mobile docking station shall be available to store and/or transport the system with an option for at least three active transducer ports in a convenient to access location.
	2	The system shall be able to be connected to external peripheral devices such as an external monitor, printer, and/or DVDR.
	3	The system shall be able to be connected to an optional footswitch for hands-free operation.
	4	B/w Thermal Printer of latest model (with CE or FDA mark)
	5	UPS of appropriate rating with 60 mins back up; additional to in-built battery back-up.
4		**POWER SUPPLY**
	1	Power input to be 220 -240 V AC, 50 Hz.
5		**STANDARDS, SAFETY AND TRAINING**
	1	Should be FDA/CE/BIS approved product.
	2	Manufacturer should have ISO certification for quality standards.
	3	On-Site Comprehensive training for lab staff and support services till customer satisfaction with the system.
6		**DOCUMENTATION**

	1	User manuals to be supplied in English.
	2	Service manuals to be supplied in English.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**14-B**
Instrument ref. No:		1.16
Biomedical Asset. No:		
Quantity:		**1**
Similar items:		
Item Name		**PORTABLE ULTRASOUND FOR TRAUMA ICU**
SL NO		**SPECIFICATION**
1		**OPERATIONAL REQUIREMENTS**
	1	Should should be latest generation state of the art portable color Doppler for abdominal, vascular, musculoskeletal, small parts basic cardiac and nerve block application with suitable evaluation and measurement packages.
2		**TECHNICAL SPECIFICATION**
	1	System should be offered with following electronic multi-frequency Broad Band width transducers:
	2	Convex array transducer (frequency range of 2 to 6 mHz) for general purpose, abdominal, gynecological and obstetric imaging
	3	linear array transducer.**6-13** mHz for small parts vascular, musculoskeletal, nerve blocks and superficial imaging
	4	Hockey stick 25 mm foot print linear transducer frequency range between 6 to13 mHz for nerve block application and superficial imaging
	5	System should have following modes:
	6	2 D, M Mode, Pulsed Wave, Continuous Wave, Color flow imaging & color power angio.

	7	Tissue harmonic imaging should be available in all transducers.
	8	Digital Processing Channels – 120 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
	9	The system shall process a dynamic range that is at least 150db
	10	The system shall support a gray scale range of 256 levels
	11	Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
	12	Extended Field of View Imaging
	13	System should have facility for gain adjustments.
	14	System should have a High resolution Fully Articulating Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
	15	System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports.HDD capacity to be specified.
	16	Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
	17	The system shall provide a timeline Cine function
	18	Speckle reduction technology or higher technology to reduce artifacts and to improve image contrast.
	19	The system shall provide the user with a zoom function
	20	The system shall allow the user to scan with at least three simultaneous focal zones in B-Mode in order to maximize gray scale resolution
	21	The system shall have to perform color Doppler examinations with all transducers during a clinical procedure. The color frequency range to be specified.
	22	The system should have gate adjustments on spectral modes, auto angle correction, filter adjustment, base line and sweep speed adjustments.
	23	Image Archival: Inbuilt CD/DVD writer / Flash drive with the facility to transfer images
	24	DICOM 3.0 Compatible
	25	System should have extensive Calculation software package for General Imaging, obstetrics & Vascular Imaging with basic cardiac calculation software.
	26	system should have the capability to enhance echogenicity of needles for nerve block applications.
	27	The in built battery backup time and battery life to be specified
	28	Weight of the equipment should allow easy manual portability preferably less than 5 to 7 kg..
3		**Accessories:**

	1	A mobile docking station shall be available to store and/or transport the system with an option for at least three active transducer ports in a convenient to access location.
	2	The system shall be able to be connected to external peripheral devices such as an external monitor, printer, and/or DVDR.
	3	The system shall be able to be connected to an optional footswitch for hands-free operation.
	4	B/w Thermal Printer of latest model (with CE or FDA mark)
	5	UPS of appropriate rating with 60 mins back up; additional to in-built battery back-up.
4		**POWER SUPPLY**
	1	Power input to be 220 -240 V AC, 50 Hz.
5		**STANDARDS, SAFETY AND TRAINING**
	1	Should be FDA/CE/BIS approved product.
	2	Manufacturer should have ISO certification for quality standards.
	3	On-Site Comprehensive training for lab staff and support services till customer satisfaction with the system.
6		**DOCUMENTATION**
	1	User manuals to be supplied in English.
	2	Service manuals to be supplied in English.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**15**
Instrument ref. No:	1.17
Biomedical Asset. No:	
Quantity:	**5**
Similar items:	
Item Name	**DIGITAL MOBILE X-RAY MACHINE**

SL NO		SPECIFICATION
	1	High frequency mobile x-ray machine with minimum output of 2.5 KW.
		KV range – 40 kV to 100 kV with at least 20 kV steps.
		Maximum mA output – not less than 60 mA with atleast 20 steps of mA or mAs.
	2	The machine should have a double slot manual light beam collimator.
	3	Display : Digital display of atleast mAS and kV for easy parameter settings.
	4	The X-ray machine should be single tank light weight and easy to move around. It should have a disinfectable control panel for extensive use in operation theratre.
	5	The unit must have an effective braking system for parking and transport. The tube stand must be fully counterbalanced with rotation in all directions.
	6	The machine should be equipped with double step exposure switch with long cord.
	7	It must have an articulated arm for maximum positioning flexibility in any patient position.
	8	It should also have cassette storage box for all sizes of cassettes
	9	The unit should run on 1 phase 200 – 250 volts with voltage compensation.
	10	Should be microprocessor controlled high frequency, output 2.5 KW or above.
	11	**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 FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
		AERB type approval should be provided
	12	**Documentation**
		Two numbers of complete User/Technical/Maintenance manuals to be supplied in English .
		Certificate of calibration and inspection from factory.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**16**
Instrument ref. No:		1.18
Biomedical Asset. No:		
Quantity:		**3**
Similar items:		
Item Name		**PORTABLE C-ARM**
SL NO		**SPECIFICATION**
1		**Technical specification**
	A	Generator
		Should be microprocessor controlled high frequency generator with 2.5 kW or more with integrated beam filters to reduce patient skin radiation dose.
	B	Collimator : Should be IRIS or multileaf.
	C	X –Ray mode (kV & mA range)
		KV – range should be 40 – 110 kV
	D	Fluroscopy
		Fluroscopy mA range shall be from 0.2 to 6 mA.
		Pulsed fluoroscopy with last image Hold (LIH).
	E	Radiography
		Radiographic mode for cassette exposures : not less than 20 mA
	F	Image Intensifier
		9 " or more dual mode image intensifier with CCD camera
	G	Image processing
		Minimum 12 bit digital flurosocpy imaginig unit with dedicated video pip-line processor
		Digital image storage capacity for atleast 200 images and facility for CD/DVD burning.
		Cassette holder should be detachable for film recording. Cassette size preferably 24x30cm.
	H	Image Display
		Should have two 17" TFT/LCD high resolution, high contrast and flicker free monochrome monitors of at least 1024 x 1024 matrix with automatic adaptation of monitor brightness to ambient light.
	I	System functionality

		C arm film focus distance should not be less than 90 cm and immersion depth not less than 70 cm..
		Vertical,Horizontal and orbital travel should be available and specified.
		C – ARM rotation should not be less than 120 degrees.
		The system should be DICOM 3.0 compatible with connectivity to any network or computer in DICOM format.
		Features like real time edge enhancement,contrast and brightness adjustment, video invert and dynamic movement detection to detect motion blurr should be available.
		Foot switch for hands free and sterile control of Xray.
2		**Accessories**
	1	Wrap around light weight vinyl lead aprons with 0.5 mm lead equivalence certified by BARC or AERB or ISO : 2 (Two Nos.)
	2	Universal sterilisable covers for the image intensifier container Carc and tank uni. – 5 sets of 3 covers.
3		**Standards, safety, and training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS and the copy of the same should be enclosed along with the technical bid.
	3	Training should be provided for users and biomedical engineers
4		**Documentation**
	1	Two numbers of complete user / technical / maintenance manuals to be supplied in English.
	2	Certificate of calibration and inspection from factory.

Department Sl No.	
Department Name:	**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:	**17**

Instrument ref. No:		1.19
Biomedical Asset. No:		
Quantity:		**2**
Similar items:		
Item Name		**FULLY AUTOMATED CLINICAL CHEMISTRY ANALYSER**
SL NO		**SPECIFICATION**
1		**TECHNICAL SPECIFICATION**
	1	The instrument should be an open system discrete random access clinical chemistry analyser capable of all routine, STAT and special biochemical tests including specific proteins, therapeutic drugs (TDM), drugs of abuse, immunotubidemitric Assays and user definable applications in Plasma, Serum or Urine. The Equipment should be configured as per consignee requirements.
	2	Equipment must have atleast 200 tests in chemistry in a throughput of not less than 300 tests per hour including electrolytes.
	3	Must have ISE unit for Na,K, Cl, measurement
	4	Assays should be possible in serum, plasma, urine, CSF, Whole blood hemolysate
	5	Must have self diagnostic tests with error message & online display.
	6	Must be programmable for all test menus & state of the Art Work Station.
	7	Must have built in cooled Reagent Compartment to maximize reagent stability & have at least 40 positions for reagents
	8	Must have continuous loading of samples with on board capacity of at least 80 permanent cuvettes with 5 years of service life. Atleast 20 cooled positions for calibrator and control.
	9	Should have walkway time up to 4 hours.
	10	Should have Pre- & Post-Auto dilution of samples and Rerun Capability for out of range samples.
	11	Should have both internal & external Probe cleaning / washing facility
	12	Should accommodate at least 50 samples in single run. Probes should be long life of at least 24 months.
	13	Calibration must be Linear, Nonlinear, factor, exponential, spline, loglogit or with Auto diluted series of stock calibrator.
	14	Should have calibrator and control with repeat facility. Reagent Refill message & monitoring should be available.
	15	Should have facility for automatic printout of reports, & full patient demographics.
	16	Proble Dispensers must have level detectors & separate probles for Samples & reagents R1 & R2
	17	Cuvette mixing by variable speed at least two stieeres for immuno tubidometry tests

	18	Must typically use between 2-25 ul of sample.
	19	For Pediatric samples minimum dead volume of sample up not more than 20 µl
	20	Reading volume should be 150 µl or less. Must have 7 or more step Cuvette cleaning facility and no carryover.
	21	Must have minimum water requirement of not more than approximately 20 liters / hour only.
	22	Should be capable of performing eEdpoint, Kinetic, turbidimetric, homogeneous and bichromatic assay facility
	23	Should have a good real time QC programme with l-J graphs. Printout of QC charts & reports
	24	Spectral Range: 340 to 750 nm by diffraction grating optics
	25	The Light Source – Halogen / Xenon Lamp should have low cost and very long life of not less than 24 months. Low power consumption less than 1000 VA
	26	Equipment should be supplied with external water treatment system as required.
	27	Extensive Data Management Software:
	27.1	The equipment should be supplied with compatible, programmable Windows based comprehensive data processing & management system.
	27.2	Graphical user interface software, and should have LIMS Capability.
	27.3	Should have complete back up of the database for calibration control and patients sample results.
	27.4	At least 10,000 patient result storage and multitasking facility on computer5.
	27.5	Should have provision for barcode reading facility.
	27.6	Personal Computer
	28	The system should be supplied with a compatible Desktop PC (microprocessor with speed not less than 3 GHz, 4 GB RAM, 500 GB HDD, USB keys board, scroll mouse, multimedia kit, CD/DVD-RW Drive, with 17” LCD monitor with compatible Operating system and compatible LASER printer for documentation
2		**System Configuration Accessories, spares and consumables**
	1	The system should be supplied with necessary prerequisites & Startup Kits, Normal & Abnormal QC & calibrators.
	2	Halogen bulb set: 10 Nos.
	3	One extra sample tray and reagent tray if they are not fixed to equipment
	4	Reaction cuvette one spare if fixed and if disposable cuvette it should last atleast for one.
	5	The instrument should work on tap water available. If any special treatment required, then treatment plant should be provided.

	6	Autoclavable autopipettes to be provided with each unit, individual prices for following items (itemnos:2.6.1 & 2.6.2) should be specified in the price bid.
	7	**Fixed:**
	a	100 µl – 6 nos
	b	200 µl – 6 nos
	c	1000 µl – 6 nos
	8	**Variable:**
	a	20 -200 µl – 6 nos
	b	100 ml to 1000 µl – 6 nos
	9	Reagents to be provided with each unit.
	9.1	Glucose (GOD POD) : 10, 000 tests
	9.2	Urea : 10000 tests
	9.3	Creatinine : 5000 tests
	9.4	Bilirubin T&D : 2000 tests Each
	9.5	Amylase : 1000 tests
	9.6	Total CK : 5000 tests
	9.7	CK-MB : 2000 tests
	9.8	Cholesterol : 5000 tests
	9.9	TG : 5000 tests
	9.10	Iron : 200 tests
	9.11	TP (total protein) : 2000 tests
	9.12	ALT : 500 tests
	9.13	AST : 500 tests
	9.14	ALP : 500 tests
	9.15	Glycated Hb kit : 5000 tests
	9.16	Multi calibrator
	a	MC I : 300 ml with each unit
	b	MC II : 300 ml with each unit
	9.17	QC (normal) : 300 ml with each unit
	9.18	QC (abnormal) : 300 ml with each unit
3		**Standards, Safety and Training**

	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
	3	Adequate training should be provided for users and biomedical engineers,at the site of installation.
4		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English.
	2	Certificate of calibration and inspection from factory should be generated along with shipping document.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**18**
Instrument ref. No:		1.2O
Biomedical Asset. No:		
Quantity:		**1**
Similar items:		
Item Name		**CELL COUNTER (3 PART DIFFERENTIAL AUTOMATED HAEMATOLOGY ANALYZER)**
SL NO		**SPECIFICATION**
	1	Should be a fully automatic haematology analyser providing 18 parameters including a 3 part differential, with user definable settings to have either RDW-CV or RDW-SD
	2	The system should be capable of processing samples at a speed of 60 samples / hour.
	3	The system should have large LCD display to have a review of all the results along with the three histograms of WBC, RBC and PLT on the screen

	4	The system should have around 200 samples test result memory
	5	The system should have autoprobe wiper to clean the sample probe automatically after sample aspiration.
	6	The system should use cyanide based reagent for Hgb estimation.
	7	The system should have an option to print results with or without histograms, also with the option to print only basic 8 parameters
	8	System should have world reference "Electrical Impedance" method of cell counting for the reliability of the results, with an integrated temperature sensor for monitoring & compensating for shifts in room temperature.
	9	The system should use the proven & approved "Volumetric Metering" system of cell counting, for WBC'S, RBC'S & PLT'S for high precision of the results & stability of the calibration.
	10	The system should have a system of count & aperture monitoring every 0.5 secs for precision & reliability of the counts.
	11	The system should be rotary valve based for the precise sample alliquoting for dilutions
	12	The system should have automatic floating thresholds for the correct separation of WBC'S, RBC'S & PLT'S.
	13	The system should give the differential count as Lymphocytes, Mid population & Neutrophils. While mid population should include Eosinophils, Basophils & Monocytes.
	14	System should not require any daily maintenance except automatic daily shutdown.
	15	The system should automatically give an alarm to the operator for doing the maintenance.
	16	The system should use high intensity LED for Hgb estimation & not the lamp.
	17	The system should have low cost per test. All reagents required should be available locally from the company or its authorised distributors
	18	The company should have an original external software for the system to be provided if required by user at an extra cost
	19	The manufacturer of the system should have a world wide reputation for high quality & reliable system & the Indian distributor should have a wide network of trained technical, service & application support persons.
	20	**Should be supplied with consumables to run 20,000 tests (twenty thousand) free of cost for the first year. A separate price quoted for 20,000 tests /year for next 2 years should be provided.**
	21	**Three year warranty and comprihansive ANC for 5 years**

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**19**
Instrument ref. No:		1.21
Biomedical Asset. No:		
Quantity:		**3**
Similar items:		
Item Name		**AUTOMATIC BLOOD GAS ANALYSER(ABG) WITH ELECTROLYTES**
SL NO		**SPECIFICATION**
	1	Should be a point-of-care machine able to perform blood gas analysis on heparinised whole blood samples and give out a report in less than 2 min (two minutes) time.
	2	Should be a modular system wherein all reagents, electrodes/sensors, and necessary mechanical parts are prefabricated into disposable cartridges.
	3	The cartridges/cassettes may be meant for either single test or multiple tests; cartridges/cassettes meant for multiple tests should be available in several denominations (100 tests, 200 tests, 300 tests, etc.).
	4	The cartridges/cassettes should have a shelf-life of at least 3 (three) months, and at least 30 days once installed into the system.
	5	The analyser should measure the following parameters: pH, pO2, pCO2, lactate, sodium, potassium, chloride, and ionised calcium. These parameters should be amenable for selection as per need through a touch-screen interface.
	6	The analyser should calculate the following parameters: SO2, (A-a)DO2, bicarbonate (actual), bicarbonate (standard), TCO2, and base excess.
	7	The results of analysis should be displayed in the screen as well as printed out; the printing unit should be in-built.
	8	Should have in-built calibration and quality control functions.
	9	Should be supplied along with an uninterrupted power supply (UPS) unit having at least 15 min (fifteen minutes) power back-up, surge protection, and lightning protection features.

	10	Should include consumables for 1 year (one year) i.e. 200 (**Two** hundred) tests per month and printer paper for a corresponding number of test reports, calibration, and quality control reports. If the actual monthly requirement is less than 200 tests per month, then, cartridges of lower denomination corresponding to the total number of tests should be supplied at no extra cost. **Consumable should be supplier in a staggerd manner.**
	11	If any of the multiple use cartridges become unusable before the stipulated expiry date due to technical snags, the same should be replaced at no extra cost. The replacement should correspond to the number of tests unused. *(Continued)*
	12	A separate price quote for consumables for 2 years (two years) i.e. 2,400 tests per year and printer paper for a corresponding number of test reports should be provided.
	13	Should have 3 years (three years) on-site comprehensive warranty for all components including the UPS unit but excluding the consumables, and annual maintenance contract (AMC) for 5 years (five years; effective from the fourth year of installation).

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**20**
Instrument ref. No:		1.22
Biomedical Asset. No:		
Quantity:		**1**
Similar items:		
Item Name		**HIGH DEFINITION LAPROSCOPY SYSTEM**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	**High Definition Three Chip Camera System**

	2	Camera console 220 v with universal coupler & Autoclavable camera head
	3	Pure Digital signal with high definition video(1280*1024 native resolution)
	4	Resolution-2000 horizontal lines
	5	8 specialty settings
	6	Integrated Flexible Scope filter
	7	Signal to Noise ratio-70 db
	8	Progressive scan technology both on camera head & console
	9	Brightness Control on console & camera head
	10	Aperture Control on console
	11	Inbuilt 16 step digital Image Enhancer on console
	12	Digital zoom & white balance on camera head
	13	Integrated Gain/shutter/Enhancement with brightness control
	14	Two peripheral control on camera head
2		**Video Output**
	1	2 DVI output
	2	2 SVHS & 1 RGB out put
	3	One Composite out put
3		**Automatic Light source**
	1	220 V,300 W. Xenon Bulb(with one spare bulb)
	2	Elliptical Bulb technology
	3	Bulb Working life 5800hrs
	4	Digital Bulb life counter on light source
	5	Automatic /Manual Light Adjustment
	6	Stand By Mode
	7	Universal Jaw Assembly to adapt any make of fiber optic cable without adapter.
4		**Fiber optic Cable**
	1	6.5mm*7.5 feet Snap Fit cable
5		**Monitor**
	1	19'' Flat Panel Monitor Colour

6		**Insufflator**
	1	40Liter of high flow
	2	Microprocessor controlled unit
	3	Soft Approach Pressure control for safe recovery of abdominal pressure
	4	Gas heating
	5	LCD based central display monitor with multilingual text & graphics
	6	AV warning signal
		Suction Irrigation Pump
		Laparoscopes, Fully Autoclavable with working length 300mm
		Wide angled distortion free view
		Universal adaptor for other light sources
		Yellow Glass index for optimum evenness of focus & contrast
		0 degree, 10mm
		30 degree, 10 mm
		0 degree , 5mm
		Flexible video telescope
7		**Specifications**
	1	Laparoscopic hand instruments (reusable) with 310mm working length, take apart locking / unlocking mechanism, rotable with interchangeable handle with monopolar diathermy attachment (Except veress needle)
	2	Verres needle 12 cm length- 4 Nos.
	3	Verres needle 15 cm length-4 Nos.
	4	Carbon-di-oxide gas tubing-4 Nos.
	5	Trocars sleeves 11 mm-4 Nos.
	6	Reducer 11/5 mm-2 Nos.
	7	Trocars sleeves 5.5 mm 4 Nos.
	8	Trocars (pyramidal tip) 10 mm 4 Nos.
	9	Trocars (pyramidal tip) 5 mm 4 Nos.
	10	Trocars washer 5 mm 100 Nos.
	11	Trocars washer mm 50 Nos.
	12	Laproscopic biopsy forceps 5 mm, 2 Nos.
	13	Maryland dissector 5mm with unipolar diathermy 4 Nos.

	14	Atraumatic graspers, 5mm 2 Nos.
	15	Metzenbaum scissors (5cm) with unipolar diathermy 4 Nos.
	16	Fan retractors 5 mm 2 Nos.
	17	Laproscopic cautery lead 4 Nos.
	18	Suction irrigation device with two way valve 2 Nos.
	19	L shaped hook electrode 5mm
	20	Laparoscopic bowel grasper 5mm, length 33-36 cm-2 Nos.
	21	Laparoscopic spoon forceps 10mm length 33- 36 cm -2 Nos.
	22	Needle holder 5mm, 33 cm long 4 Nos.
	23	Laparoscopic suction cannula, 10 mm-2 Nos.
	24	Laparoscopic suction cannula 5 mm-2 Nos.
	25	Clip applicator 10 mm with Large, Medium, Small Clips
	26	Clip applicator 5mm with Large, Medium, Small Clips
	27	Gall bladder extraction forceps
	28	Hassan cannula ~2 Nos
	29	Lap-Eondotrainer
	30	Port closure needle
	31	Sterilization tray with cover 3 x 1, usable with plasma steriliser for laparoscopes and light cables
8		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
9		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**21**
Instrument ref. No:		1.23
Biomedical Asset. No:		
Quantity:		**1**
Similar items:		
Item Name		**UPPER GI ENDOSCOPE SYSTEM**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
		Upper GI Scope (Adult)
	1	Direction of view should be zero degree.
	2	Minimum of 130 degree of field of view.
	3	Range of observation atleast from 5 mm to 90 mm.
	4	Angulations of tip up at least 180 degrees and down 90 degrees with right and left movement of at least 100/100 degrees.
	5	Insertion tube diameter of less than 10 mm .
	6	Distal end diameter of not more than **10** mm
	7	Instrument channel of more than **2.8** mm
	8	Working length of not less than **1100** mm
	9	Should be compatible with the video system specified
2		**Video processor with light source & Monitor**
	1	Power supply 200-240 V A/C
	2	PAL type video signal.
	3	Controls for color adjustment, to enhancement and balance settings.
	4	Controls to freeze images, enhance a portion of frozen image (zoom & post-processing).
	5	Patient and physician data input key board..
	6	Operates on Xenon lamp.
	7	Emergency lamp.

	8	Compatibility with the gastro scope and colonoscope duodenoscope and Enteroscope
	9	9. 15” LCD colour monitor with XGA resolution.
		System Configuration Accessories, spares and consumables
	1	Biopsy forceps :3 each
	2	Foreign body grasper (basket type) 2
	3	Polypectomy snare:2
	4	Standard tip canula:2 types – 10 each
	5	Polypectomy cautery system :1
	6	Guide wires 2 types (0.025 “F, 0.035 F“ in diameter); length 450 cm, non-kinkable with stripes to detect movement – 5
	7	Balloons 11mm diameter and wire guided – 5
	8	Cleaning channel and suction channel knobs : 10 each
	9	Xenon bulb : 1 No
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**Documentation**
	1	User/Technical/Maintenance manual to be supplied in English

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**22**
Instrument ref. No:		1.24
Biomedical Asset. No:		
Quantity:		**4**
Similar items:		
Item Name		**ELECTROSURGERY UNIT**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	The unit should have microprocessor based control
	2	Should have provision for use by 2 surgeons simultaneously
	3	Should have provision for three types of cut and four modes of coagulation
	4	Should have both bipolar and Monopolar options
	5	Should have both hand and foot controls
	6	Should have underwater facility
	7	Monopolar mode should have cutting, spray, desiccation and fulguration
	8	Output power should be greater than 300 W
	9	Power efficiency rating should be more than 96
	10	Neutral electrode safety with visual and audible alarm
	11	Frequency should be 450 ± 25 KHz
	12	IEC 601-1 standards and other international standards should be met.
	13	Output power changes should be less than 15% or 5 Watts of displayed power, whichever is greater
	14	Should have protection against defibrillation
	15	Should have upgradeable facility with Argon beam
	16	Should have cooling by convection facility
	17	The system should provide high patient safety from burns caused on the patient's skin due to leakage in the electric current. The power should not be delivered when there is a leak in the circuit.
	18	The system should incorporate a connector which can allows connection of hand switches equipped with any of the international accessories.

	19	The system should have the option of operating Monopolar cutting and coagulation by using both hand and footswitch.
	20	The system should be supplied with standard accessories for both Monopolar and bipolar.
2		**System Configuration Accessories, spares and consumables**
	1	Main cord - Indian plug 2 nos
	2	Bipolar forceps with cable 2 nos
	3	Unipolar handle with cable **10 Nos**
	4	Patient plate and cable 1no
	5	Spare fuse 3 nos
	6	Electrode set 1 no
	7	Foot switch 2 nos
	8	Handswitch 1 no
	9	Disposable patient plate -100 nos
3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
	3	Training should be given for users and engineers
4		**Documentation**
	1	Two numbers of complete User/Technical/Maintenance manuals to be supplied in English .
	2	Certificate of calibration and inspection from factory

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**23**
Instrument ref. No:		1.25
Biomedical Asset. No:		
Quantity:		**3**
Similar items:		
Item Name		**ANAESTHESIA WORKSTATION (MACHINE)**
SL NO		**SPECIFICATION**
1		**Description of Function**
	1	Anesthesia Workstation is used for delivering anesthesia agents to the patients during surgery. The complete unit also monitors the vital signs and ventilates the patients.
2		**Operational Requirements**
	1	Anaesthesia machine complete and integrated with Anaesthesia gas delivery system; Circle absorber system; Precision vaporizer for isoflurane, Sevoflurane and Desflurane (optional); Anaesthesia ventilator.
	2	Monitoring system to monitor Anaesthetic gases, ECG, EtCO2, FiO2 (Online O2 Analyzer), Pulse Oximeter and airway pressures (peak, plateau and mean), NIBP, IBP , rectal/&skin temperature.
	3	Essential accessories to make the system complete and compatible with the existing system of gas outlets.
	4	Demonstration of the equipment as per specifications is a must.
3		**Technical Specifications**
	1	Flow management
	2	Should be Compact, ergonomic & easy to use
	3	Machine should provide electronic gas mixing.
	4	Multi-color TFT display of at least 12” size, with virtual flow meters for O2, N2O or Air
	5	Dual flow sensing capability at inhalation and exhalation ports.
	6	Should have back-up O2 control which provides an independent fresh gas source and flow meter (Manual Control in case of electronic failure).

	7	Gas regulators shall be of modular design/ graphic display
	8	One yoke hanger each for Oxygen & Nitrous Oxide. Separate Pipeline inlet for Oxygen, Nitrous Oxide and Air
	9	Hypoxic Guard to ensure minimum 25% O2 across all O2-N2O mixtures and Oxygen Failure Warning
	10	Breathing system
	11	Latex free fully autoclavable.
	12	Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect.
	13	Sensor should not require daily maintenance.
	14	Bag to vent switch shall be bi-stable and automatically begins mechanical ventilation in the ventilator position.
	15	Standard Circle Absorber System
	16	Should have adjustable pressure limiting valve, breathing circuit pressure measuring device.
	17	Should have a bag/ventilator selecting valve integrated onto the absorber.
	18	Should be suitable to use low flow techniques
	19	**should have inbuilt oxygen sensor**
	20	Should have CO2 absorbent chamber canister
	21	Vaporizers
	22	New generation Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.
	23	Vaporizer should mount to a Selectatec manifold of 2 vaporizers, which allows easy exchange between agents. Temperature, pressure and flow compensated vaporizers and maintenance-free, for Isoflurane and Sevoflurane
	24	3.5 Integrated Ventilator
	25	The workstation should have integrated Anesthesia Ventilator system for adult and paediatric use.
	26	Ventilator should have Volume Control and Pressure Controlled SIMV and PEEP.
	27	Ventilator should have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow.
	28	The workstation should be capable of delivery of low flow anesthesia.
	29	Ventilator should be capable of at least 120-150 L/min peak flow to facilitate rapid movement through physiologic “dead space” in the Pressure Control mode.
	30	Anesthesia Monitoring System should be modular:
	31	Monitoring of vital parameters: ECG (5 leads) with ST segment analysis, NIBP, SPO2 and 2 Invasive Blood Pressure & Spirometry with display of flow volume loops.

	32	Twin temperature measurement with skin and rectal probes-Two sets with each monitor
	33	Automatic identification and measurement of anesthetic agents, EtCO2, O2 and N2O and MAC value. FiO2 measurement
	34	Neuromuscular Transmission Monitoring with all accessories. One set with each monitor
	35	Continuous Cardiac Output monitoring module with accessories
	36	24hrs of graphical and numerical trending
	37	Should have Hemodynamic, Oxygenation and Ventilation calculation package.
	38	Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries. Compatible with common third party information management systems.
	39	Facility to store snapshots during critical events for waveform review at a later stage
	40	Audio visual and graded alarming system
	41	Display of Ventilator:
	42	Tidal volume (VT))
	43	Inspiratory/expiratory ratio (I:E)
	44	Inspiratory pressure (Pinsp)
	45	Pressure limit (Plimit)
	46	Positive End Expiratory Pressure (PEEP)
	47	Centralized Monitoring and Networking:
	48	Central Monitor with Ethernet Networking of all the OT Monitors with Laser Printer and with client computer in office of Doctor In charge, for browsing real time waveforms, graphical & numerical trend up to 24 hrs, from each OT Monitor.
	49	Facility to browse remotely, using internet, near real time waveforms and graphical & numerical trend upto 24hrs (optional).
4		**System Configuration Accessories, spares and consumables**
	1	Anaesthesia Gas Delivery system -01
	2	Circle absorber –01 (Twin Chamber)
	3	Ventilator -01
	4	Monitor -01
	5	Vaporizer Desflurane -01 (optional)
	6	Vaporizer Sevoflurane -01
	7	Vaporizer Isoflurane -01
	8	Adult and Paediatric autoclavable silicone breathing circuits -02 each

	9	Reusable IBP cable -04
	10	Disposable IBP transducers-100
	11	Temp probe Skin reusable- 02
	12	Temp probe Rectal Reusable-02
	13	Accessories Anesthetic gases-01 set
	14	Accessories for Continuous Cardiac Output module- 01 set
	15	Accessories for neuromuscular transmission monitor- 01 set
	16	Standard accessories to make all parameters working- 01 set
	17	Disposable Adult & Paediatric circuits- 50 each
	18	HME filters- 50
	19	Vital Parameter Accessories-01 Set
	20	Should be supplied with negative pressure leak test equipment
5		**Environmental factors**
	1	The unit shall be capable of operating continuously in ambient temperature of 100C - 400C and relative humidity of 15-90%
	2	The unit shall be capable of being stored continuously in ambient
	3	Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
	4	Safe disposal system/port of waste anesthetic gases (AGSS Anesthetic Gas Scavenging System/Port) should be in place. Supplier will be held responsible if this is not ensured at the time of installation
6		**Power Supply**
	1	Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug
	2	Resettable over current breaker shall be fitted for protection
	3	Suitable Servo controlled Stabilizer/CVT
	4	UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7		**Standards, Safety and Training**
	1	Should be FDA or CE approved product
	2	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
	3	Manufacturer should be ISO certified for quality standards.

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**24**
Instrument ref. No:		1.26
Biomedical Asset. No:		
Quantity:		**5**
Similar items:		
Item Name		**AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)**
SL NO		**SPECIFICATION**
1		**REQUIREMENTS:**
	1	Small, lightweight, compact, rugged defibrillator/monitor.
	2	DC Power adaptor to be fitted into the DC power output.
	3	Additional batteries for extended Life.
	4	Prejelled Electrodes for patient Monitiring-100 Nos.
	5	Disposable Paddles and Hands off defibrillation during transportation.
	6	ECG recording paper-100 rolls.
	7	**OPTIONS: 1. Non-Invasive Pacing**
		2. 12 lead ECG analysis program
2		**SPECIFICATIONS:**
	1	Simple operation, dedicated therapy controls, configurable options.
	2	Automated External Defibrillator (AED) capability with Shock Advisory System.
	3	Data storage, Transmission and retrieval capabilities.
	4	Power: A. Battery Only Configuration-choice of batteries.
		B. Dual battery capability.
		C. DC Power Adaptor for transportation
		D. Batteries should charge while device operates from Power Adaptor.
		E. Low Battery Indicator and message.

		F. Warm start.
		G. Service indicator.
	5	**Display:** LCD, User selectable contrast, minimum 4 secs of ECG and alphanumeric, option to display one or two additional channels.
	6	**Data Management:** Report Types- Three Formats types, two full capacity patient records.
	7	**Communications:** PC Card, Internal Modem, External EIA/TIA Modem, Cellular Modem or serial connection.
	8	**Monitor:** Lead Selection, ECG Size, Heart Rate Display, Continuous Patient
		Surveillance System, Voice Prompts, and Analog ECG Output, Common Mode rejection: 90db at 50/60 Hz.
	9	**Alarms:** Quick Set, VF/VT Alarms.
	10	Printer:
	11	**Frequency Response:** A. Diagnostic-0.05 to 150 Hz
		B. Monitor- 0.67-40 Hz.
		C. Paddles-2.5 to 30 Hz.
		D. Analog ECG Output-0.67 to 32 Hz.
	12	Defibrillator: External Paddles **(1 Nos)** and Disposable Paddles **(10 Nos)**for hands off defibrillation.
		Energy Select: 2 joules to 200 Joules.
	13	Low energy Biphasic Shock Advisory System.
	14	Protection against inappropriate delivery of shock.
	15	AC and DC Power Adaptor.
3		**TERMS AND CONDITIONS OF SUPPLY, INSTALLATION AND COMMISSIONING.**
	1	The Battery life should be atleast 5 years
	2	All the Trollies, clamps and fitting articles should be supplied FREE OF COST.
	3	The equipment should be guaranteed for a period of 2 Years after the successful Installation and Commissioning.
	4	Annual Maintenance Contract for 5 years after the period of Guarantee should be quoted along with the Tender.

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PART-B MEDICAL FURNITURES

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**25**
Instrument ref. No:		1.27
Biomedical Asset. No:		
Quantity:		**20**
Similar items:		
Item Name		**VARIABLE HEIGHT STRETCHER TROLLEY**
SL NO		**SPECIFICATION**
	1	**Technical Specifications**
	1.1	Should be 2-sectioned height adjustable stretcher trolley
	1.2	Should have manual foot operated height adjustment by hydraulic pump. Should have pedals for foot-controlled height positioning are bothsides the table.
	1.3	Head part upwards adjustable +30° by 2 metal rachets
	1.4	Length of head part should be around 550 mm
	1.5	Foot part should be fixed Length around 1.400 mm
	1.6	Should have 2 push handles, chromed
	1.7	Should have 2 side guards stickable, chromed.
	1.8	If the side guards are not used, they should be able to stick in converse into the holders.
	1.9	Length side guard should be around 700 mm, Height over upholstery should be around 200 mm
	1.10	Should have central breaking system with steering facility and bumpers at all four corner ,Facility for fixing IV road and fixing accessories (monitor ,Infusion pump,etc) .Good Quality hygienic mattress with straps for fixing .Place for keeping oxygen cylinder in the trolley .Good quality SS collapsible side rail and I.V.Rod should be provided with the trolley
	1.11	Should have X-Ray **Permeable** area for entire length
	1.12	Should be movable on 4 castors, each with total lock
	1.13	Should have 4 Bumpers at the edges of top frame
	1.14	Trolley should be CE marked and manufactured as per ISO quality standards
	1.15.	Provision to hold 'B' Type O2 Cylinder at the bottom of trolley

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**26**
Instrument ref. No:		1.28
Biomedical Asset. No:		
Quantity:		**4**
Similar items:		
Item Name		**ANAESTHESIA/THEATER SHIFTING TROLLEY**
SL NO		**SPECIFICATION**
	1	Maximum length should be around 2050-2150 mm
	2	Max. Width should be around 700-800 mm
	3	Height should be around 535 – 900 mm
	4	Trendelenberg should be 14 deg. Stepless
	5	Anti Trendelenberg should be 7 deg. Stepless
	6	Should have X-Ray **Permeable** area for entire length
	7	Wheel diameter should be minimum 150 mm
	8	Should have facilities for fixing I.V.Rod and preferably a place for fixing accessories (Monitor, Infusion pump etc.) at head end.
	9	Should have good quality hygienic mattress with straps for fixing
	10	Should hev place for keeping oxygen cylinder (B type) in the trolley, at the bottom of the trolley
	11	Should be provided with bumpers at four corners.
	12	Should have good quality stainless steel collapsible side rails and I.V. rod should be provided with the trolley
	13	Should have pneumatic step less range of adjustment for foot section, back section, Trendelenberg and reverse Trendelenberg position.

	14	Should have central breaking system with steering facility and bumpers at all four corner ,Facility for fixing IV road and fixing accessories (monitor ,Infusion pump,etc) .Good Quality hygienic mattress with straps for fixing .Place for keeping oxygen cylinder in the trolley .Good quality SS collapsible side rail and I.V.Rod should be provided with the trolley
	15	trendelburg & reverse position.-**Hydraulic controlled**
	16	Trolley should be CE marked and manufactured as per ISO quality standards
	17	**Should be supplied with patient shifting board-roller type**

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**27**
Instrument ref. No:		1.29
Biomedical Asset. No:		
Quantity:		**40**
Similar items:		
Item Name		**HOSPITAL BEDS**
SL NO		**SPECIFICATION**
	1	The bed should have 2 section top made up of CR sheet
	2	Frame made of rectangular/ square mild steel section of size and section suitable to provide structural strength. (20x20mm, 1mm thick)
	3	Back rest section, to be maneuvered by screw handle from foot end
	4	Tubular head and foot end bows of suitable thickness of **stainless** steel
	5	Should have one IV rod with own hooks, chromium plated
	6	Should have slot for IV rod at each of the fair corners
	7	Should have anti-slip PVC stump of durable quality for legs
	8	Finish should be multiple layer pretreatment and epoxy powder coating

	9	To be supplied with rubberized coir foam mattress of high quality, 10 cm thick. Covered with waterproof anti microbial upholstery. Pillow-soft rubberized foam with antimicrobial cover.
	10	Colour should be Ivory / Grey
	11	Dimensions should be around 2100 mm L x 850 mm W x 50cm (sleep surface)
2		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
3		**Documentation**
	1	User manual to be supplied in English

Department Sl No.		
Department Name:		**JIPMER, Emergency Medical Services (EMS) Upgradation**
Equipment Sl No:		**28**
Instrument ref. No:		1.3O
Biomedical Asset. No:		
Quantity:		**25**
Similar items:		
Item Name		**ICU BED**
SL NO		**SPECIFICATION**
1		**Technical Specifications**
	1	Should be four section bed with mattress base
	2	The system should be electrically operatable and adjustable for heights, trendelenburg etc.
	3	Should have X-ray luscent back section made up of high pressure laminate / ABS

	4	Should have X-ray cassette holder underneath the back section. It should be possible to insert and take out the cassette from the holder from either side of the bed without disturbing the patient.
	5	Base frame and support frame should be fabricated using steel square / rectangular section of adequate cross section and thickness to provide high structural strength and stability.
	6	Should have the following ranges of movements (nearest) movements hydraulic gas spring actuated controlled.
	7	Height : 480-750 mm
	8	Back section: 0-50 degrees
	9	Leg section: 0-30 degree
	10	Should have manual quick release button (CPR release) for back section to tackle emergency situation. Actuation mechanism should be preferably gas-spring actuated.
	11	Trendelenburg/reverse Trendelenburg range should be-25º / +15º.
	12	Should have four **numbers** of articulated half length tuck away side rails or two full length collapsible side rails.
	13	Should have high quality castors with central braking and central steering facility
	14	Should have slots for IV rod at four corners, and IV rod chromium plated with twin hooks
	15	Bed should have bumpers on all corners and accessory mounting facilities.
	16	Bed dimension should be around following
	a	Length : 2070-2160
	b	Width : 950 – 1020 mm
	c	Mattress size: to suit the bed surface (mattress thickness – 12 cm)
	17	Should have detachable head end and foot end
	18	Mattress should be made up of high density foam with antimicrobial agent incorporated in all parts to assist prevention of bacterial and fungal growth. Cover should be of high quality, washable, durable and antimicrobial leather like synthetic material. Should have bedsore prevention safety features
	19	Mattress should be radiolucent to allow radiography using portable X-ray machines.
	20	Power input to be 220-240VAC, 50Hz as appropriate fitted with Indian plug
2		**System Configuration Accessories, spares and consumables**
	1	I.C.U Bed Mainframe -01
	2	Bed Ends, detachable : 01 pair
	3	Articulated half length tuck away side rails : 04 Nos.
	4	IV Rods : 01 No.
	5	Mattress 12 cm Thick : 01 No.

3		**Standards, Safety and Training**
	1	Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
	2	The quoted model should have CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4		**Documentation**
	1	User manual to be supplied in English
	2	Certificate of calibration and inspection from factory.