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Term and Conditions for Medical items for Upgradation of OLD Operations Theatres.

ANNEXURE-G

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	To provide point-wise compliance sheet of all specifications. It is desirable that it should be evidence based.	Yes	No	Allowed (Desirable)
2	Manual in the English language to be provided.	Yes	No	
3	There should be a minimum warranty period of two years and conditions for free installation.	Yes	No	Mandatory
4	To provide rates of CMC for five years after completion of warranty. These rates will be loaded only to ascertain the lowest suitable offer. These will not be included for the cost of machine at the time of initial order.	Yes	No	Allowed (Mandatory)
5	Exclusions from warranty and/ or CMC, if any, from the scope of supply should be clearly mentioned in the offer with justification; otherwise, all items supplied would be considered as falling within the purview of warranty and CMC.	Yes		
6	Even those items that are not otherwise covered in warranty will be replaced free of cost for at least the first 6 months after installation.	Yes	No	
7	The supplier should be authorized by OEM for the transaction/after-sales back-up.	Yes	No	
8	Details of supply of equipment to other Govt. / Public Sector / Private Hospitals. to be provided	No	No	Allowed (Desirable)
9	Certificate of quality of equipment and satisfactory after-sales service (from any of the users listed above) to be attached.	Yes	Yes	Allowed (Desirable)
10	Itemized price list to be provided to ascertain the breakup of individual items supplied as a composite set or system.	Yes	No	Allowed (Desirable)
11	To provide a rate list of all consumables and disposables including additional modules. These rates will remain fixed for a period of at least 1 year from the date of installation at NRCH.	Yes	No	Allowed (Desirable)

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12	Company to provide a copy of purchase order from government/ public sector/corporate hospital.	Yes	No	Allowed (Desirable)
13	The item should be CDSCO approved in the appropriate category unless specifically exempted.	Yes	No	
14	The workshop should be comprehensive and located within Delhi/ NCR. Address, Telephone number, and e-mail, to be provided.	Yes	No	
15	Should guarantee availability of comprehensive AMC for 5 years after expiry of warranty and quote rates for comprehensive Annual Maintenance Contract for 5 years after expiry of Warranty. The CMC will be done as per the existing railway policy on CMC and not as per any company's policy. Specifically, payment will not be in advance but on a pro-rata basis.	Yes	Yes	Allowed (Desirable)
16	All calls must be attended to within 24 hours and standby equipment to be provided if repair time during warranty/ CMC exceeds 1 calendar week regardless of working days.	Yes		
17	It is desirable that the OEM should certify that if their authorized dealer is changed during the period of warranty or CMC then the new dealer would be bound by the same tender and PO conditions.	Yes		
18	The consignee reserves the right to inspect the functioning of the item at either the consignee site or a site in Delhi NCR chosen by mutual agreement.	Yes		

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For Item NS-1

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• **TECHNICAL SPECIFICATIONS OF ANAESTHESIA WORKSTATION [Trolley Mounted High-end Anesthesia machine- Inbuilt ventilator, vaporizers, Gas delivery system]**

1. Compact anesthesia machine with ventilator and integrated airway monitor.
2. Multiparameter patient monitor of make DatexOhmeda/Phillips/GE/Drager/Seimens.or equivalent.
3. Suitable for infant to adult patients.
4. Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.

a) **ANAESTHESIA MACHINE**

1. It should have a 3-gas system - oxygen, nitrous oxide and air.
2. Machine should be powered by commonly available hospital power supply 220 V, 50/60 Hz AC The system should have integrated battery backup for at least 30 minutes for all functions including the ventilator. A CVT if required should be supplied with the machine.
3. In case of oxygen failure, the ventilator should automatically switch over to air and continue to ventilate.
4. In case of power failure, the ventilator should automatically switch over to the backup battery. In case of simultaneous failure of medical gases and power the ventilator should continue to ventilate on battery power using ambient air.

b) **GAS DELIVERY SYSTEM**

1. It should have a 3-gas system - oxygen, nitrous oxide and air.
2. It should have pin index yokes for Oxygen & Nitrous Oxide and a separate connection for Central gas supply for Oxygen, Nitrous Oxide and Air.
3. The machine should have pressure gauges for both cylinder and central supply
4. Gas connections should be non-interchangeable
5. System should be suitable for low flow anesthesia.
6. There should be compliance compensation of breathing circuit.
7. Should have hypoxic guard to ensure delivery of minimum oxygen conc. of at least 21%
8. There should be automatic cutoff of N₂O by oxygen pressure failure.
9. There should be audible and visual Oxygen failure alarm
10. Emergency oxygen flush at 30-70 liters per minute bypassing the vaporizer.
11. Each machine should be supplied with at least 2 adult and 1 pediatric closed circuits.

c) **FLOW METER**

1. Dual Cascade type or virtual flow meter tubes for Oxygen & N₂O with wide range.
2. Calibrated in multiple scales.

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d) VAPORIZER

1. Machine should have provision for mounting 2 tec/ quick mount type vaporizers.
2. The vaporizers should be temperature and pressure compensated, flow independent and maintenance free, with key filling system.
3. It should not require any calibration in its life time and should have a transport lock.
4. Vaporizers to be supplied with each machine: 1 for Isoflurane, 1 for Sevoflurane.

e) BREATHING SYSTEM

1. It should have semi closed circle system with absorber capacity not less than 1 liter.
2. Breathing system should be fully auto-clavable.
3. Should have adjustable pressure relief valve, range up to 75 mbar.
4. The system should have provision for leak and compliance tests
5. Should have changeover from spontaneous breathing to the ventilator with a single switch.
6. It should have port for anesthesia gas scavenging system and should be compatible with a valveless anesthetic gas scavenging system.

f) ANESTHESIA VENTILATOR

1. The system should have inbuilt ventilator which is electronically controlled and electrically driven.
2. It should not require driving gas i.e. it should be able to ventilate with atmospheric air in case of total gas supply failure.
3. It should have single bellows suitable for all ages.
4. Following modes should be available - Spontaneous, IPPV [Pressure limited and PEEP], Pressure support and SIMV-PS.
5. Tidal Volume: 20-1000 ml
6. PEEP :0-20 mbar
7. Breathing Frequency: 4 to 60 BPM
8. I:E Ratio: at least 1:2 to 2:1

g) AIRWAY MONITORING

There should be electronic monitoring of at least the following ventilator integrated parameters on colour screen of size ≥ 8 cm:

1. Expired tidal volume
2. Expired minute volume
3. Rate
4. PEEP
5. FiO₂
6. Airway pressures-peak, Plateau / Mean
7. Wave form of airway pressures

h) ALARMS AND ALARM LIMITS

1. There should be adjustable high and low audio-visual alarms for minute volume, airway pressure, FiO₂, failure to cycle alarm and power supply fail alarm.

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i) **SCOPE OF SUPPLY OF ACCESSORIES WITH EACH ANESTHESIA MACHINE**

1. Patient Circuits with each machine: a. Adult-THREE, b. Pediatric- TWO
2. Vaporizers with each machine: a. Sevoflurane- ONE, b. Isoflurane-ONE

• **TECHNICAL SPECIFICATIONS OF MULTIPARAMETER MONITOR**

1. Providing and fixing high-end modular type.
2. Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.
3. Multiparameter monitor capable of monitoring adult and pediatric patients for up to 10 parameters at a time.
4. It should be of make Draeger, DatexOhmeda Siemens GE; Philips, or equivalent.
5. It should have at least 15 inches diagonal high resolution with flat panel active color TFT LCD medical grade display with horizontal and vertical cursors.
6. It should be able to show at least 8 waveforms with programmable Numerics, Waveform colors.
7. There should be automatic spacing of waveforms depending upon the chosen parameters. There should be user configurable display modes with separate alarm display.
8. It should have about 6-hours/ 50 events trending facility and trends should be available in tabular as well as graphical display mode.
9. There should be an event marker.
10. Power should run on commonly available 220 V 50 Hz AC. There should be integrated power back up for at least 120 minutes on full charge.
11. There should be audio & video high/low alarms for all the parameters monitored with coding for priority.
12. Auto setting of alarms as per current values should be available.

13. Following parameters should be available for monitoring:

- i. ECG-5/6 lead cable. It should be able to display 12 leads by internal algorithm on application of 5/6 leads. Simultaneous display of at least 2 leads with ST analysis, Arrhythmia detection, count & alarm for asystole, V. fib., V. tach runs; bigeminy, R-on - T, PVC/SVT.
- ii. The ECG tracing should be protected with a defibrillator & ESU filter. It should be able to detect & reject pacemaker spike and also exclude tail T wave from HR calculation.
- iii. ST analysis and advanced arrhythmia monitoring should be integrated with the ECG monitoring. IABP interface should also be there.
- iv. Respiration - Rate by thoracic impedance or derived from Capnography and should cover range 0 - 100 at least.
- v. NIBP by Oscillotonometric method with programmable timing (2-240 min) and manual override. It should be suitable for patients of all ages. Range: neonate/pediatric to adult.

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Modes: Auto/Manual Numeric display: Systolic, Diastolic, Mean. Should be supplied with proper size cuffs for Neonatal, Pediatric, Adults (Arm and Thigh Cuffs) and Extra Large for obese patients.

- vi. For IBP- At least two or more channels with selectable labels connectible to non-proprietary commercially available disposable/reusable transducers. Simultaneous zeroing of both the transducers should be possible.
- vii. Pulse oximeter- Range: from 0 to 100% (accuracy: $\pm 2\%$), the sensing technology should be motion & low perfusion tolerant e.g. Nellcor/Massimo or equivalent.
- viii. Carbon dioxide monitoring: Infra Red Side Stream Analyzer for CO₂; inspired & expired concentration & waveform display, Capable of monitoring ETCO₂ of incubated patient, Display: Waveform and Digital, Range: 0 to 15 Vol % or 0 to 15kPa or 0 to 113 mmHg.
- ix. Respiratory mechanics - Digital & waveform display of flow, volume & pressure with provision for loops.
- x. Anaesthesia gas monitoring system (AGM) Automatic detection of Isoflurane; Sevoflurane and Desflurane with display of their inspired and expired fractions, to include Automatic agent analysis for N₂O and MAC values of the gases to be displayed.
- xi. Respiratory mechanics - Digital & waveform display of flow, volume & pressure with provision for loops.
- xii. Alarms: Asystole, Arrhythmia, Leads off, SpO₂ probe disconnection, BP Cuff occlusion, Apnea, ETCO₂ Alarm.
- xiii. The equipment should be supplied with all the accessories ready to use.
- xiv. Sufficient disposables must be supplied for proper use.
- xv. The equipment should have warranty for at least 24 months.

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FOR NS No. 2

ANNEXURE-2

SPECIFICATIONS FOR SYRINGE BASED TCI PUMPS with ability to support multiple Pharmacokinetic Models

TECHNICAL SPECIFICATIONS

1. TCI pump should be syringe based and should work on the following syringe capacities 5, 10, 20, 50 mL of various brands.
2. Flow rate should be 0.1 ml/hr to 1200 ml/h for 50 ml with accuracy of $\pm 1\%$ on mechanism.
3. Should have bolus rates of at least 150ml/hr.
4. Should support at least these Pharmacokinetic Models: Marsh; and Schneider For Propofol adult; For Propofol: paediatric patients. (Kataria model); For Remifentanyl, (Minto model).
5. Should have Keep vein open (KVO) option.
6. The device should have the following alarms: Occlusion pressure pre-alarm, occlusion pressure alarm, end of infusion pre-alarm, end of infusion alarm, Disengaged driving mechanism alarm, low battery alarm discharged battery alarm, technical malfunction alarm, Power fail alarm: occlusion alarm: programming malfunction / titration not confirmed alarm.
7. Should be lightweight and easy to carry.
8. Should have a categorized drug library with at least 15 drugs listed.
9. Battery specifications: Type: Li-ion/NiMH Rechargeable and replaceable.
10. Mean battery life: minimum 5 hours at 5ml/hr.
11. Power requirements: 100-240V AC, 50-60 Hz.
12. The device should have compliance with the following: IEC 60601-1-2, IEC 60601-2-24.
13. Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.

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For Item NS-3

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Advanced Cardiac output Monitor with non invasive technology.

- It should have a touch screen with an active area of Approx 12. inches.
- It should be able to provide Continuous Cardiac Output through a dedicated arterial sensor only when connected with a dedicated cable available separately.
- It should be able to give Continuous Cardiac Output, Stroke Volume (SV), Stroke Volume Index (SVI), Stroke Volume Variation, and Systemic Vascular Resistance (SVR) and Systemic Vascular Resistance Index (SVRI) when used with appropriate arterial line sensor.
- It should be able to provide Intermittent & Continuous Cardiac Output (ICO & CCO), Continuous Right Ventricular Ejection Fraction (RVEF), Continuous Right Ventricular End Diastolic Value (RVEDV, RVEDVI), Systemic Vascular Resistance (SVR, SVRI) & Pulmonary Vascular Resistance (PVR) when used with appropriate Swan Ganz Catheter or dedicated oximetry catheter. (optional)
- The monitor should be upgradable with predictive technology to provide Hypotension Prediction Index (HPI) through a dedicated disposable A-line sensor.
- The monitor should also be upgradable with a secondary screen to Provides clinicians with insights into potential factors for high hypotension probability
- The monitor must display additional parameter of dP/dt and Ea_{dyn} when using a dedicated disposable A-line sensor.
- It should have the capability of Non-invasive Cardiac Output technology through a dedicated finger cuff designed sensor with hypotension prediction capability.
- It should be equipped with expansion modules & 1 cable receptacles.
- It should have option of wired & wireless communication.
- It should have display capacity of at least 4 trend lines and 4 numerical display, optional physiology, and physio-relationship screen.
- It should have the option of providing dedicated perioperative goal-directed therapy (PGDT) screens and analytics.
- It should have the option of connectivity with hospital information system.
- It must save data for at least 72 hours.
- Must have screen shot and data download facility through any USB stick.
- It should have an HDMI, USB & ETHERNET port for various connectivity
- USFDA Approved and demo should be given once asked at the premises of the hospital.
- Warranty 2 years followed by CMC for next 3 years .

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For Item NS-4

ANNEXURE-6

SPECIFICATIONS OF STANDALONE NMT MONITORS

with capability of tof, etc, st, ift; battery and main operated

NMT (Neuro muscular transmission) monitor: For measurement and display of train of four TOF count, TOF %, Single twitch ST, DB5, Tetanic and Trend for continuous usage.

TECHNICAL SPECIFICATION

1. Should have the following stimulation modes TOF with option to set interval for TOF: PTC; Single twitch [ST]; DBS and Tetanic [TET]
2. Should have adjustable stimulation Current range at least from 20-60 mA or greater [range may be exceeded but not diminished];
3. Automatic mode for display of trends should be present
4. Automatic selection of supramaximal current.
5. Should have option of mains as well as battery operation
6. Accessories provided should include all standard accessories e.g. thumb sensors;
7. No sensor calibration required.
8. Light weight (less than 2.5 kg).
9. Capability to be mounted on IV pole. Mounting holder should be provided along with the monitor.
10. Data Storage capability should be there.
11. Memory capacity: = (e.g. more than 24 hours of TOF recording)
12. USB cord compatible with USB port should be provided.
13. Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.

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SPECIFICATIONS OF DUAL DOME, CEILING MOUNTED LED OPERATING LIGHTS

- 1 Light Combination: Dual Dome, ceiling mounted LED Operating lights, to provide Shadow free/ shadowless glare free light.
- 2 Light Intensity: Each light head with 1,60,000 lux light intensity at 1 metre
- 3 Number of LEDs for each dome should be between 30 to 80
- 4 Light head diameter at least 500 mm or greater, for each dome
- 5 Light field Diameter adjustable from 22 cm to 26 cm or greater
- 6 Colour-rendering index of 96 or greater
- 7 Choice of colour temperatures should be 3500, 3800, 4100, 4400, 4700, 5000k. Colour mixing of LED should take place inside the light head itself
- 8 Effective service life of LEDS/ LED modules with a life time of 60,000 hours or greater
- 9 Type of Control panel: control panel light assembly as well as away from it, for adjustment of light intensity/ switching on and off/ focusing etc. i.e. TFT touch screen
- 10 Brightness control/ user selectable light intensity: variation from 30% to 100%. Range can be exceeded but not diminished
- 11 Endoscopy light mode option should be available
- 12 Sterilisable, detachable handle (to be attached without screws)
- 13 Heavy duty central suspension anchor boom with short suspension length from ceiling
- 14 330-degree rotation of main light head and at least 300-degree rotation of satellite dome
- 15 The system should be camera ready and future compatible wireless full HD / 4K or latest camera system
- 16 Supply Voltage: 220 -240V/50 Hz AC, fitted with appropriate Indian plugs and sockets
- 17 Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.

ACCESSORIES

- 4 extra pairs of sterilisable handles to be provided over and above standard pair.

GEN TERMS & CONDITIONS

- 1 To provide evidence based (documents/certificates etc.) pointwise compliance sheet. Simply writing Yes or No without clearly mentioning the evidence will not be accepted)
- 2 Manual in English language to be provided
- 3 Bidders offer is liable to be rejected and deemed technically unsuitable if they do not upload the evidence based, pointwise compliance sheet and also certificates / documents sought in the bid documents ATC (and corrigendum if any)

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- 4 The buyer reserves the right to ask for a free demonstration of the quoted equipment after giving reasonable time (within 72 hours) to the bidder at a pre-determined place acceptable to the purchaser or at site (as this is non portable and heavy equipment) for evaluation of technical acceptability as per the bid document specification.
- 5 Mounting of all products in the operation theatre to be done entirely by the vendor/ supplier
- 6 The vendor will ensure that all necessary civil and electrical work, for the mounting of the above is undertaken by them
- 7 There should be a minimum warranty period of 2 years and conditions for free installation to provide rates for CMC for 5 years after completion of warranty. Should guarantee availability of comprehensive AMC for 5 years after expiry of warranty and quote rates for comprehensive Annual Maintenance Contract for 5 years after expiry of warranty.
- 8 The CMC will be done as per existing railway policy on CMC and not as per any company's policy; specifically, payment will not be made in advance but on pro-rata basis.
- 9 Exclusions from warranty and/or CMC, if any, from the scope of supply should be clearly mentioned in the offer, otherwise all items supplied would be considered as falling within the purview of warranty & CMC.
- 10 Itemized price list to be provided. To provide a rate list of all consumables and disposables including additional modules; these rates will remain fixed for a period of at least 3 years from the date of installation
- 11 Supplier should be authorised by the OEM for the transaction and after sales service.
- 12 OEM to certify that the vendor/ supplier will not be changed during the period of CMC
- 13 OEM will also certify in the event that the dealer is changed, the new vendor / supplier would be governed by the same rules regarding warranty / CMC/ AMC, that were originally applicable in the contract
- 14 Details of supply of same equipment to other government public sector hospitals. (at least 2 within the last 5 years). Company to provide copy of purchase order and installation certificate.

AFTER SALES SERVICE

- 15 Workshop should be comprehensive and located within Delhi NCR (address, telephone number & email of workshop to be provided)
- 16 All call should be attended to within 24 hours
- 17 Standby equipment to be provided if repair time during warranty/ CMC exceeds 2 weeks

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High End Electro Operation Table.

S.No.	Specifications	
1	Should have a four-section table top with divided foot section	
2	Should have a backlit handset for various functions	
3	There should be inbuilt standby backlit control enabling full use of table in case of handset failure with electric override. It should give beep feedback the OT Table position reaches the end point.	
4	Latest type of color graphic LCD display on handheld controller displaying each selected position of the table along with degree measurement for Back section, Trendelenburg/Reverse Trendelenburg and side tilt.	
5	Additional Cordless/wireless/Bluetooth Remote with LCD display to be provided along with the WIRED Remote	
6	All table positioning i.e. Height, Back Section Adjustment, Lateral Tilt, Trendelenburg & reverse Trendelenburg, Longitudinal Slide, Table Locking / Unlocking, Zero Position & Flex/Reflex should be operated through handset and standby control/table locking /interlocking though foot pedal on both sides for central locking	
7	The casing on the frame and center supporting column should be made of hygienic stainless steel.	
8	Mattress should be radiolucent and of PU make and suitable for fluoroscopy. It should be fire resistant and test report for fire resistance to be submitted.	
9	The OT Table should be equipped with 4 no's of twin-disk 100mm castors with integrated electrohydraulic cylinders for 4 stump floor locking system and the OT Table should have emergency brake release system to move out the table in case of system failure, remote operated.	
10	Should have built in electronic controlled kidney position via single button Flex/Reflex.	
11	The table should be eccentrically positioned C-arm compatible electro hydraulic operated:	
a	Up & Down Min: 550mm, Max 1050mm (without mattress)	
b	Trendelenburg & Reverse Trendelenburg (30 deg either side)	
c	Side Tilt (19 deg on either side)	
d	Back Section Up/Down (+80 deg / -40 deg)	
e	Electro Hydraulic Brakes (for Braking & Un-braking the table) via four stumps	
f	Longitudinal Slide (300mm)	
12	Table top should be divided into Head Section, Back Section, Seat Section and Divided Leg Section.	
13	The Table should be provided with an internal charging circuit, which should have an indication with color LED indications.	
14	The table should have zero position. On a single click through remote the table should come back to a flat position.	
15	The table should have a provision to memorize any FIVE (5) position. It should be erasable and reprogrammable.	
16	The table should have an emergency stop, in case of any malfunctions; it allows to stop the table functioning immediately.	
17	The table should have activation key and battery level indicator, both on the remote handset and the override panel.	
18	The dynamic load carrying capacity should be at least 250	

	kgs.	
19	Should be provided with following standard accessories:	
a	L-shaped Anesthetic Frame: One Pc.	
b	Shoulder Supports with Pads: One Pair.	
c	Arm Board with Pad: One Pair.	
d	Lateral Supports with Pad: One Pair.	
e	Body Strap: One Pair.	
f	50 mm PU Foam Mattress: One Set.	
g	Urology Adaptor	
h	Drainage Tray	
i	Lithotomy stirrups - One pair.	
j	Gel Head Ring for Adult - 01 No.	
k	Gel Pad for Arm Board/Arm Rest-01 pair	
20.	Gas Spring Assisted Stirrups Pair with weight capacity of 150kgs along with Clamps and Reusable pads - One Pair	
a	System should be specialized leg stirrups with lift assist technology	
b	The abduction range should be between +25 degree to -09 degree.	
c	The floating boot should be designed in such a way that the lateral fin of the boot should cover and protect the head of the fibula and avoid pressure on Calf muscles and Peroneal Nerve while moving the legs.	
d	The Stirrup should provide intra operative adjustment of the leg in all directions by squeezing the grip handle.	
e	Indicators/ scales marking should be available for precise positioning.	
f	Raise and abduction by single hand for ease of operation should be possible	
g	Should be supported with required reusable pads and clamps for attachment	
h	Should be supplied with trolley.	
21	Manufacturer should be ISO 13485:2016 and 9001:2015 from NABCB accredited body.	
22	The Manufacturer should have European CE from four digit notified body/ USFDA listing or BIS certification.	
23	Test Report IEC 60601-1, IEC-60601-1-2, IEC 60601-2-46 from NABL accredited Laboratory must be available and test reports need to be submitted	
24	CDSCO Manufacturing/Import License for the quoted model must be submitted with the Bid.	
25	Warranty - 02 Years	


 Head of Department
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For Item No-7

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ANNEXURE-7

NOISELESS HEAVY DUTY TWIN MOTOR SUCTION MACHINE

1. Total air flow rate should be: 108 to 112 Ltr/m./min. Suction system must have 2 independent pumps internally.
2. Both pumps should have capability to work on two same target vacuums or two different targeted vacuums at the same time.
3. Maintenance free membrane pump.
4. Regulated Vacuum with Max of: -98 kPa (-980 mbar / -735 mmHg) per pump: -980 mbar (-98 kPa)
5. Power consumption: approx. 100 W
6. Voltage: 230 V ~ 50-60 Hz;
7. Noise level: Free flow: 52 dB (A), Final vacuum: 43.9 dB
8. Operating time: Continuous operation for 3 days approx..
9. Ambient conditions during operation:
Temperature: 10 to 32 °C
Humidity: 20...80% without condensation;
10. Approximate dimensions (H x W x D): 940 x 500 x 390 mm
11. Weight: Around 30-35 kg
12. Mobile system mounted on anti-static 4 lockable castors
13. Standard rail holder for mounting accessories
14. Provision for 3 number of 5 liters or 3 liters canisters. There should be provision of Changeover lever between at least 2 canisters. One canister to be independent.
15. Unit should be supplied with foot switch.
16. Must have 2 vacuum regulators, 2 on/off-Switches, 2 vacume gauges, 2 vacuum outlets.
17. Classification: degree of protection: type BF; protection
Category: IPX1; Protection class: I; CE or EN classified product.
Warranty 2 Years

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1. Air flow should be minimum 55 l/minute.
2. Maintenance free membrane pump.
3. Regulated Vacuum with Max of: -98 kPa (-980 mbar / -735mmHg) -980 mbar (-98 kPa)
4. Power consumption: approx. 100 W
5. Voltage: 230 V~ 50-60 Hz;
6. Noise level: Free flow: 46 dB (A), Final vacuum: 39 dB(A)
7. Operating time: Continuous operation for 3 days approx.,
8. Ambient conditions during operation:
Temperature: 10 to 32 °C
Humidity: 20...80 % without condensation;
9. Approximate dimensions (H x W x D): 940 x 500 x 390 mm
10. Weight: Around 30-35 kg
11. Mobile system mounted on anti-static 4 lockable castors
12. Standard rail holder for mounting accessories
13. Provision for 2 number of 4 liters canisters and with option to upgrade to disposable suction system. There should be provision of Changeover lever between 2 canisters.
14. Unit should be supplied with foot switch and foot regulator which can be used simultaneously.

Answer \rightarrow
21/4/26

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Dr. Sushil Krishnan

ANNEXURE-8

SPECIFICATIONS FOR A CAUTERY MACHINE HI-END WITH ACCESSORIES

1. It should be an Electrosurgical Generator with Vessel Sealing, Underwater Monopolar and Saline Resection, and Monopolar and Bipolar Cut & Coagulation. It should feature Combo Generator Technology, integrating a conventional Electrosurgical Unit (ESU), Vessel Sealing System, and Bipolar Cut & Coagulation capabilities.
2. The unit should have a microprocessor-controlled tissue feedback technology
3. The unit should have a 7-inch or larger touchscreen display that clearly indicates the true power output on the screen.
4. It should have separate and isolated sockets for Monopolar, Bipolar, and Vessel Sealer applications.
5. The unit should perform a self-diagnosis during power-on and display an error code with its corresponding solution if any fault is detected
6. It should support both dual-area (disposable) and single-area (reusable) patient return electrodes. A green indication should confirm the correct application of a dual-area patient plate, whereas a red indication with an alarm tone should alert the user if the patient plate is not applied.
7. The unit should have two monopolar output channels, allowing for simultaneous coagulation.
8. It should provide different profiles for various surgical procedures.
9. The unit should deliver a pure sinusoidal output waveform in high-frequency power output for cut and bipolar modes.
10. The operating frequency should be between 300 kHz and 500 kHz
11. The unit should be suitable for underwater procedures in both monopolar and saline resection modes.
12. It should feature randomized spray coagulation for broader area coverage.
13. The unit should provide at least seven different cutting modes with a maximum output of 400W.
14. It should offer at least seven different coagulation modes with a maximum output of 200W.
15. The unit should support at least five bipolar modes with a maximum output of 120W.
16. It should have an Auto Bipolar function with adjustable delay time.
17. An alarm function should notify users upon completion of bipolar coagulation.
18. The power settings should be adjustable as follows for faster configuration:
 - 1 W to 40W in 1 W increments
 - 40W to 100W in 5W increments

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- 100W to maximum power in 10W increments

19. The unit should offer two sealing modes with at least five sealing levels.

20. It should support vessel sealing for tissue bundles and vessels up to 7mm using reusable vessel sealing attachments.

21. An alarm should sound after the completion of the sealing cycle, and IIF power should auto-stop.

22. If the vessel sealing process takes longer than 6 seconds, the system should trigger an alarm and halt HF output to prevent thermal damage.

23. The system should provide an alarm in vessel sealing mode under the following conditions:

- If the tissue is not properly held in the sealing instrument.
- If the instrument has an internal failure.
- If excessive tissue is grasped in the forceps.

24. The unit should provide Bipolar Cut and Bipolar Coagulation modes with at least five levels.

25. The laparoscopic instrument should feature a hand-switch control on the handle for RF/Bipolar Cut and Coagulation, eliminating the need to switch instruments during surgery.

26. The unit should have a tissue feedback and pulsed interval-controlled ENDO CUT function.

27. It should be supplied with a double-paddle footswitch with a toggle function, enabling users to switch between monopolar, bipolar, vessel sealing, and RF/Bipolar cut.

28. The unit should be supplied with the following accessories:

- | | |
|--------------------------------------------------|--------|
| a) Reusable patient plate with cable | 2Nos. |
| b) Reusable hand-switching pencil | 10Nos. |
| c) Bipolar forceps with cable | 4Nos. |
| d) Double-paddle footswitch with toggle function | 1No. |
| e) Universal adapter | 1No. |
| f) Set of electrodes | 1No. |
| g) Reusable sealing clamp with ratchet and cable | 1No. |

It should be BIS-certified. If not, USFDA certified with/ without any BIS substitute certification.

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SPECIFICATIONS FOR DEFIBRILLATOR WITH ECG LEAD

1. It should be compact, lightweight and portable unit.
2. It should have high resolution two channel LCD display of the size of not less than 6 diagonal with auto contrast and back light.
3. It should display cardiac rhythm, numerical values and audio and visual alarms for all the parameters monitored.
4. It should provide rectilinear biphasic energy delivery from 5 to 200 joules in standard incremental fashion for defibrillation in synchronous/ asynchronous modes.
5. It should be able to charge to 200 joules in less than 8 seconds.
6. Unit must display energy selected and delivered on monitor, strip recorder and code summary.
7. Unit should have an integrated thermal recorder for the automatic and manual record of events/ energy delivery and print of annotations like time, QRS sync marker, output along with the rhythm record.
8. For pacing, the unit should utilize a constant current pace pulse 40MS width with amplitude variables up to 140mA and rate variables from 30 to 150ppm.
9. It should be able to defibrillate and pace via same electrode.
10. It should have spo2 monitoring facility based on robust technology.
11. It should have type of external transcutaneous pacing modes: - both Demand mode & Fixed mode.
12. It should have NIBP monitoring based on oscillometric technology with automatic preconfigured and manual modes of measurements.

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13. It should have inbuilt battery backup with integral charger and should work on AC currents as well as battery.
14. Fully charged battery should be able to work on monitor mode for at least 3 hours.
15. It should be supplied with one set of 3/5 lead ECG cable, one set of external paddles(adult cum pediatric), one set of SPO2 sensor, one BP Cuff with tubing set and ten multifunction chest pads for external pacing/ defibrillation and all standard accessories.
16. It should be CE/FDA certified product.
17. It should be easy to operate ease of operation by untrained paramedics will be key determinant in decision making for finalization, if all other variables are similar.
18. It should have facility to self – test/check before and after operation.
19. It should carry a warranty for 5years, including rechargeable battery.
20. Company must agree to enter CMC after expiry of warranty period should quote the rates for comprehensive maintenance contract inclusive of spares).
21. The company must have service back up in Delhi to provide service support within 24 hours of notifications of the complaint.
22. Company should attach the copies of the purchase order of similar equipments from other hospital.
23. Company should provide the certificate from government/private goods after sale service and performance of the equipment.
24. Company should quote the rates of accessories and consumables for future reference.

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for Item MS-11

Technical specifications for manual jet ventilation device

1. It should be a manual hand-held ventilation device.
2. Device must be easy in use for inspiration and expiration.
3. Device should be able to connect with O₂ or mix O₂/Air via a flow meter.
4. Device should supply O₂ during inspiration and help in removing the expiratory gases from the lungs.
5. It should be able to use in combination with the transtracheal catheter or endotracheal cuffed tube to re-establish adequate oxygenation.
6. Device should be driven by gas flow and does not requires electricity.
7. It should be supplied with cricothyrotomy catheter and ultrathin ventilation tube compatible with manual hand-held ventilation device.
8. Device should have sterile packaging.


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SPECIFICATION FOR STAND ALONE BIS MONITOR

TECHNICAL SPECIFICATIONS

1. Large LCD display with touch screen navigation.
2. Compatible with both pediatric and adult patients:
3. Ability to display the Current BIS number, Trend graph of the EEG parameters, and real-time EEG waveforms.
4. Weight: ≤ 3.5 lbs (1.6 kg)
5. Display size: Diagonal 4 in (10 cm) or greater;
6. Power Requirements: 100-240 VAC, 50-60 Hz, 0.7A max.
7. Battery Backup: 45 minutes at full operation or greater
8. Item should be BIS approved. If not, it should be US-FDA approved/should be European CE approved (by a 4-digit notified body)/complaint-free previous supply to NRCH.

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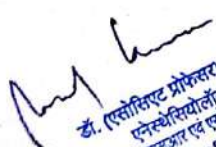
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B6	The unit should be supplied with Standard accessories. Open & Laparoscopic Probes with general details as under-
B6 i	<p>Maryland Jaw Single-Action with 360° continuous shaft rotation, curved and tapered jaw with dissecting tip.</p> <ul style="list-style-type: none"> • It should come in shaft lengths of 23cm, 37cm, 44cm • It should have trocar compatibility of 5mm or more • It should have a seal length of 20mm and • It should have a cut length of 18mm and • It should have a vessel size sealing upto and including 7mm vessel size • The average seal time shouldn't exceed 1.5 seconds and • The average burst pressure should be more than 360 mmHg. • It should have a latching spring-loaded handle • It should have a fuse activation button
B6 ii	<p>Fine Fusion Dual-Action, Curved Jaw Dissecting Tip</p> <ul style="list-style-type: none"> • It should come with a seal length of 17mm • It should have a cut length of 15mm and • It should have vessel size sealing upto and including 7mm vessel size.
B6iii	<p>Open Fusion Dual-Action, Curved Jaw with Blunt Tip It Should be available with a vessel seal length of 40mm</p> <ul style="list-style-type: none"> • cut length of 38mm • 180° shaft rotation • It should have vessel size sealing upto and including 7mm vessel size.
B6iv	<p>5mm fusion Single-Action, Straight Jaw with 360° continuous shaft rotation. Blunt tip hand piece.</p> <ul style="list-style-type: none"> • It should be available in shaft lengths of 37 and 44cm • It should have a trocar compatibility of 5mm or more • It should have a vessel seal length of 20mm • It should have a cut length of 18mm • It should have a 360° shaft rotation • It should have vessel size sealing upto and including 7mm vessel size.


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