Tender

For

Equipments required for Department of Anaesthesia

At

All India Institute of Medical Sciences, Jodhpur

NIT Issue Date	**:**	**September 02, 2013.**
Last Date of Submission	**:**	**September 25, 2013 at 03:00 PM**
Pre Bid Meeting	**:**	**September 11, 2013 at 03:00 PM**

All India Institute of Medical Sciences, Jodhpur
Basni Phase - II, Jodhpur – 342005, Rajasthan
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All India Institute of Medical Sciences (AIIMS), Jodhpur, Rajasthan, an apex healthcare institute being established by Parliament of India under aegis of Ministry of Health & Family Welfare, Government of India, invites sealed tenders for supply & installation of the following items at the institute. You are requested to quote your best offer along with the complete details of specifications, terms & conditions.

NIT No.	Item Description	Quantity	EMD
Admin/General/ 171/2013-AIIMS.JDH	Anaesthesia Work Station	4	1,80,000
Admin/General/ 172/2013-AIIMS.JDH	Modular Multi Parameter ICU Monitor with 2 Invasive Channels	11	1,80,000
Admin/General/ 173/2013-AIIMS.JDH	Ventilator high end (ICU)	6	1,50,000
Admin/General/ 174/2013-AIIMS.JDH	Syringe Infusion Pumps	82	60,000
Admin/General/ 175/2013-AIIMS.JDH	Blood Gas Analyzer (ABG Machine)	1	18,000
Admin/General/ 176/2013-AIIMS.JDH	BiPAP Machine	3	12,000
Admin/General/ 177/2013-AIIMS.JDH	ECG Machine 12 leads	1	5,000
Admin/General/ 178/2013-AIIMS.JDH	Intermittent Pneumatic Compression Device	3	9,000
Admin/General/ 179/2013-AIIMS.JDH	Patient Warning System	2	5,000
Admin/General/ 180/2013-AIIMS.JDH	Crash Cart	4	2,000
Admin/General/ 181/2013-AIIMS.JDH	Multi Parameter Monitors for Ward	25	1,80,000

Quotation should be sealed and super-scribed with tender number and address to:

"Administrative Officer
All India Institute of Medical Sciences, Jodhpur
Basni, Phase-II
Jodhpur-342005, Rajasthan".

The sealed quotations should reach the Institute, latest by September 25, 2013 at 03:00 PM and it will be opened on same day at 03:30 PM in the Project Cell, Resident Complex, AIIMS, Jodhpur of the Institute in the presence of the bidder(s) or their authorized representative(s), who will present at the scheduled date and time.

Terms & Conditions:

1. **Preparation and Submission of Tender:** The tender should be submitted in two parts i.e. Technical Bid and Financial Bid. The Technical Bid and the Financial Bid should be sealed by the bidder in two separate covers "**Technical Bid for Tender for Supply of (Item Name)**"and "**Financial Bid for Tender for Supply of (Item Name)"**. Both Sealed Envelopes should be kept in a main/ bigger envelope super-scribed as **"Tender for Supply of (Item Name)"**

2. **Earnest Money Deposit:**
   The EMD of the successful bidder shall be returned after the successful completion of contract / order and for unsuccessful bidder(s) it would be returned after award of the contract. Bid(s) received without demand drafts of EMD will be rejected.

   The firms who are registered with National Small Industries Corporation (NSIC) / OR Small Scale Industrial (SSI) are exempted to submit the EMD (copy of registration must be provide along with)

3. **Tender Fee:** Tender fee will be Non-refundable amount of one thousand (Rs. 1000/-) on each item.

4. **Rate:** Rate should be quoted in Indian Rupees (INR) on DOOR Delivery Basis at AIIMS, Jodhpur, Rajasthan, Inclusive of all the Charges, with break-ups as:

   - Basic Cost.
   - VAT /CST as applicable.
   - Total Cost (F.O.R at AIIMS Jodhpur).

5. **Validity:** The quoted rates must be valid for a period for 180 days from the date of closing of the tender. The overall offer for the assignment and bidder(s) quoted price shall remain unchanged during the period of validity. If the bidder quoted the validity shorter than the required period, the same will be treated as unresponsive and it may be rejected.

   In case the tenderer withdraws, modifies or change his offer during the validity period, bid is liable to be rejected and the earnest money deposit shall be forfeited without assigning any reason thereof. The tenderer should also be ready to extend the validity, if required, without changing any terms, conditions etc. of their original tender.

6. **Warranty / Guarantee:**
   6.1 Guarantee / Warrantee Period: For the equipment value upto Rs. 5 Lakh
   The Tenderers must quote for 2 years comprehensive warranty (Including all Spares, Accessories and Labour) from the date of completion of the satisfactory installation. The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. Also the bidders are requested to submit their quote (Rates) for subsequent 3 years Comprehensive Maintenance Contract (CMC) (Including All Spares, Accessories and Labour). Failure to comply this condition will entail the rejection of the bids. The price comparison shall be taking into account on basic price and post warranty CMC.
   6.2 Guarantee / Warrantee Period: For the equipment value above Rs. 5 Lakh

The Tenderers must quote for 5 years comprehensive warranty (Including all Spares, Accessories and Labour) from the date of completion of the satisfactory installation. The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. Also the bidders are requested to submit their quote (Rates) for subsequent 5 years Comprehensive Maintenance Contract (CMC) (Including All Spares, Accessories and Labour). Failure to comply this condition will entail the rejection of the bids. The price comparison shall be taking into account on basic price and post warranty CMC.

7. **Uptime guarantee:** The firm should provide uptime guarantee of 95%

8. **Downtime penalty Clause**
   a. During the comprehensive warranty period, the guarantee uptime of 95% of 365 days will be ensured. In case the down time exceeds the 5% limit penalty of extension of guaranty period by two days for each additional day of down time will be enforced. The vendor must undertake to supply all spares for optimal upkeep of the equipment for at least FIVE YEARS after handling over the unit to the Institute. If accessories / other attachment of the system are procured from the third party, then the vendor must produce cost of accessory / other attachment and the CMC from the third party separately along with the main offer and the third party will have to sign the CMC with the Institute if required.
   b. The principals or their authorized service providers are required to submit a certificate that they have satisfactory service arrangements and fully trained staff available to support the uptime guarantee.

9. **Delivery & Installation**: All the goods ordered shall be delivered & installed within 30 days from the date of issue of purchase order. All the aspects of safe delivery, installation and commissioning shall be the exclusive responsibility of the supplier. The successful tenderer will also provide basic required training for supplied items.

   If the supplier fails to delivered, installation and commissioning of the goods on or before the stipulated date, then a penalty at the rate of 2% per week of the total order value shall be levied subject to maximum of 10% of the total order value.

10. **Performance Security:** The supplier shall require to submit the performance security in the form of irrevocable Bank Guarantee (BG) / or Fixed Deposit Receipt (FDR) issued by any Nationalised Bank for an amount of which is equal to the 10% of the order value and should be kept valid for a period of 60 day beyond completion of all the contractual obligation, Including CMC period.

11. **Arbitration:** If any difference arises concerning this agreement, its interpretation on payment to the made there-under, the same shall be settled out by mutual consultation and negotiation. If attempts for conciliation do not yield any result within a period of 30 days, either of the parties may make a request to the other party for submission of the dispute for decision by an Arbitral Tribunal containing Sole Arbitrator to be appointed by the Secretary, Department of Legal Affairs. Such requests shall be accompanied with a panel of names of three persons to act as the sole arbitrator. In case of such arbitrator refusing, unwilling or becoming incapable to act or his mandate having been terminated

under law, another arbitrator shall be appointed in the same manner from among the panel of three persons to be submitted by the claimant. The provision of Arbitration and Conciliation Act, 1990 and the rule framed there under and in force shall be applicable to such proceedings.

12. **Subletting of Work:** The firm shall not assign or sublet the work/job or any part of it to any other person or party without having first obtained permission in writing of AIIMS, Jodhpur, which will be at liberty to refuse if thinks fit. The tender is not transferable. Only one tender shall be submitted by one tenderer.

13. **Breach of Terms and Conditions:** In case of breach of any terms and conditions as mentioned above, the Competent Authority, will have the right to cancel the work order/ job without assigning any reason thereof and nothing will be payable by AIIMS, Jodhpur in that event the security deposit shall also stands forfeited.

14. **Insolvency etc:** In the event of the firm being adjudged insolvent or having a receiver appointed for it by a court or any other order under the Insolvency Act made against them or in the case of a company the passing any resolution or making of any order for winding up, whether voluntary or otherwise, or in the event of the firm failing to comply with any of the conditions herein specified AIIMS, Jodhpur shall have the power to terminate the contract without any prior notice.

15. **Force Majeure:** If, at any time during the subsistence of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war or hostility, act of public enemy, civil commotion, sabotage, fire, floods, explosion, epidemics, quarantine restriction, strikers lockout or act of God (hereinafter referred to as events) provided notice of happening of any such eventuality is given by party to other within 21 days from the date of occurrence thereof, neither party hall by reason of such event be entitled to terminate this contract nor shall either party have any claim for damages against other in respect of such non-performance or delay in performance, and deliveries have been so resumed or not shall be final and conclusive.
    Further, that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, either party may, at least option to terminate the contract.

16. **Liquidated Damages**
    (i) The date of delivery of the store, stipulated in the acceptance of the tender should be deemed to be the essence of the contract and delivery must be completed not later than the dates specified therein. Extension will not be given except in exceptional circumstances. Should, however, deliveries be made after the expiry of contracted delivery period, without prior concurrence of the purchaser and be accepted by the consignee, such delivery will not deprive the purchaser of this right to recover liquidated damages under clause (ii) below.

    (ii) Should the supplier fails to deliver the store or any consignment thereof within the period prescribed for delivery, the purchaser shall be entitled to recover 1 % of the value

of delayed supply for a period up to 4 (four) weeks and thereafter at the rate of 10 % of the value of the delayed supply for another 4 (four) weeks of delay. In the case of package supply where the delayed portion of supply materially hampers installation and commissioning of the systems, liquidated damages charges shall be levied as above on the total value of the concerned package of the purchase order. Quantum of liquidated damages assessed and levied by the purchaser shall be final and not challengeable by the supplier.

17. **Satisfactory Installation:**
Satisfactory installation / commissioning and handling over of the equipment mean the faultless functioning of the equipment for a minimum period of 30 days after satisfactory installation.

18. **Payment Term:**
    - 90% payment of the total order value shall be released after the successful installation/ commissioning of the ordered goods against the submission of the test report.
    - Balance 10% of the order value shall be released after the submission of the performance security.

19. Bidder shall submit a copy of the tender document and addenda thereto, if any, with each page of this document should be signed and stamped to confirm the acceptance of the entire terms & conditions as mentioned in the tender enquiry document.

20. AIIMS Jodhpur reserves the right to ask the tenderers for submitting the sample of the item for which rates have been quoted, Technically Qualified Bidders may be asked to submit samples along with their quoted items no. and their firm name without indicating any prices before opening of Financial Bid to AIIMS, Jodhpur for Inspection.

21. The quantity of item given in the tender is tentative, which may be increased or decreased as per the institute's requirement.

22. Signed & stamped compliance sheet of the technical specification of the goods with technical printed literature must be enclosed with the bid.

23. After due evaluation of the bid(s) Institute will award the contract to the lowest evaluated responsive tenderer

24. Conditional bid will be treated as unresponsive and it may be rejected.

25. The Institute reserves the right to accept in part or in full or reject any or more tender(s) without assigning any reasons or cancel the tendering process and reject all tender(s) at any time prior to award of contract, without incurring any liability, whatsoever to the affected bidder or bidder(s).

26. **Applicable Law:**

- The contract shall be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such Commercial dealings / processing.
- Any disputes are subject to exclusive jurisdiction of Competent Court and Forum in Jodhpur, Rajasthan, India only.
- The Arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the venue of arbitration shall be at Jodhpur. The decision of the Arbitrator shall be final and binding on both the partied.
- Force Majeure: Any delay due to Force Majeure will not be attributable to the supplier.

Annexure-I

Technical Specification

S.No	Item	Specifications	Qty.
1.	**Anaesthesia Work Station**	➢ Compact three gas Anaesthesia workstation with an integrated Ventilator for infants/pediatric to adult patients, Airway Monitor and Anaesthesia Monitor with a single power switch for the Workstation. ➢ The quoted model of Anaesthesia Workstation should confirm CE standards, EN 60601-2-13 (Requirement for safety and essential performance of anesthesia system) and US-FDA approved. ➢ The quoted model of Anaesthesia Workstation should be from sole Manufacturers. ➢ Bidder must submit at least 5 user satisfactory certificates from Central Government Institutes/Hospitals, of the quoted model. **Technical Details:** 1. Anaesthesia machine constructed from welded tubular / epoxy powder painted steel. 2. Stainless steel top and at least 2 lockable drawers and electrical outlet to be provided. 3. Should have large castor wheel with foot brake. 4. The system should have an inbuilt at least 90 minutes battery backup for anaesthesia machine, ventilator, multipara monitor and Gas delivery system. 5. The anesthesia system should have a integrated passive scavenging system with pressure relief valve. 6. In case of electricity and battery failure, manual ventilation, gas and agent delivery should be possible. 7. **Gas Delivery System:** a. Should have pin index yokes for Oxygen & Nitrous Oxide besides separate connection for central gas supply for oxygen, Nitrous Oxide and Air. b. The machine should have separate colour coded pressure gauges for cylinders & central supply lines mounted on front of Anaesthesia machine for better visibility. c. The gas connection should be non-interchangeable. d. Having reservoir based audible and visual oxygen failure alarm of at least 7 seconds. e. Dual cascaded flow meter for oxygen,	4

		nitrous oxide and single for compressed air, accurately calibrated with an accuracy of + 2.5 % and range of at least 10 ltr./min. f. Emergency oxygen flow of at least 35-70 ltr / min with non lockable push button to be provided. g. Having mechanical hypoxic guard with automatic cutoff of N2O. There should be Oxygen flow of at least 200 ml, even below total 500 ml fresh gas flow with 23% oxygen concentration. h. Oxygen flush at 30-70 L/min bypassing the vaporizer 8. **Flow Meter:** a. Dual cascade type flow meter tubes for Oxygen & N_2O, single tube for Air. b. Electronic setting and Digital display of Oxygen, Nitrous, Air. . **Vaporizer** a. Machine should have possibility to mount two quick mount type vaporizer for easy interchangeability. b. The Vaporizer design should be maintenance free and should not require calibration for life time. c. Vaporiser should have delivery range of 0 to 6 volume %. d. Having latest vaporizers for sevoflurane and Isoflurane; all should be temperature, pressure and flow compensated, with key filling arrangement and should be quick and mountable. e. Agent capacity should be minimum 225 ml of free volatile anesthetic agent. f. All sensor connection shall be internal to help prevent disconnection. 10. **Breathing System:** a. Should have fresh gas de-coupled, Fully autoclavable semi closed circle absorber system b. Should have adjustable pressure relief valve from 5 to 75 mbar c. Should have change over from Spontaneous to Bag ventilation with single step. d. The work station should be supplied with at least 2 sets of closed circuit, system for adult and pediatric patients each. e. The work station should be supplied with at least 10 sets of Bains circuit and 10 sets of Jackson Rees circuits with masks for Pediatric patients. f. Should have an external fresh gas outlet for	

		connecting Magill/ Bain's / Pediatric circuits. g. There should not be any collection of condensed water in breathing circuit. h. Should be integrally fitted with at least 1.5 litre capacity reversible canisters, double chamber type of CO_2 absorber system having provision to bypass. i. The firm should regularly supply CO_2 absorber soda lime for closed circuit system. 11. **Anesthesia Ventilator:** a. Electronically controlled Pneumatically/ Electrically driven integrated anesthesia Ventilator, should not require change of bellows for adults and infants with integrated PEEP. b. Ventilator should automatically compensate for fresh gas by adjusting fresh gas flows for changes in fresh gas flow, small system leak changing lung compliance or compression losses. c. Facility to change I:E Ratio should be provided. d. Alarming setting should be available for low and high and tidal volume, minute volume airway pressure and apnea. e. Modes: Volume controlled, Pressure Controlled, Pressure Support /SIMV PS/ Manual/ Spontaneous. f. Tidal Volume : 20-1400 ml g. PEEP : 0-20 mbar h. Breathing Frequency : up to 60 BPM i. I E Ratio : 4:1 to 1:4 j. Inspiratory pause : 0-50% of Ti. k. Frequency 1 to 60 1/min : E=2:1 to 1:3 l. Should have Desflurane compensation. m. Should be able to ventilate with atmospheric air, in case of missing gases 12. ***Airway Monitoring.*** a. Monitor should be with multi-parameter module with minimum 15 inches colour TFT display with 8 channels. b. The monitor should not require any, lengthy start-up procedure or calibration. It should be ready to monitor as soon as on / off switch is pressed. c. Should have 24 hours graphical and numerical trend with split screen facility of all parameters with at least 15 critical alarms summary. d. Should be able to monitor and display all parameters in single screen. e. Integrated monitor for electronic monitoring and	

		display: Expiratory Tidal Volume, Expiratory Minute Volume, PEEP, Peak & Mean and Plateau airway pressure, Frequency, Waveform display for Airway pressure, FiO_2 Monitoring. 13. ***Alarm Limits & Alarms*** Adjustable high/low limits with audio and visual alarms for: Tidal Volume, Minute Volume, Airway Pressure (including stenosis and disconnect), Insp Oxygen concentration, Audio power supply fail alarm, Fail to cycle warning(apnoea). 14. ***Patient Monitor:*** This should be integrated, Screen size: Minimum 10 inch or more, it should be modular for easy up gradation, should be capable of monitoring the following parameters. a. **ECG:** Leads 3 to 5, Provision for 12 lead ECG along with print out facility, Protection from the interference of electrosurgical apparatus, Waveform- ECG or SpO_2 selectable, Arrhythmia Detection, Heart rate detection from ECG/Pulse Auto change. b. **SpO_2**: Range: from 0 to 100% (accuracy: ± 2%), Sensitivity should be good, waveform: ECG or SpO_2 selectable/Auto change, Should be supplied with proper probes **(10 each)** for neonatal, Pediatric and adult patients. c. **NIBP:** Range: neonate/pediatric to adult**,** Modes: Auto/Manual Numeric display: Systolic, Diastolic, Mean**.** Should be supplied with proper size **5 cuffs** each for Neonatal, Pediatric, Adults (Arm and Thigh Cuffs) and Extra Large for obese patients. d. **IBP:** Provision of **two simultaneous** measurement of IBP**.** Display: Waveform and numeric**, 50 universal transducer** sets to be supplied. e. **Temperature:** Dual Temperature Monitoring (Core and Skin) with sensor cable and probes. f. **$ETCO_2$:** Infra Red Side Stream Analyzer for CO_2, Capable of monitoring $ETCO_2$ of intubated patient, Display: Waveform and Digital**.** Range: 0 to 15 Vol% or 0 to 15kPa or 0 to 113 mmHg. g. **Anaesthetic Agent Monitoring:** To include automatic agent analysis for N2O, MAC value of Anaesthetic agents with 200 sampling lines and 50 water traps. h. **Anaesthesia Depth Monitoring:** Bispectral Index (BIS) / Entropy by just adding the Module: 50 sensors for adult patients.	

		i. **Neuro-Muscular Transmission Monitoring (NMT)** with required accessories for 50 patients. j. Upgradable for Cardiac output monitoring. **Alarms:** Asystole**,** Arrhythmia, Leads off**,** SpO_2 probe disconnection, BP Cuff occlusion, Apnea, $ETCO_2$ Alarm. **General Conditions** 1) Should enclose compliance statement. 2) Should have service facility in the same place as the respective institute. 3) Must submit printed catalogue and technical data sheet to substantiate the offer. 4) All imported components like machine monitor and ventilator should be from one manufacturer/ principal. 5) Any misinformation regarding the specification of the equipment offered would mean outright technical rejection. 6) Demonstration of the equipment is mandatory. 7) Universal Pipeline connections for all three gases. 8) One complete set to be quoted with no alternative options. 9) The warranty will be for the main equipment along with accessories from the date of satisfactory installation issued by user. 10) Any misinformation regarding the specification of the equipment offered would mean outright technical rejection. 11) Must submit Printed catalogue and technical data sheet to substantiate offer. 12) Must submit User list and Satisfactory Performance report within last 5 years from major hospital.	
2.	**Modular Multi Parameter ICU Monitor with 2 Invasive Channels**	• Monitor should be modular having mandatory monitoring of **ECG, NIBP, SPO2**, Respiration, Temperature (2 channel), ST Segment, arrhythmia analysis and **Two (2) IBP** monitor (simultaneous display). • It should be supplied with stable, adjustable wall mounting stands. • Should have **Large 15" or more colour TFT** display with **touch screen** and should display at least 8 waveforms with different colour coding. • Facility for **upgradation** with separate modules for **Minimally Invasive** Continuous Cardiac Output,	11

		Bispectral Index (BIS), Neuromuscular transmission (NMT), Spirometry, $EtCO_2$ (sidestream), $ScVO_2$ and EEG by just adding the **Interchangeable Modules**. • Should be suitable for adult, pediatric & neonatal usage. • Should have respiration rate measurement using impedance method • Should use oscillometric technology for NIBP Measurement with selectable manual, automatic (1-480 mins). • Should have 72 hrs of trend facility for all parameter and critical alarm events recall for at least 60 alarms events • Wireless monitoring of the patient, ie patient should be able to move around freely and still monitored for ECG, NIBP and Oxygen saturation (Optional) • Should have graded and colour coded audio-visual alarm for all parameters for all parameters. • Should have facility to enter patient information in the monitor for records and management • Should have nurse call function • Should be easy to operate using a single jog dial. • Should have inbuilt battery back up upto 6 hrs • Should have facility for wireless connectivity with central station monitor (optional) **Should confirm to international safety standards - USFDA and CE for medical equipment.** **ECG:** ➢ Lead I. II. III. ➢ Protection from the interference of electrosurgical apparatus ➢ Five (5) Lead and Three (3) Lead adjustable patient cable ➢ Arrhythmia Detection ➢ Heart rate detection from ECG/Pulse Auto change. **SpO_2:** ➢ Range: from 0 to 100%	

		➢ Accuracy: ± 2% ➢ Waveform: ECG or SpO_2 selectable/Auto change ➢ Should be supplied with proper probes for neonatal, Pediatric and adult patients. **NIBP:** ➢ Range: neonate/pediatric to adult ➢ Modes: Auto/Manual ➢ Numeric display: Systolic, Diastolic, Mean **IBP:** ➢ Provision of two simultaneous measurement of IBP ➢ Display: Waveform and numeric **Temperature** ➢ Dual Temperature Monitoring **$ETCO_2$(Upgradable):** ➢ Infra Red Side Stream Analyzer for CO_2 ➢ Capable of monitoring $ETCO_2$ of intubated patient ➢ Display: Waveform and Digital ➢ Range: 0 to 15 Vol% or 0 to 15kPa or 0 to 113 mmHg. **ALARMS for :** ➢ Asystole ➢ Arrhythmia ➢ Leads off ➢ SpO_2 probe disconnection ➢ BP Cuff occlusion/disconnection ➢ Apnea and $ETCO_2$ **Accessories to be essentially supplied:** Each Monitor should be supplied complete with ECG Lead (5 lead): 2 pc each. Reusable NIBP Cuff(Adult, Paed, Neonate): 5 pc each SPO2 Sensor (Adult & Paed/Neonate): 10 pc each SPO2 Extension Cable: 5 pieces Temperature Probe: 2 pc Transducers for IBP: 50 pc	

		Note:- The necessary accessories to make it functional on Neonates, Pediatric and Adult patients should be quoted as "Standard Accessories." **Terms and Conditions** a. Must enclose compliance statement. b. Should have locally available service facility. c. One complete set to be quoted with no alternative options. d. The warranty will be for the main equipment along with accessories from the date of satisfactory installation issued by user. e. Must submit Printed catalogue and technical data sheet to substantiate offer. f. Any misinformation regarding the specification of the equipment offered would mean outright technical rejection. g. Must submit User list and at least 5 Performance Satisfaction report of similar type of work, within last 5 years from major government hospitals. h. Bidder never been penalized by any Central Govt. investigating agency for any wrong doing in entire India. Wrong and false information in this regard will be the reason for forfeit of EMD and blacklisted of the firm.	
3.	**Ventilator high end (ICU)**	1) Advanced technology ventilator for use in ICU, suitable for ventilating all categories of patients from pediatric to adults. 2) Microprocessor controlled system with individual selection of various ventilation parameters and PEEP. 3) It should be suitable for use during transportation of patient within and outside the hospital. 4) System should have the facility for both Pressure trigging & Flow triggering. 5) It should have following modes of ventilation: a) Volume control b) Pressure control c) Pressure regulated volume control with on demand flow (PRVC). d) Pressure support with back up ventilation. e) CPAP. f) SIMV (Volume Control) + Pressure support. g) SIMV (Pressure control) + Pressure support. h) Should have facility for BiPAP with non-invasive ventilation with same breathing circuit. 6) The system should have the following parameters: a) Tidal volume 5 ml to 2000 ml. b) CMV frequency 5 to 100 breaths per minute. c) SIMV frequency 1 to 40 breaths per minute. d) Inspiratory time 10% to 80% of breath cycle time.	6

		e) Pause time 5 to 30% of breath cycle time. f) Pressure level 0-100 cm H_2O. g) PEEP 0-40 cm H_2O. h) Trigger Flow trigger. i) Inspiratory rise time 0-20% of breath cycle j) I:E ratio 1:10-4:1 7) Should have the following audio-visual alarms: a) Airway pressure b) High continuous pressure c) FiO2 d) Expired minute volume e) Apnea f) End expiratory pressure g) Respiratory rate h) Gas Failure i) Battery 8) It should have separate user interface & ventilation unit for flexible positioning around the patient. 9) It should have External Compressor (US-FDA) from same manufacturer. 10) It should have built in battery back up for 60 min or more. 11) Unit should be supplied with suitable heated humidifier (F &P) & two ultrasonic nebulizer (less than 3 microns particles) for effective uninterrupted nebulization during mechanical ventilation. 12) Oxygen sensor should be covered in CMC and warranty. 13) 10 inches or more of colour touch screen TFT user interface screen. a) It should be possible to display at least 3 types of loops for each breath: Volume- pressure Flow- volume. Flow- Pressure. b) Screen should display following waveforms: Flow time. Pressure time. Volume time. c) Access through touch screen & main rotary dial. d) Direct access to vital settings: PEEP, O2 concentration, respiratory rate & volume (or Pressure). e) Can be rotated and tilted for maximum flexibility. f) 24 hour trend display for upto 24 parameters. g) Scroll/ Zoom functions. 14) One set of autoclavable breathing circuits, one each for adult and pediatric patients should be supplied with the	

		system. 15) It should have the gas flow from 0 to 3 litres per second. 16) It should have 2 autoclavable interchangeable expiratory cassette or valve for complete disinfection capability. 17) It should have facility for ventilation data transfer and network connection. Should be HL7 compatible. 18) It should be user friendly and have sturdy design. 19) It should be supplied with trolley made of non corrosive material and with air and O2 hose. 20) It should be US-FDA & CE (Conformité Européenne) certified.	
4.	**Syringe Infusion Pumps**	1) The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system. 2) Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/-2% or better, with automatic syringe size recognition. 3) Manufacturer should be ISO and CE certified for quality standards. 4) Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF. 5) Bolus rate should be programmable to 40 to 1000 ml/hr or more with infused volume display and one key press bolus. Reminder audio after every 0.5 ml delivered bolus. 6) Display of Drug directory of more than 50 drugs, customised and adjustable. 7) Key board locking system for patient safety. 8) 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. 9) Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg. 10) 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. 11) Manual pusher with plunger protection guard. 12) Anti bolus system to reduce pressure on sudden release of occlusion. 13) Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery pre-alarm and alarm, AC power failure, Drive	82

		disengaged and preventive maintenance. 14) Rechargeable Battery having at least 8 hours backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred. 15) Mounting device/ Docking Station for 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. 16) The unit shall be capable of stored and operating continuously in ambient temperature of 10 - 50deg C and relative humidity of 15-90% 17) Power input to be 220-240VAC, 50Hz. 18) Comprehensive warranty for 5 years and provision of CMC for next 5 years. 19) 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. 20) User Manual and service manual in English. 21) 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. 22) Performance report in the last 3 years from major hospitals should be enclosed. 23) User list to be provided with performance certificate. 24) List of important spare parts and accessories with their part number and costing.	
5.	**Blood Gas Analyzer (ABG Machine)**	1. Fully automatic, upgradeable, fast electrolyte & Blood gas analyzer. 2. Essential Measured parameters; pH, pCO2, pO2, SaO2 with co-oximetry, tHb, Lactates, Na+, K+, Ca++, Cl-, Blood urea, Bilirubin & Blood sugar. All these parameters should be measured simultaneously 3. Calculated parameters should include BE, BE ecf, HCO3, Anion Gap etc. 4. Sample volume-less than 100 micro litre. 5. Fast analysis time – less than 60 sec. 6. Maintenance free electrodes with individual electrodes ON/OFF facility. 7. Fully automatic liquid calibration of all parameters at user-defined intervals without the use of Gas calibrated reagents, external gases, tanks or regulators. 8. Continuous reagent level monitoring with graphic	1

<table>
<tr>
<td></td>
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<td>display.
9. Data display on well-illuminated, adequate size LCD color touch screen display.
10. Data print out on built in graphic printer.
11. Built in auto Quality control facility.
12. Suitable UPS with 30 min backup.
13. Reagents for one year@ at least 20 samples/day should be provided along with the machine.
14. Cost of reagents to be quoted for comparative evaluation.
15. Stand by blood gas cum electrolyte analyzer in case of breakdown.
16. Should have local service facility
17. It must be UF-FDA and CE (Conformité Européenne) approved.
18. Must submit User list and Performance report
19. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet
20. Demonstration is required.
21. Guarantee for five years.
22. Comprehensive maintenance contract for next 5yrs.</td>
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<td>6.</td>
<td>BiPAP Machine</td>
<td>1 It should be suitable for Adult and Paediatric patients over 13 Kg of body weight.
2 It should use a high performance turbine flow generator for better pneumatic performance.
3 It should have an LCD monitor.
4 It should have monitoring facility for Tidal Volume, RR, Minute ventilation, I:E ratio, Leakage.
5 Should have Assured Tidal volume delivery using pressure-support.
6 Technical Specifications:

<table>
<tr><td>a</td><td>Operating pressure range.</td><td>4 to 30 cm H2O</td></tr>
<tr><td>b</td><td>Pressure measurement tolerance</td><td>+0.5cm H20 + 4% of the measured</td></tr>
<tr><td>c</td><td>MODES: - S, ST, T ,PC, Volume Assured Pressure Support (to ensure Alveolar</td><td>IPAP - 4 to atleast 30 cm H20 (measured at the</td></tr>
<tr><td>d</td><td>CPAP mode</td><td>4 to 20cm H20</td></tr>
<tr><td>e</td><td>Sensitivity settings(automatic/manual)</td><td>Should have different trigger &</td></tr>
<tr><td>f</td><td>Backup Respiratory rate</td><td>5 to 30 BPM</td></tr>
<tr><td>g</td><td>Ti Control Ti Max</td><td>0.3 – 3 seconds.</td></tr>
<tr><td>h</td><td>Weight</td><td>< 1.5 Kg (Weight can be relaxed for</td></tr>
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</td>
<td>3</td>
</tr>
</table>

		<table><tr><td>i</td><td>Peak flow capacity</td><td>>150 LPM at 20 cm H2O.</td></tr><tr><td>j</td><td>Alarms</td><td>Range of Alarms</td></tr><tr><td>k</td><td>RAMP Feature</td><td>0-45 minutes</td></tr></table> 7 Should be provided with a easy to carry travel bag. 8 Accessories: Power cord, silicon Reusable (Autoclavable) 2 small size Full face masks, 2 medium size Full face masks, 1 large size Full face mask and 2 medium size nasal masks. 9 Should be USFDA approved. 10 It should be supplied with integrated Heated Humidifier. 11 Upgradeable to SpO2 Module & Data Module. 12 Should have a provision to download data via cable or SD card. 13 Automatic leak detection and compensation for atleast 30 Litres. 15.Supplied with a set of patient tubings, mains leads and carry bag. The filter should be washable and reusable. The tubes should be preferably heating tubes. 16. Operating voltage 220-240 v, 50 HZ. 17. Two-years comprehensive warranty. 18.Comprehensive AMC for 3 years after completion of warranty for spare parts /accessories used during maintenance 19.In case of malfunction/breakdown, the company should provide temporary back-up support within 48 hrs of registering the complaint till the time machine is repaired and returned. 20. The company should give the certificate that the model quoted is the latest and not obsolete; and spares will be easily available for next 5-7 years.	
7.	**ECG Machine 12 leads**	1) ECG Machine should have 8 inch Colour LCD Display. 2) The ECG Machine should be able to acquire all 12 Leads simultaneously and interpret them 3) Should acquire simultaneous 12 lead ECG for both adult and pediatric patients 4) Should have Real time Colour display of ECG waveforms with signal quality indication for each lead.	1

		5) ECG machine should be installed on mobile trolley for transport. 6) Should have Artifact, AC, and low and high pass frequency filters. 7) Should have a storage memory of at least 100 ECGs with easy transfer by optional modem and data card. 8) Should have full screen preview of ECG report for quality assessment checks prior to print. 9) Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and pediatric patients. 10) Should have alphanumeric Keyboard for patient data Entry. (virtual or hard keys) 11) Should have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer using thermal sensitive paper. 12) Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead. 13) Should have battery capacity of at least 30 ECGs or 2 hours of battery backup. 14) Should be upgradable to be connected to HIS /LAN/Wireless LAN. 15) Should display ECG on LCD/TFT Display of 640x480 pixel resolution. 16) USB Support (optional) for Storage on external portable memories. 17) Multimode of ECG Storage capability on Floppy(min 2), 250 ECG on Internal Flash Memory 18) System Configuration Accessories, spares and consumables 19) ECG Machine 12 Leads with Interpretetion - 01 20) 10 Lead Patient Cable with Banana Plugs -02 21) Chest Electrodes Adult-(set of six) -02 sets. 22) Chest Electrodes Paediatric-(set of six) -02 sets. 23) Limb Electrodes(set of 4) - 02 sets 24) Thermal Paper A4 Size for 500 patients. **Environmental factors** 1) The unit shall be capable of operating continuously in ambient temperature of 10 -400 C and relative humidity of 15-90% 2) The unit shall be capable of being stored continuously in ambient temperature of 0 -500 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. 4) Standards and safety 5) Should be US-FDA and CE (Conformité Européenne)	

		approved product. 6) Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms (OR EQUIVALENT BIS Standard) **Documentation:** 1) User manual & Service Manual in English 2) List of important spare parts and accessories with their part number and costing. 3) Certificate of calibration and inspection from factory. 4) Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. 5) 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 manufacturer documentation in service/technical manual.	
8.	**Intermittent Pneumatic Compression Device**	1) It should be of portable size with handle. 2) It should be US FDA & CE (Conformité Européenne) approved. 3) It should weigh between 3 to 5 kgs. 4) It should have power input of 230 volts, 20-25 watts with power cord of length min. 3 meters. 5) Battery backup should last for minimum 3-4 hour after fully charged. 6) The pressure adjustable range of 40-65 mm Hg. 7) LCD/LED with separate pressure display of both legs numeric & indicating the Inflated Leg. It should have timer sittings from 1to24 hour. 8) Safety Standards - Audio and visual Alarms For Leak , For Maximum Pressure: Automatic shutdown if pressure exceeds the maximum limit. 9) Disposable Garments: For Ankle to thigh level, for Ankle to below knee & for foot. 10) Garments should have inner cotton lining. 11) Sizes Available Disposable Garments - [a] Small [b] Medium [c] Large [d] XL [e] XXL	3
9.	**Patient Warning System**	1. Should be suitable for intra-operative applications. 2. Should consist of active warming arm-cum-shoulder section, pair of leg segments and abdominal segment to cover the entire body. 3. Should be based on semiconductor polymer foil for precise warming of entire patient body during & after surgery. 4. Size Abdominal Segment: (40-45) cm x (85-90) cm Arm & Shoulder Section: (170-175) cm x (28-32) cm Leg Segment: (40-45) cm X (85-90) cm	2

		5. Control unit should be capable of warming minimum four segments at a time. 6. Control unit should have Color LCD touch screen for easy operation. 7. Control unit should have touch screen display to select & display temperature of all four segments at a time. 8. Control unit should automatically detect the number of segments which are connected to the unit and display the same on the screen. 9. Should offer precise digital temperature control with selectable temperature range of 36 to 42º C in steps of 0.1ºC 10. Arm cum shoulder segment should be divided in two sections capable of being switched ON or OFF independently depending upon the nature of surgery and condition of patient. 11. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen. 12. Should also have on screen graphical display of patient body temperature for the entire duration of surgery. 13. Should have facility to independently adjust the temperature of individual segment. 14. Should have a provision to connect whole body blanket & pediatric size blanket to the same control unit for future requirement. 15. Should have safety features such as Automatic check, Precise temperature control between warming system and patient, Autostop on detecting any problem 16. Should have non latex anti-bacterially coated, blood and fluid Resistant covers 17. Covers should be washable and replaceable 18. The control unit should be light weight not more than 3.6 kg, small in size (23 x11x16.5 cm approx.) and easily attachable to IV rod/OT table with fixing claw. 19. Should have low energy consumption and noiseless operation	
10.	**Crash Cart**	1. Size -940x490x1535 mm approx. 2. Trolley with 25 mm diameter SS tubular frame 3. Drawers maximum number possible of adequate size 4. Flat surfaces should be stainless steel. 5. Two/three rows of hand out bins of different size & color to hold different sizes of ampoules/vials of emergency medicine. 6. Light weight plastic box with drawers of different sizes and colors to hold emergency medicines, ambu bag , IV solution , catheters etc separately. 7. Facility to carry monitor & suction apparatus. 8. Stainless steel saline rod-one. 9. Castor wheels of 12.5 cm diameter with two having locking arrangement.	4

		10. Pull out cardiac massage board above drawers. 11. Oxygen cylinder stand on one side. 12. All parts should be epoxy polyster coated with 50 microne thichness approx. ebonite rubber , PVC and castor wheel etc. 13. Whole crash cart should be washable.	
11.	**Multi Parameter Monitors for Ward**	**General:** • The equipment should come with all standard accessories required to run all parameters, suitable for all patient categories, ie. infants, children and adolescents. • Should be US FDA and European CE certified. • Waveform display: at least 5 channels, user selectable. • Digital display with parameters monitored: ECG, Heart rate (HR), respiratory rate (RR), Oxygen saturation (SpO_2), Non Invasive Blood Pressure (NIBP). • Should have wall mountable stand and it should be pivot able. • Medical grade, TFT Flat screen, slim size, at least 10 inch display. • Screen resolution at least 1280x1024 pixels • Clear bright color display with large character size • Adjustable contrast and brightness • Ability to zoom any parameters • Ability to adjust individual alarms • Ability to change color of the trace by user **1. Heart rate / ECG:** • At least 3-lead selectable ECG • Built in arrhythmia monitoring in all leads • Inbuilt ST segment analysis and arrhythmia detection facility • Heart rate range 20-250 bpm • Display sweep speeds 12.5, 25 mm/sec (user adjustable) • Averaging time: user selectable up to 8 seconds • ECG amplitude user adjustable • Defibrillator protected **2. Respiratory rate** • Measured by transthoracic impedance using the same ECG lead • Range 6 to 150 breaths/min • Accuracy $\pm$ 2 bpm • Display sweep speeds 6.25, 12.5 & 25 mm/sec (user adjustable) • Averaging time: user selectable up to 8 seconds • User selectable apnea alarm time	25

		3. Oxygen Saturation • Range 1 to100% • SpO_2 accuracy : ± 2 % (40-100% range) • Averaging time: user selectable up to 8 seconds • Plethysmographic waveform display **4. Noninvasive Blood pressure** : • Capable of measuring blood pressure in infants, children and adolescents. • Microprocessor software with unit in mmHg • Oscillometric technique • Manual, auto and time limited stat modes • User selectable automatic time intervals • Display systolic, diastolic and mean BP • Cuff : auto deflate with over pressure protection • Should automatically establish zero reference after each reading **5. Alarms:** Audio & visual alarms with message. • High and low heart rate • High and low respiratory rate • Apnea with adjustable time 5-20 seconds • High and low saturation • High and low Systolic, Diastolic & Mean BP. • Probe failure • Poor signal • Power failure **6. Trends** • Memory storage : at least 24 hours • Data display interval : not more than 20 sec • Display range : last ½ hour to 24 hours • Graphical and tabular format of display of variables. **7. Power:** 220/240 V; 50/60 Hz AC; Rechargeable internal battery with a back up of at least 1 hr. **8. Essential Accessories for each monitor:** The following quantities are to be supplied with each monitor: • ECG patient cable: 2. • Oxygen saturation: Patient extension cables: 2 • Oxygen saturation probes for infants, pediatric and adult patients: 5 each. • NIBP: Patient extension cable: 2 • Reusable NIBP cuffs of infant, pediatric and adult size: 2 each with each monitor. **9.** Cost of consumables/accessories should be frozen for the period of warranty and CMC. **10.** It 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 **11.** User/Technical/Maintenance manuals to be supplied in English. **12.** Certificate of calibration and inspection. **13.** List of important spare parts and accessories with their part number and costing.	

Annexure-II

TECHNICAL BID

Name of Firm/Contractor/Supplier	
Complete Address & Telephone No.	
Name of Proprietor/Partner/Managing Director/Director.	
Phone & Mobile No.	
Name and address of service centre nearby Jodhpur.	
Whether the firm is a registered firm Yes/No (attached copy of certificate)	
PAN No. (enclose the attested copy of PAN Card)	
Service Tax No. (enclose the attested copy of Service Tax Certificate)	
VAT No. (enclose the attested copy of VAT Certificate)	
Whether the firm has enclosed the Bank Draft/Pay Order/Banker's cheque of Earnest Money Deposit.	
Whether the Firm/Agency has signed each and every page of Tender/NIT	
Please provide full list of consumables.	
Any other information, if necessary	

Authorized signatory of the bidder with seal.

Annexure-III

Format for Financial Bid

(To be submitted on the letterhead of the company / firm separately for each item)

A.

S.No	Name of Item	Quantity	Rate	Vat/Taxes	Amount
1.					

B.

CMC Charges as applicable (excluding service Tax)	
Ist Year	
IInd Year	
IIIrd Year	
IVth Year	
Vth Year	

1. I/We have gone through the terms & conditions as stipulated in the tender enquiry document and confirm to accept and abide the same.
2. No other charges would be payable by the Institute.

Authorized signatory of the bidder with seal.