HLL MOTHER AND CHILD CARE HOSPITALS LIMITED (HLLMCCH)
9/316, VIKAS NAGAR,
LUCKNOW, UTTAR PRADESH -226022

Request for Proposals (RFP)

Scope of work: Supply, Installation & Commissioning of Hospital Equipment for Twenty Mother & Child Care Hospitals in Twenty different districts of Uttar Pradesh.

HLL Mother & Child Care Hospital Ltd., hereinafter referred as (HLL MCCH Ltd) has entered into an agreement with Government of Uttar Pradesh for Operationalization of 100 beds Mother and Child Hospital at twenty (20) different districts of Uttar Pradesh under PPP model i.e. equip, finance, operate, maintain & transfer (EFOMT) basis.

HLL MCCH Ltd., invites sealed tenders in two bid systems (Technical Bid & Price Bid in two separate sealed envelopes) from Original Equipment Manufacturers/their authorized agents for supply, installation & commissioning of Hospital Equipment for twenty hospitals as per terms & conditions, specifications mentioned in this document.

Tender Schedule

- All the bid needs to be submitted by **3:00 PM on Date: 31st January'2018** at the following address:

  Team Leader- Administration & Commercial
  HLL Mother & Child Care Hospitals Ltd.,
  B-14A, 2nd Floor, Sector-62
  Gautam Budh Nagar,
  Noida-201307 (UP)

- **Pre-Bid Meeting** for any clarification or information would be held on **22nd January'2018** at above mentioned address.

- Technical Bids would be opened on **31ST January'2018 at 4:00PM** at the same address.

Preparation of Tender

- The bidder needs to submit 'Technical Bid' & 'Financial Bid' separately in sealed envelopes by super scribing as **"**Proposal for Supply of Hospital Equipment to Twenty (20) Mother & Child Hospitals in twenty (20) different districts of Uttar Pradesh."

The "Techno – Commercial Tender" and "Price Tender" prepared by the bidder shall comprise of the following:

A) Techno – Commercial Tender (Un priced Tender)

- Earnest money of Rs.10,00,000.00 (Rupees Ten Lakhs) in form on Demand Draft in favor of HLL Mother & Child Care Hospitals Ltd., payable at Noida.
- Bidder who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorization
- Power of Attorney/Authorization in favor of signatory of Tender documents.

- Documents and relevant details to establish that the goods and the allied services to be supplied by the bidder conform to the requirement of the tender.
- Confirmation that the supplied material shall be at par to the specification with respect to each item mentioned in Annexure `A' of tender document.
- Proof of certificate for turnover is required to be submitted with the technical bid (CA certificate or a copy of the Audited Balance Sheet, Profit &Loss account of immediately last preceding three years).
- Performance Statement along with relevant copies of purchase orders and end users' satisfaction certificate.
- Documentary evidence on Total Net worth of Manufacturer/Authorized Agent
- Price Schedule(s) with all the details including Qty., Make, Model, Country of origin, etc. of the goods offered with prices blank (without indicating any prices).
- Certificate of Incorporation of the bidder.
- Affidavit that the firm is not banned by any Govt. body.
- List of Plant & Machinery & Testing Facilities
- Statement of deviations parameter wise from tendered technical specifications, if any.
- The Bidder should sign & stamped all page of tender document & other documents provided by them.

B) <u>Price Tender:</u>

- The Bidder shall indicate on the Price Schedule all the specified components of prices shown therein including the unit prices and total tender prices of the goods and services it proposes to supply against the requirement. The quoted prices for goods offered from within India and that for goods offered from abroad are to be indicated separately in the applicable Price Schedules.
- The rates quoted by the Bidder should be inclusive of all Taxes/Levies/Packaging & Forwarding, Freight [FOR at Districts mentioned in Annexure-II], installation, Commissioning & Trial Run etc.
- The price quoted by the Bidder shall not be higher than the lowest price charged for the goods of the same nature, class or description to an individual/firm/organization or department of Govt. of India during the same period.

- The bidder shall bear all costs associated with the preparation and submission of bid.

Terms and conditions

1. The Bidder can be an individual/HUF/Association of Persons (AOP)/Society/Trust/LLP/Partnership firm/company incorporated under the laws of India. The required documents related to constitution/incorporation of entity like partnership deed/trusted/society by laws/memorandum and articles of association along with registration certificate of the entity should been closed.
2. No bidder shall be entitled to submit more than one bid whether jointly or separately. If one does so, all bids where in the bidder has participated shall stand disqualified.
3. The bidder should have an average annual relevant turnover of Rs. One Crore in the last three financial years to be able to qualify for bidding. Copies of latest ITCC, Annual Financial Report (Balance Sheet & Profit & Loss Account) for last three years to be enclosed.
4. The bidder must have PAN (Permanent Account Number) & GSTIN.
5. The bidder should provide detail profile of their work experience along with Xerox copies of Supply Orders /Purchase orders against which they successfully supplied these items to Govt. Hospitals/Private Hospital/Medical Institute etc.
6. The bidder would be required to submit Rs.10,00,000/- (Rupees Ten Lakhs) as Interest free Earnest Money Deposit (EMD) in the form of Demand Draft in favor of 'HLL Mother & Child Care Hospitals Ltd.' payable at Noida in the envelope containing Technical Bid**.** If the selected bidder fails to supply the equipment as per delivery schedule, then HLL MCCH Ltd., reserves the right to forfeit the EMD. The EMD of the unsuccessful bidders would be returned in 45 days without any interest on EMD.
7. HLL MCCH Ltd., reserves rights to forfeit the EMD amount if at any stage any information/documents provided by the bidder are found forged/manipulated/modified.
8. The bidder shall also submit following information:-

- Details of Service Network in prescribed districts/UP
- After Sales Service Support
- Availability of Spare Parts
- Training on Equipment
- Turn Around Time for Critical, Non Critical items
- Average Lead time for Preventing Maintenance/other Maintenance Request

9. HLL MCCH Ltd. reserves the right to accept /reject/select one or more than one bidder and to annul the bidding process any or all bids at any time prior to award of contract without thereby incurring any liability to the affected bidders.

10. The Bidder should have supplied and installed in last 03 years from the date of Tender Opening, at least 75% of the quoted quantity of the similar equipment meeting major specification parameters which is functioning satisfactorily in India supported with documentary evidence.

11. HLL MCCH Ltd., reserves the right to assess the bidder capability and capacity to perform the contract satisfactorily before deciding on award of Contract.

12. HLL MCCH Ltd., reserves right to accept or reject any offer wholly or partly without assigning any reason thereof. HLL MCCH Ltd., does not pledge itself to accept the lowest or any other offer and reserves to itself the right of acceptance of the whole or any part of the offer.

13. HLL MCCH Ltd., reserves the right to ask for a free demonstration of the quoted equipment at a pre-determined place for technical acceptability as per the tender specifications, before the opening of the financial bid.

14. Bidder qualifying the technical parameters would only be considered for opening of financial bids.

15. The basic rate quoted by the bidder should be valid for a period of one year from the date of award of purchase order as per details mentioned in Financial Bid document.

16. Bidders are expected to quote for all items or part thereof but not less than 20% of tendered items. Offers for items less than 20% of tendered items will be considered unresponsive and liable to be rejected.

17. The successful bidder shall not assign or transfer the contract to any other person or party. The tender is not transferable.

18. **Accessories & Consumables:** The price lists of all accessories and consumables, if any, must be attached/enclosed along with the Financial Bid.

19. **After Sales Service:** After Sales service should be available on 365(days) 24x7basis. Bidder is required to submit the Turnaround Time (TAT) with regard to Critical & Non critical items. For Critical items, turnaround time (TAT) should be 24 hours; complaints should be attended properly, maximum in 24 hours' time to ensure timely repair, rectification wherever applicable. HLL MCCH reserve right to impose penalty in case bidder fails to provide after sales service as per above referred timelines.

20. **Performance Security:** Within twenty-one (21) days from the date of the issue of notification of award by HLL MCCH Ltd., the successful bidder shall furnish performance security for an amount equal to ten percent (10%) of the total value of the bid quote in form of Account Payee Demand Draft or Bank Guarantee drawn/issued from any Scheduled Bank in India with validity up to one year after the date of completion of all contractual obligations by the supplier, including the warranty obligations. HLL MCCH Ltd., will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations. Bidder can furnish performance security after reducing the EMD submitted at the time of bidding.

21. In case of breach of any terms and conditions as mentioned above, HLL MCCH Ltd., will have the right to cancel the Purchase order without assigning any reason thereof and nothing will be payable by HLL MCCH Ltd., in that event the security deposit shall also stand forfeited.

22. HLL MCCH Ltd. reserves the right to award the purchase order to the L2 in the event L1 backs out after final discussions. In such case HLL MCCH Ltd., reserves the right to forfeit the EMD of the L1bidder. HLL MCCH Ltd., reserves the right to take any other suitable decision if required in order to complete the task as per project timeline.

23. The Original Equipment manufacturer or Authorized Agent needs to sign and stamp all pages of the technical bid along with the terms and conditions of tender.

24. Terms of Payment

On successful installation & commissioning of equipment, inspection by State Level Committee will be there to inspect & certify that the commissioned equipment are as per specification given in tender. The payment to the supplier shall be released after 30 days of submission of report by the State Level Committee. However, in no case it would be delayed by 60 days from the date of successful commissioning of equipment at particular facility on submission of following documents:-

- Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- Delivery Challan duly signed & stamped by the authorized representative of HLL MCCH Ltd;
- Bill/Invoice mentioning Permanent Account Number &GSTIN
- Documentary proof for supply, installation & commissioning of equipment.
- Crossed/cancelled cheque of Bank Account for making payment through NEFT/RTGS.

25. Placement of Orders

HLL MCCH Ltd. Management reserves the rights:

- To place order to more than one Original Equipment manufacturer or Authorized Agent as per requirement.

- To place order for supply of Hospital Equipment in phase manner for 20 Mother & Child Care Hospitals (or less in numbers). However, the tentative order placement schedule shall be as under:-

For Four Facilities	-	March'2018 (Tentative)
For Six Facilities	-	June'2018 (Tentative)
For Ten Facilities	-	September'2018 (Tentative)

26. Quality & Specifications

Supplies by successful Bidder against Purchase Order shall be of the specified quality & specifications as incorporated at Annexure-I. The successful Bidder shall be fully responsible for the quality of the equipment supplied. HLL MCCH Ltd shall be at liberty to claim compensation for any sub-standard/non-conforming supplies from the successful bidder and the bidder shall be liable to pay the same in addition to any other loss incurred. HLL MCCH Ltd., would also have the right to terminate the contract and/or forfeit the Earnest Money/Security Deposit without any further notice to the vendor and also to purchase the balance quantity at the entire risk and cost of the vendor.

HLL MCCH Ltd will not be responsible for any damage/deterioration of quality of the equipment in transit.

The State Level designated Committee shall conduct tests on equipment to determine the supply of equipment as per specification & standards and if it is reasonably anticipated or determined by the committee that the performance of equipment does not meets the specifications & standards, the supplier will be liable to remedy and rectify the defects or deficiencies or replace the equipment, if required, at his cost. HLL MCCH Ltd reserves the right to forfeit the Earnest Money/Security Deposit and also to purchase the said item at the entire risk and cost of the supplier, in case supplier denies remedying & rectifying the defects, deficiencies or replacement of equipment.

27. Liquidated Damage/Termination

- HLL MCCH Ltd., reserves rights to deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delay or performance subject to a maximum of 5% of the contract prices. Once the maximum is reached, HLL MCCH Ltd may consider termination on the contract in case the supplier fails to deliver any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract/Purchase Order.

- In the event of termination of the contract in whole or in part, HLL MCCH Ltd., may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the

supplier shall be liable to the HLL MCCH Ltd., for the extra expenditure, if any, incurred for arranging such procurement.

28. **Force Majeure Clause**

Delivery date will be extended without the vendor being subjected to penalty on account of liquidated damages only in the event of Force Majeure conditions within the contractual delivery period. Only the following will be considered as the causes of force majeure:

Act of GOD {Earthquake, Flood, Storm etc.), acts of States Direct & Indirect consequences of war (declared & undeclared), Hostilities, National Emergency, Civil Commotions & Strike (only those exceeding duration of 10 continuous days) or any other reason beyond the control of the vendor and accepted by HLL MCCH Ltd., The vendor shall immediately inform HLL MCCH Ltd., in writing supported by the documentary proof at the beginning and end of such impediments. It is to be understood that delivery schedule will be extended only for the duration of the above-mentioned impediments.

29. The Original Equipment manufacturers or Authorized Agents must provide for comprehensive warranty including all spares, accessories, etc) from the date of supply/commissioning/installation of equipment at site. The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. Failure to comply this condition will entail the rejection of the bid. The price comparison shall be taken into account on basic price and post completion warranty.

30. <u>Annual Comprehensive Maintenance Contract (CMC):</u>

a. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment.

b. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening.

c. The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee for 2.5 % of the cost of the equipment valid till 2 months after expiry of entire CMC period.

d. During CMC period, the supplier is required to visit sites at least once in 3 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.

e. All software updates should be provided free of cost during CMC.

f. There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.

g. Failure of the above (e) to (g)] by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.

HLL MCCH Ltd., has reserve rights to enter/not to enter into Annual Comprehensive Maintenance Contract.

31. **Penalty for use of undue influence:** The Bidder should undertake that he will not give/offer/or promise to give directly or indirectly, any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the HLL MCCH Ltd or otherwise in procuring the contract. Any breach of the aforesaid undertaking by the Bidder or any one employed by him shall entitle the Buyer to cancel the contract/reject the offer and recover from the Bidder the amount of any loss arising from such cancellation. Offering of any gift, bribe or inducement or any attempt at any such act on behalf of the bidder towards any officer/employee of the Buyer or to any other person in a position to influence any officer/employee of the Buyer for showing any favor in relation to this tender, shall render the Bidder to such liability/penalty as the Buyer may deem proper, including but not limited to termination of contract, imposition of penal damages, forfeiture of EMD.

32. Arbitration :

- All disputes or differences arising out of or in connection with the contract should be settled by bilateral discussions.

- Any dispute, disagreement of question arising out of or relating to this contract/relating to performance which cannot be settled amicably, to be referred by concern party to Chief Executive Officer, HLL Mother & Child Care Hospitals Ltd for appointment of Sole Arbitrator. The Arbitrator so appointed shall be a Government servant who had not dealt with matters to which this agreement relates and in course of his duties had not expressed views on all or any of the matter in disputes or differences. The Award of the Sole Arbitrator shall be final and binding on the parties.
- The venue of the arbitration shall be at Lucknow, Uttar Pradesh.

33. All the documents submitted should be self-certified & stamped by the Bidder.

34. The Bidder should also submit an undertaking duly signed & Stamped as per Annexure-III.

We agree and abide by all terms and conditions as mentioned above including the validity of the offer.

Utmost confidentiality of the data provided shall be maintained.

HLL Mother & Child Care Hospitals Limited
9/316, Vikas Nagar,
Lucknow, Uttar Pradesh-226022

Annexure-I: Technical Bid Format

	SPECIFICATION(TECHNICAL)	ORIGINAL EQUIPMENT MANUFACTURER OR AUTHORIZED AGENT'S REPONSE (Agree or Disagree)
1.	Name of the firm/Society/ Company/Proprietary Concern	
2.	Address of registered office(along with telephone number, if any)	
3.	Address of the office at Delhi/NCR (if any) (along with telephone number, if any)	
4.	Earnest Money Deposits (EMD) submitted	Yes Or No
5.	PAN No.	
6.	GSTIN No.	
7.	Original Equipment manufacturers or Authorized Agents agree to provide services allied and incidental to the equipment supplied.	Yes Or NO
8.	HLLMCCH's authorized representatives may undertake activities such as measuring, examining, testing, gauzing one or more characteristics of the equipment supplied.	

ANNEXURE I

S.No.	Item		Specifications
1.	Syringe & needle cutter		Technical Specification of Needle Destroyer • It should be manual/battery operated. • Should be safe to operate, without having any sharp edge. • The destroyed part of the needle should not be exposed outside. • Should be made of high grade material for durability and long working hours • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
2.	Hydraulic OT table**		SPECIFICATIONS OF HYDROLIC OPERATION TABLE With Hi-Low Electric (Obstetric Type) • Five Section table top allow ease and comfort for surgical positions. • Interchangeable Head and Leg Section. • Base and Column covered with 304G die pressed stainless Steel top to ensure high durability hygiene for the operation room. • Head Section , Leg Section , Main Frame and Middle section should be made of 14G SS 40mm x 40mm Pipe. • Hydraulic Movement : Hi-Low Positions Mechanical Movement : o Kidney Section o Head Section o Leg Section o Lateral tilt o Flex / reflex o Trendelenburg / Reverse Trendelenburg • Standard Accessories : o Five Sections Mattress : 1 set o Anesthetist Screen : 1 pcs o Padded Shoulder Support : 2 pcs o Padded Lateral Support : 2 pcs o Padded Lithotomy Crutches : 2 pcs o Padded Arm Rest : 2 pcs o Technical Specification : o Overall Length of table : 1950mm +_5% o Width of the table : 500mm +-5% o Height : 780 - 1030mm +-5% o TB / RTB : 30 degree o Flex / reflex : 80° / 220 ° o Side tilt : 20 degree

S.No.	Item		Specifications
			o Kidney section : 125 mm manually o Leg Section ; 90 degree down o Head Section : 90 down and 90 degree UP. o Hi - low Lift : Electric Operated o European CE certification or USFDA certification or BIS certification o Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
3.	Delivery table with footstep**		<u>Specifications of Labour Table</u> • Obstetric labour table with three section table top, leg-end section can slide completely under the main section. • To obtain the labour position, pull out leg section manually and raise to level of body section. • To obtain delivery position, A small hand lever is used to release leg section • Permitting it to drop into position to telescope into body section. • Facility for Trendelenburg position, backrest adjustable on lithotomy rods with straps. • A heavy SS sink is provided for drainage purpose. • European CE certification or USFDA certification or BIS / ISI certification Footstep • Overall appox size 505mmLx305mmW • First Step height 230 mm & second step size 450 mm • Step made of CRCA sheet fitted with aluminium tread flats by pop rivets • Finish should be pre-treated epoxy powder coating • Frame made of 1”x18G tubes fitted with PVC stumps. • Quality Certificate of manufacturer like OHSAS-18001, ISO 9001- 14001,9001-2008, 9001-13485 and CE certificate/US FDA/BIS should be attached to ensure quality otherwise the bid will not be considered
4.	Suction apparatus high vacuum**		<u>Specifications of Suction Machine with 02 Jars Electrical.</u> • Should provide 0-730 mm Hg ± 10 @ 60LPM, reusable, flutter free vacuum control knob, 60ltrs/min, tight fitting jar cap. • Should be fitted with wide mouthed 2 x 2 Ltrs. (Polycarbonate) with self sealing bungs and mechanical over flow safety device. • Dimensions to be Max : 43 x 30 x 68 cms

S.No.	Item		Specifications
			• Noise should not be more than 50 dB A ± 3 • Should maintain up to 36.5 deg temp and the heat disbursed through a exhaust fan. • Voltage corrector /stabilizer to allow operation at ± 30% of local rated voltage. Use of SMPS to correct voltage • Power consumption 200W, 230V, 50Hz, 2 ± 0.5 Amps, 200 watts • Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines. • Autoclavable collection bottles, tapering connector, collection container, a vacuum gauge, lubricant, leak free NR valve and control knob to be provided. • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
5.	Suction apparatus electrical		Specifications of Slow Suction Machine • The equipment should be a compact and lightweight having low vacuum & low flow performance • Should be equipped with an oil-free Rocker Piston Pump with bearings permanently lubricated • Should be noise and maintenance free • Should include with a 1.5 ltr Polycarbonate Collection Jar fitted with a float valve system, providing automatic shut off to avoid overflow and a bacterial filter • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
6.	Mucus extractor with suction tube and foot operated suction machine**		• Portable and non-string pedal operation • Open end glass/fibre jar of about 1000 ml. • Capacity : 700 mm Hg ± 10 at 25LPM • With oil free Piston type pump • Shall have self sealing lids. • Noise level: <50 db A ± 3 • Should be compatible with other life saving equipments running parallel. • The unit should be cleanable with alcohol and/or other chemical agents.

S.No.	Item		Specifications
			• FDA (US)/CE (EU)/BIS approved. • Should have ISO 13485:2003; ISO 27427-2013; IEC-60601-1&2. • Supplier to perform installation, safety and operation checks before handover. • Certificate of calibration and inspection from the factory. • Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required sh be documented • List to be provided of equipment and procedures required for local calibration and routine maintenance.
7.	Adult resuscitation kit**		Technical Specification of Emergency Resuscitation Kit with Trolley It should be steel tubular work trolley on four revolving castors two with break along with minimum following accessories as kit • Oxygen Cylinder • Crash Cart with Examination Lamp Attached • Ambu Bag Silicon-3 Nos. (Each One of Child/Adult/Infant) • Endotracheal Tube 6 Adult • Endotracheal Tube 6 Child • Airway 1 Set • Endotracheal Tube Stylet • Endotracheal Tube Cleaning Brush • B.P. Apparatus • Stethoscope • Suction Catheter • Infant Mucus • Disposable Syringe with Needle-1,2,5,10,20x10 Piece Each • I.V. Set-6 • Blood Set-6 • Micro drip Set-6 • Paedia drip Set-2 • Flow Meter-1
8.	Neonatal resuscitation kit**		

S.No.	Item		Specifications
			o Oxygen Mask Child-2 o Oxygen Mask Adult-2 o Oxygen Cylinder Key-1 o European CE certification or USFDA certification or BIS certification o Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
9.	Foetal Doppler**		Specifications of Foetal Doppler & Monitor • Foetal Doppler, table model with digital display of FHR. The unit shall have S.S tube, Penhold transducer for O.P.D. and elastic belt flat transducer for continuous monitoring. The unit shall be fitted with hi/lo alarms for F.H.R. • The unit shall work on 220V AC 50 Hz supply mains as well as battery. • Should have 10" or more high resolution color TFT/LCD Display with tilt able screen for better viewing. • Should have the facility for dynamic data save. • Should display the monitoring information of last 24 hours is essential. • Should have special high sensitive watertight probe for better durability • Should have data storage with play back & print facility • Should have the low ultrasound power for the safety of the foetus • Should have automatic foetal movement detection with event marker. • Thermal printer with minimum 152MM paper width is essential for broader printouts • Standard configuration should be FHR, TOCO, Foetal Movement • Twin FHR monitoring is essential • Should be portable • Should supply foetal stimulator. • Built in rechargeable Li-on battery with back up of at least 3 hour. • Relevant IEC-60601-Part 1 & 2, certificates by a notified agency • Should work with input 200 to 240Vac 50 Hz supply
10.	Foetal monitor**		

S.No.	Item		Specifications
			• European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
11.	Stethoscope for Pediatric as well as adult		• Patient friendly Non-Chill Rim • Solid stainless steel / anodized aluminium chest piece • Frame should be stainless steel • Excellent Acoustic Diaphragm and comfortably fit with soft sealing ear tips • Anatomically correct headset & comfortably angled • Single lumen tubing in a variety of popular colours • Y PVC tubing • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
12.	BP Instrument stand type		Sphygmomanometer –Stand Model • Should be portable mercurial type, stand model. • Should have ON and OFF provision for mercury reservoir. • Should have a measuring range from 0 to 300 mmHg. • Should be provided with adult arm cuffs of size medium & large and pediatric cuff, • The control valve should have a knurled thumb control device. The leak rate should not exceed 10 mm of mercury per minute. • The manometer scale markings and graduations should be engraved or etched and filled with pigments and it should meet the requirements of boil test. • The internal diameter of the manometer glass tube should be 4.1 ± 0.1 mm and the thickness not less than 2 mm. • Plastic parts, if any used should not crack, flake, peel or disintegrate in normal use. • The inflating rubber bag should be capable of withstanding an internal pressure of 450 mmHg without leaking. • The inflating bulb should be soft and should not have any joints or ridges. • The mercury used should be clean, double distilled and of 99.9% purity. • The fastening arrangements of the cuff should be of hook and loop type (Velcro)

S.No.	Item		Specifications
			• The threading and fastening arrangement of the cuff should show no sign of slip or failure when subjected to the maximum conditions. • The rubber tubes used should have an internal diameter of 3 ± 0.5 mm and the external diameter should not be less than 8mm. • The housing case should be of robust design. It should have press to release lock. It should have metal hinges. The tube should be secured with metal screws and clamps. It should have mechanism to hold the lid in right angles and should prevent accidental dropping. All parts should be replicable in case of breakage. • A cleaning brush to clean the manometer tube and a set of spare washers may be provided with each unit. • Should be mounted on good quality wheels. • The stand body shall be made of mild steel and powder coated. • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
13.	BP Instrument table top model		Sphygmomanometer - Mercury Type • Should be Portable mercurial type. • Should have ON and OFF provision for mercury reservoir. • Should have a measuring range from 0 to 300 mmHg. • Should be provided with adult arm cuffs of size medium & large and pediatrics cuff. • The control valve should have a knurled thumb control device. • The leak rate should not exceed 10 mm of mercury per minute. • The manometer scale markings and graduations should be permanent and clearly visible and filled with pigments. • The internal diameter of the manometer glass tube should be 4.1 ± 0.1 mm and the thickness not less than 2 mm. • All plastic parts, if any used should not crack, flake, peel or disintegrate in normal use. • The inflating rubber bag should be capable of withstanding an internal pressure of 450 mmHg without leaking. • The inflating bulb should be soft and should not have any joints or ridges. • The mercury used should be clean, double distilled and of 99.9% purity. • The fastening arrangements of the cuff should be of hook and loop type (Velcro). • The threading and fastening arrangement of the cuff should show no sign of slip or failure when subjected to the maximum test conditions.

S.No.	Item		Specifications
			• The rubber tubes used should have an internal diameter of 3 ± 0.5 mm and the external diameter should not be less than 8mm. • The tubes should be fitted with male and female leur connectors. • The housing case should be of robust design. It should have press to release lock. It should have metal hinges. The tube should be secured with metal screws and clamps. It should have mechanism to hold the lid in right angles and should prevent accidental dropping. All parts should be replaceable in case of breakage. • A cleaning brush to clean the manometer tube and a set of spare washers may be provided with each unit. • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
14.	Infant BP Instrument		Same as BP Instrument table top model but with infant size cuff
15.	Multi para pulse oxymeter**		Technical Specification of Pulse Oxymeter • Mains electricity (AC-powered) photoelectric device intended for the continuous transcutaneous measurement and display of haemoglobin oxygen saturation (SpO2). The signals, typically produced by light-emitting diodes (LEDs) and a receiving detector in a probe, or directly built-in, are used to make the measurements using the principle of spectrophotometry. The Oxymeter displays the SpO2 values and may calculate/display other parameters, e.g. pulse rate, electrocardiogram (ECG). The device is typically used at the bedside. Measurement and display of haemoglobin oxygen saturation (SpO2). • Continuously displays patient oxygen saturation in real time using an external probe on the skin. • SpO2 measurement range at least 40-70 and 70 to 99%, minimum gradation 1%. B) Accuracy of SpO2 better than + 1% for range 40-70 and better than + 3% for range 70-99. c) Pulse rate range at least 30 to 240 bpm, minimum gradation 1 bpm. (d) Accuracy of pulse rate better than + 5 bpm. e) Signal strength or quality to be visually displayed. f) Audiovisual alarms required : high and low SpO2 and Pulse Rate (operator variable settings), sensor disconnected, sensor failure, low battery. g) TFT Screen • Should have minimum 24 hrs trend memory for SpO2 & PR. • Easily accessible touch button to operate the machine. • In-built Software • Should be less than 5 kg. • Case is to be hard and splash proof. Display must allow easy viewing in all ambient light levels. Supplied in

S.No.	Item		Specifications
			protective case for clean storage and safe transport. • Noise (in dBA) <50 Dba • Heat Dissipation: dispersed through exhaust • Mobility: Mobile • Power Requirement: 220 to 240 V, 50 Hz • Battery: Internal, replaceable, rechargeable battery allows operation for at least four hours in the event of power failure. • Tolerance: Voltage corrector/stabilizer/UPS to allow operation at + 30% of local rated voltage. • Electrical protection by resettable circuit breakers in both live and neutral supply lines • Power: 50-100 W • Mains supply cable to be at least 3m in length. • Operating condition : Capable of operating continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. • Cleanable with alcohol or chlorine wipes. • European CE (Notified body) certification or USFDA certification • ISO 80601-2-61-2011: Medical Electrical equipment - part 2-61 : Particular requirements for the basic safety and essential performance of pulse Oxymeter. Electrical safety conforms to standards for electrical safety IEC-60601-1, EMC Safety confirms to IEC 60601-1-2 standard requirement; • Manufacturer / supplier should have ISO 13485 certificate for quality standard.
16.	Nebulizer		• Should be lightweight, portable and compact. • Should have a dust filter. • Should be able to deliver a flow rate / 7 lpm • Should have air pressure / 35 psi. • Should have a check valve to protect the device against contamination due to backward inhalation • Should be compatible for continuous use • Should works on 200-240Vac/50Hz. • Should be supplied with nebulization accessory kit with mask for adult and paediatric – 2 nos. each • Nebulization mask for adult and paediatric – 10 nos. each • European CE certification or USFDA certification or BIS certification

S.No.	Item		Specifications
17.	Digital weighing machine adult		• Should have an accuracy of 500 gms. • Should be dial type having a magnifying lens to see the measurement. • Should measure a maximum weight of 150kgs. • Should have zero adjustment. • Should be Round shape of diameter 300mm (minor variations will be accepted) • Shall be made of Metal, epoxy powder coated with rust proof parts. • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
18.	Digital weighing machine Infant		• Should have 5 gm accuracy • Should have a minimum measuring capacity 25 gm • Should have easy to read LED display • Should measure a maximum weight of 20kgs • Should have zero calibration. • Should hold the measured value irrespective of the baby movements. • Should have electronic damping facility for eliminating the reading fluctuations caused by moving baby. • Weighing pan should be suitable for weighing new born babies and the construction should not allow the baby to slip from the tray. • The Tray should be made of SS/ fibre glass/acrylic • Should have a pan size of at least 50cms length, 20cms width and 8cms height. • The pan should have facility to measure the length of baby • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
19.	Radiant warmer		1. It should be microcontroller based radiant warmer with manual and servo options. 2. It should have facility to display skin set, skin observed temperature in degree C and heat power separately. 3. Should have user friendly touch panel control. 4. It should have ceramic or quartz infrared or calrod heater. 5. It should have audio-visual alarm facility for overheating beyond set temperature range. 6. It should have alarm facility for patient temperature less than or greater than the required temperature i.e. above

S.No.	Item	Quantity	Specifications
			or below the set range. Machine should sense the skin probe failure and cut off the heater. 7. Warmer head should be rotatable in different direction, so as to allow taking X-ray. 8. It should have alarm for probe failure, power failure, system failure and heater failure. 9. Observation light of 90 to 100 foot candles or 1000 Lux (color temperature range 3700K to 5100K) should be provided for inspection 10. Battery backup for Power failure indication during power fail. 11. The desired temperature range from 25 to 40 degree C and settable temperature can be from 32 to 38 degC. 12. The resolution should be 0.1 degree C and accuracy should be 0.2 °C. 13. Should have a facility to lock the keyboard to avoid unwanted user modification of the set parameters. 14. The height of the warmer should be adjustable for different types of bed. 15. It should have separate bassinet trolley, bed should be tiltable and have provision for x-ray cassette holder, Mattress foam density should be minimum 25 kg/cm3, transparent collapsible side walls easily detachable for cleaning. Mattress size should be minimum 20"X30". 16. Should have a Feather Touch operation with large digital display and comprehensive alarms. Control Panel should be liquid proof and allow easy and hygienic disinfection. 17. Manual Mode can adjust Heater Output 10 -100 %, with 10% increment, an auditory and visual alarm shall be given at least every 15 min. 18. In manual mode, heater cut off / switch off , if the maximum irradiance at any point of the mattress area exceeds a total irradiance level of 10 mW/ cm2 (between 10 to 30 minutes). 19. Bed should be about 80 - 100 cms from the Floor and 80-90cms from the heat source. 20. Should have lockable castor wheels. 21. Green indicator light shall be provided to indicate that warmer is ready for normal use. 22. Markings on the bassinet and X-Ray cassette holder is mandatory to enable proper positioning of the baby while doing the X-Ray. 23. The size of the drop down sides should be such that it is 5" above the mattress surface and should be atleast 6mm thick; clear and transparent. 24. If there is more than 60% heater output for 10 minutes it should cutoff with alarm. 25. For the purpose of cable management there should be at least two number of tubing ports (edges covered by silicon rings) on the side walls. The height of the side walls should be minimum 110mm over the mattress. 26. X-Ray cassette tray should be at least 750X350mm and should adopt up to 20mm thick X-Ray cassette. 27. The bay bed should be crevice free for ease of cleaning, infection control. 28. The mattress used should be of biocompatible material.

S.No.	Item			Specifications
			29.	Thermistor based skin temperature probe should be small in size not more than 10mm diameter and 3-4mm thick to fix the probe firmly on the infant. Baby contact material should be biocompatible as per ISO10993 standard requirement. It should be insulated on one side and have well conducting non-rusting, non reacting metallic surface on the other side. Probe wire should be pliable, thin and soft. The attachment site of the probe with the wire should also be pliable and non stiff.
			30.	Should have Manual mode and Baby (Servo) mode settings.
			31.	Mode of operation should be clearly displayed.
			32.	In servo mode baby set temperature should be 32 to 38 deg C.
			33.	Users interface should have manual and Servo controlled temperature regulation.
			34.	LED Display and inbuilt software; Interruption and restoration of the power supply does not change the preset values. Devcie shall not overbalance when placed in any transport position of normal use on a 10° inclined plane from the horizontal plane.
			35.	Transformers of devcie shall be protected against overheating in the event of short circuit or overload of any output winding.
			36.	Patient leakage current should be less than 100 µA in normal condition.
			37.	Temperature on the baby mattress should not exceed 43 deg C when the warmer is operating under steady temperature condition.
			38.	Temperature of HEATER GUARDS should not exceed 85 °C in normal use.
			39.	The Temperature differences on the mattress shall not exceed 2 °C.
			40.	Dimensions (metric) specifications upto: 2000 mm (Height) X 900mm (Width) X 1100 mm(Length).
			41.	Atleast 60 degree angle adjustment must be possible in the heat source and it should provide shielding to the infant in case of breakage of tubes/bulbs, All surfaces to be made of corrosion resistant material.
			42.	Auditory alarm shall have a sound level of at least 65 dBA at a distance of 3 m from the front of the infant radiant warmer, and the sound level of the alarm shall not exceed 80 dBA on the mattress.
			43.	Should maintain upto 36.5˚C temp and the heat disbursed through an exhaust fan, so that effect of UV light is not disturbed.
			44.	Mobility: Yes, on castors (2 of the castors should have breaks; casotor size can be at least 4inch).
			45.	Should have standard IV pole(sturdy;non rusting; medical grade stainless steel;adjustable to a max height of 6 feet from the ground level), monitor tray(12X10 inches;270 degswivel;fixed at level of warmer display) and storage trays.
			46.	Spare Part : Skin temperature probes
			47.	Consumables : Thermal refelctor to fix the skin probe on baby.

S.No.	Item		Specifications
			48. Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents. 49. Should be US FDA / EU (CE of class IIb) approved product. Shall meet IEC-60601-1-2:2007 Medical electrical equipment -- Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility Requirements and tests (Or Equivalent BIS). Shall meet IEC60601-2-21: 2009 Medical Electrical Equipment – Part 2-21: Particular Requirement for the basic safety and essential performance of infant radiant warmers . Should meet IEC 60601-1:2005 standard requirements. 50. Baby contact material should be biocompatible as per ISO 10993 standard requirement. 51. Manufacturer should be ISO 13485 certified. 52. Availability of 5 amp/15 Amp. Electrical socket (2 nos) for each warmer. 53. Certificate of Calibration and inspection from the factory. 54. List of important spare parts and accessories with their part number and costing. 55. User training manual required. 56. List of important spare parts and accessories with their part number and costing. 57. User, Technical, Maintenance manuals to be supplied in English 58. Any warning/ precautions to be declared. **Energy Source:** a) Power requirements-220 to 240v, 50 hz b) Battery operated-Power failure indications during power fail. c) Tolerance:± 10% of input d) Protection-OVP, earth leakage protection. e) Power consumption-Maximum 800 watt
20.	Phototherapy unit		1. Phototherapy should be based on LED technology, which after filtering should provide a light of wavelength approximately 450 to 470 nm with peak wavelength of 450-460nm range. 2. Irradiance to be minimum 35 µW/cm2/nm at 40 cm height and UV should not exceed 10-4 W/m2 in 180nm to 400nm. 3. Digital Hour meter showing total exposure time for current patient to be clearly visible by operator. 4. Effective light field >700 cm2. 5. Lamp life should be minimum 20000 hours for LED and should have timer to indicate its usage. 6. Over temperature safety cut out to be included. 7. Up, down and tilting of head should be possible.

<table>
<tr><th>S.No.</th><th>Item</th><th></th><th>Specifications</th></tr>
<tr><td></td><td></td><td></td><td>
8. The unit should be mounted with castor wheels with brakes.
9. Variation in intensity over 5-6 hours < 10%.
10. The irradiance ratio (min to max) shall be greater than 40 % on mattress.
11. Green indicator light shall be provided to indicate that equipment is ready for normal use.
12. Interruption and a restoration of the power supply do not change preset values. LED heat can be reduced by natural cooling.
13. LED should be protected from free fall.
14. It should not topple on 10˚ inclined angle.
15. The temperature of baby bed and metal surfaces should not exceed
16. 40˚C and 43˚C for other accessible surfaces.
17. There should be intuitive method to indicate the light surface is at the appropriate treatment distance.
18. Mobile stand with movable castors and height adjustment facility along with easy swiveling of source box. Unit can be used along with Infant care trolley, Radiant Warmer and Incubator.

<table>
<tr><td>Settings</td><td>UP/DOWN adjustment of Over Head Unit; The phototherapy unit should be able to provide effective treatment for beds and incubators of varying heights (generally 1.0 to 1.6m). Adjustment of light intensity may be provided.</td></tr>
<tr><td>User interface</td><td>Manual</td></tr>
<tr><td>Software and/or standard of communication (where ever required)</td><td>LED Display and inbuilt software</td></tr>
<tr><td colspan="2">Physical Characteristics</td></tr>
<tr><td>Dimensions (metric)</td><td>minimum spec: 1650mm Height X 750mm Width X 500mm Length</td></tr>
<tr><td>Weight (lbs, kg)</td><td><20 kg</td></tr>
<tr><td>Configuration</td><td>1. Clear cabinet for observation of infant.
2. Infant bassinette to be an integral unit which should be detachable.
3. Unit to provide shielding of infant in the event of bulb</td></tr>
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S.No.	Item		Specifications	
				breakage. 4. Bulb mount to have angle adjustment of at least 30 degrees. 5. All surfaces to be made of corrosion resistant materials. 6. Light unit tilting facility and height adjustment facility.
			Noise (in dBA)	<60dBA
			heat dissipation	The temperature of baby bed and metal surfaces should not exceed 40deg C and 43˚C for other accessible surfaces.
			Mobility, portability	Minimum 3 castors and at least 2 with brakes
			ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
			Power Requirements	220 to 240V, 50 Hz
			Battery operated	NA
			Tolerance (to variations, shutdowns)	± 10% of input AC
			Protection	Electrical protection by resettable overcurrent breakers or replaceable fuses fitted in both live and neutral lines.
			Power consumption	Should not be more than 160 W
			Other energy supplies	Mains cable to be at least 2.5m length
			ACCESSORIES , SPARE PARTS , CONSUMABLES	
			Accessories (mandatory, standard, optional)	Complete set of replacement tubes to allow 3 months' continuous operation Two replacement sets of fuses, if replaceable type used.
			Spare parts (main ones)	No spares required
			Consumables / reagents (open, closed system)	Total 500 nos. Infant eye masks of both available sizes (term and pre term babies).
			ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
			Atmosphere / Ambiance (air conditioning, Humidity, dust ...)	Capable of operating continuously in ambient temperature of 10 to 40˚C and relative humidity of 15 to 90% in ideal circumstances.
			User's care, Cleaning,	Complete unit to be easily washable and sterilizable using both

S.No.	Item		Specifications	
			Disinfection & Sterility issues	alcohol and chlorine agents.
			STANDARDS AND SAFETY	
			Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international	• Should be FDA / CE approved product • Shall meet IEC-60601-1-2:2007 Medical electrical equipment -- Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility - Requirements and tests (Or Equivalent BIS) • Should meet IEC 60601-1:2005 standard requirements • Shall meet IEC 60601-2-50:2009 Medical Electrical Equipment – Part 2-50: Particular Requirement for the basic safety and essential performance of infant phototherapy equipment; • Manufacturer should be ISO 13485 certified
			TRAINING AND INSTALLATION	
			Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
			Requirements for sign-off	Certificate of Calibration and inspection from the factory.
			Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
21.	Multipara bed side monitor (6 parameter). with central nursing station**		1. Should have facility for printing ECG at 25mm/sec and 50mm/sec speed. 2. Should have facility for charging from both 12V DC & 220V AC. 3. Should be supplied with. 4. Pulse oximeter probe. 5. ECG cable -12 lead. 6. Temperature probe. 7. NIBP (non-invasive blood pressure) probe All probes should be supplied in 2 pairs, should be re-usable and should include adult, pediatric& neonatal size cuff/leads. The material of the probe should be such that it is non-breakable.	

S.No.	Item		Specifications
			8. Capable of saving data for min 24 hrs. 9. Rates for consumables should be offered in price bid. 10. Optional item to be quoted: invasive blood pressure-monitoring module complete with reusable transducer. 11. User operated 1mV ECG 12. User interface -Manual or touch screen with central monitoring system. And patient monitors should be compatible and networked according to central monitoring system specifications 13. Audio Visual alarms required: high and low levels for each parameter (operator variable settings), sensor/wire/probe disconnected, low battery. 14. Dimensions- Screen size minimum: 10". 15. Weight (lbs, kg) <6kg. 16. Configuration- Case is to be hard and splash proof. Display must allow easy viewing in all ambient light levels. Cable connectors to be designed so as fit correct socket only. 17. Noise (in dBA) <50 dB; Lead disconnection Alarm > 65 dB. 18. Heat dissipation- Should maintain nominal Temp and the heat should be disbursed through an exhaust cooling fan. 19. Should be Supplied in protective case for clean storage and safe transport 20. Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit.Battery powered, silence able alarm for power failure. Internal, replaceable, rechargeable battery allows operation for at least one hour in the event of power failure. Battery backup of minimum 100 minutes. 21. Voltage corrector/stabilizer to allow operation at ± 30% of local rated voltage. 22. Electrical protection provided by fuses in both live and neutral supply lines. 23. Power consumption <120Watt. 24. Accessories & Spares- 2 pairs, 12 lead ECG cable. 2 packs of 100 disposable ECG connection electrodes. Two sets of reusable SpO2 probes including adult, paediatric & neonatal probes. Two sets of NIBP cuffs of each size. Two external skin temperature probes. 25. Complete unit to be easily washable and sterilizable using alcohol and other chemical agents. 26. FDA (US) and EU CE notified body approved and BIS/ISO 13485:2003; ; IEC-60601-1-2:2007; IEC 60601-1-8-2006; IEC 60601-1-SER-Ed 1.0-2011; IEC/TRF 60601-1-8 Ed4.0-2010; ISO 13485; ISO 80601-2-56-2009 (Thermometer); ISO 80601-2-61-2011 (SpO2). 27. Supplier to perform installation, safety and operation checks before handover. 28. Training of users in operation and basic maintenance shall be provided. 29. List to be provided of important spares and accessories, with their part numbers and cost.

S.No.	Item		Specifications
			30. Certificate of calibration and inspection to be provided. 31. Documentation- a. User, technical, maintenance and service manuals to be supplied along with machine diagrams. b. List of equipment and procedures required for local calibration and routine maintenance. c. Certificate of calibration and inspection
22.	Air curtain at entrance for O.T., labour room, ICU and SNCU		Technical Specification of Air Curtains • Aesthetically designed with the latest technology. This is an ideal solution wherever transparent air insulation/ barrier/ curtain is required. Most common application areas include Air Conditioned Showrooms, restaurants, Hotels, Hospitals Computer Rooms, Cinema Halls, Pharmaceuticals, Biological & Electronic Industries. It provides an effective insulation to conserve energy by preventing temperature loss in controlled atmosphere areas and maintains a high level of cleanliness by inhibiting the movement of dust particles across it. It consists of a sturdy heavy duty line flow fan counterbalanced for vibration free operation and sturdy, thick PCRC sheet duly powder coated body with clamps to mount on the wall or door panel. It gives a thick air curtain with total air flow capacity varying according. • To the sized depicted as follows. Supplied complete with Cord & Plugs. Suitable to work on 220 V door, forms and invisible curtain of continuous air and thus prevents escape of conditioned air and entry of outside hot, humid, dirty and unwanted polluted air. AICIL Air curtains are tailor made units and hence come in all size ranging from 24" to 72" (2' to 6') in single units. • The cabinets of air curtain should made of cold rolled mild steel sheets. The blowers and made of high quality aluminium sheets. Duly balanced both statically as well as dynamically on computerized digital balancing machines designed to provide uniform air with minimum noise and no vibration. The Motor used are of continuous rating with sealed ball bearing. • These units should be available in normal velocity (7 to 9 meters / second) and high velocity (10 to 12 meters/ second.)
23.	High pressure steriliser horizontal		Technical Specification of Horizontal High Pressure Steam Sterilizer The Instrument should have the following features • Triple walled with leak proof organ arc welding. • Outer & middle jacket made of thick stainless steel jacket should be insulated by high grade glass wool to minimize the temp. Loss. • Inner chamber, jacket made of heavy duty stainless steel high – grade 304 quality.

S.No.	Item		Specifications
			• All Sterilizer hydraulically tested up to 40 PSI. • Steam generator Boiler made of stainless steel 304 grades with argon arc welded without sharp edge fitted with ISI Mark Heating Element Flange type inside the boiler. • Door has single piece made of thick S.S. Radial Locking System all around. • Top fitted with reputed make high pressure gauge safety .valve with multy port valve. • Fitted with neoprene silicon joint less gasket • Fitted with Automatic pressure stat switch set of any desire pressure. • Fitted with double safety valve & water level indicator cut-Off device to protect the Heating Element from burning. • Boiler front folding plate system for easy cleaning on the deposited scales on the element & the walls. • Water inlet & drain Valve is also provided fitted in the boiler. • Sterilizer mounted on tubular type steel frame with leveling screw • Fitted with digital indicator for indicating the temperature inside the chamber with calibration report. • Working pressure 5 to 20 PSI, the unit is complete with automatic Low Water cut off device. • Power suitable to work on 415 volts , single phase 50 Hz AC supply Only • Size 300x600 mm • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
24.	High pressure steriliser vertical**		<u>Specifications of Vertical Steriliser (high Pressure)</u> • Dia 300/Depth 500/ Elements-2/ Load 2KW • The operating pressure should be adjustable 15-20 PSI • Triple chamber with inner chamber made of thick SS jacket. • Should be hydraulically tested to sustain up to 2.5 times of working pressure. • Outer chamber made of SS reinforced with MS Sheet. Lid should be made of thick SS plate single piece and closed by wing nuts arrangement. • Joint less neoprene gasket should not allow any leakage. • The equipment should be fitted with double safety valve, water level indicator, water inlet and drain valve. • Should be supplied complete with cord 7 plug.

S.No.	Item		Specifications
			• Size 12x20 inch • Power requirements- 220V, Single Phase, 50 Hz, AC • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
25.	Dressing drums SS of different sizes**		Dressing Drum • It should be ISO/CE mark and sizes, 15"x12", 14x9, 9x9, 6'x6h. And Large size should be 12 x 15 inch. Should be made of High Grade Seamless SS. Should have suitable holder/handle for operational ease.
26.	Ceiling shadowless light for O.T. **		1. Double dome 2. Intensity Control in 9 steps for indiviual domes 3. Height Adjustment :600mm 4. Action Radius :1850mm 5. Possible Movements :Radial, Angular & Axial 6. Colour Temperature :4500K and above 7. LED technology: minimum 40,000 hours lamp life 8. Intensity, brightness, contrast and power switch to be made available on handle/wall-check. 9. Focal distance(d1+d2)=0.8 to 1.2 m 10. Temperature rise on the keep of surgeries to be less than 10° 11. CR± approx. 95 or more 12. 360° rotation for both arms 13. User's interface Manual 14. Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism 15. Power Requirements Recharging unit: Input voltage- 220V-240V AC, 50Hz 16. Tolerance (to variations, shutdowns) Voltage:±10%,Frequency:±2% 17. Should have over-charging cut-off with visual symbol. 18. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40˚C and relative humidity of 15 to 90% in ideal circumstances.

S.No.	Item		Specifications
			19. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50˚C and relative humidity of 15 to 90%. 20. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 21. Should be US FDA/CE and ISO 13485 approved product. 22. Pre-installation requirements: nature, values, quality, tolerance a. Availability of 5 amp socket; b. Safety and operation check before handover; 23. Training of staff (medical, paramedical, technicians) a. Training of users on operation and basic maintenance; b. Advanced maintenance tasks required shall be documented
27.	Portable shadowless light for labour room**		1. Dome Head :515mm Dia 2. LED lights-2 nos 3. Lockable castor stand with minor dome 4. Light intensity at 1 mt. :1,00,000 Lux 5. Intensity Control :Continupus 6. Height Adjustment :600 mm approx 7. Action Radius :1250mm 8. Possible Movements :Radial, Angular & Axial 9. Colour Temperature :4500K or above 10. Temp. rise in field :3°-6° c from Amb.Temp 11. Control Panel at the dome 12. CR± 95000 13. Lamp life:40,000 hours 14. Battery back-up:1 hour 15. Auto-power off and over-charging cut-off. 16. Users interface Manual 17. Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism 18. Recharging unit: Input voltage- 220V-240V AC, 50Hz 19. Battery operated: Yes; Rechargeable battery at the base with the frame. 20. Should have over-charging cut-off with visual symbol.

S.No.	Item	Specifications
		21. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances. 22. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. 23. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 24. Should be FDA/CE and BIS/ISO 13485 approved product. 25. Electrical safety conforms to the standards for electrical safety IEC 60601-1General requirements(or equivalent BIS Standard) 26. Shall meet internationally recognised for Electromagnetic Compatibility(EMC)and Electromagnetic Interference(EMI) for electro medical equipment:IEC 60601-1-2 27. Pre-installation requirements: nature, values, quality, tolerance a. Availability of 5 amp socket; b. Safety and operation check before handover; 28. Training of staff(medical, paramedical, technicians) a. Training of users on operation and basic maintenance; b. Advanced maintenance tasks required shall be documented 29. Documentation: Should provide 2 sets(hardcopy and soft-copy) of:- a. User, technical and maintenance manuals to be supplied in english/ hindi language along with machine diagrams; b. List of equipment and procedures required for local calibration and routine maintenance; c. Service and operation manuals (original and copy) to be provided; d. Advanced maintenance tasks documentation; e. Certificate of calibration and inspection. • European CE certification or USFDA certification or BIS certification
28.	Instrument steriliser	• SS make • Different Size 12" x 8" , 18" x 12" • To be minimum 40 Kw Heating capacity total • European CE certification or USFDA certification or BIS certification
29.	Gynaec electric cautery**	1. The unit should have mono-polar, bi-polar modes and underwater cutting.

S.No.	Item		Specifications
			2. The unit should have separate generator for mono-polar and bi-polar. 3. Should be compatible for both open and laparoscopic surgery. 4. Should have facility to connect two mono-polar electrodes. 5. Should have separate digital display of power settings for bipolar and mono-polar cut and coagulation modes. 6. Should have return electrode contact safety. 7. Should have different audible alarm for cut and coagulation modes. 8. Should have maximum range mono-polar cut power of at least 300 Watts variable in Steps of 2 watts in lower power and 5, 10 watts in high power.. 9. Should have mono-polar coagulation power 120 Watts's variable in steps. 10. Should have maximum bipolar coagulation power of at least 50 in steps. 11. The unit should be provided with suitable power cord and should be compatible with Indian standard wall socket. 12. Should have a volume control for the audible alarm. 13. Should be supplied with reusable flexible silicon rubber patient return plate with return electrode safety 1 No. 14. The performance of the unit should not be affected by electro-magnetic interference radiated or conducted through power lines from another device. 15. The working of the equipment should not interfere with the functions of other devices. 16. Standard accessories to be supplied along with each equipment a. Should be supplied with disposable 3 pin hand pencil 10 nos. with cable. b. Should be supplied with reusable mono-polar active handle with cable compatible for foot operation. (With complete set of electrodes) - 5 nos. c. Should be supplied with reusable insulated bayonet shaped bipolar hand piece with cable compatible for foot operation - 2 no. d. Should be supplied with color coded pedals water proof foot switch for mono polar and bipolar. e. Additional Patient Plate Cable-1 No 17. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 18. Standards & Safety : a. Should be US FDA or European CE approved (Notified Body) b. Should meet internationally recognized IEC 60601-1-1, IEC 60601-1-2, IEC 60601-2-2 , IEC 60601-1-6, and IEC 60601-1-8 standard. c. Manufacturer/Supplier should have ISO 13485 certificate for quality standard. 19. Documentation:

S.No.	Item		Specifications
			a. User, technical, maintenance and service manuals to be supplied along with machine diagrams. b. List of equipment and procedures required for local calibration and routine maintenance. c. Certificate of calibration and inspection. 20. Any warning signs would be adequately displayed. 21. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
30.	Oxygen cylinder B type		<u>Oxygen Cylinder B-Type</u> • Should be Color coded, light weight. • Aluminium alloy oxygen cylinder for providing oxygen therapy of total capacity of 4 cu M. • Mounted with pressure reducer and flow-meter provision of capacity upto 15 litres per minutes and outlet for secretio aspiration. • Should have membrane pressure reducer with manometer complete with flow meter (0-15 litres/minute) and humidif bottle. • Should be seamless cylinder of water capacity 10 liters. • Should have flowmeter for controlling inflow of oxygen. • Should contain capacity of 4 cu M. • Should be supplied with its trolley. • Should be having spare humidifier, key and flow meter. • Cylinder should have ISI Mark and ISO certificate for quality standard or BIS, IS 3224. • Cylinder should have explosive safety certificate and should be provided along with each cylinder during installation

S.No.	Item		Specifications
			• Should have certificate of calibration, PESO Certificate and inspection from the factory. • Should provide training to the users who are in operation. • Should have warranty of 10 years. • Color codes to be displayed on the cylinders.
31.	Nitrous oxide cylinder B type		Specifications of Nitrous Oxide Cylinder • Should be Color coded, light weight. • Aluminum alloy nitrous oxide cylinder for providing N2O therapy of total capacity of 4 cu M. • Mounted with pressure reducer and flow-meter provision of capacity upto 15 litres per minutes and outlet for secretio aspiration. • Should have membrane pressure reducer with manometer complete with flow meter (0-15 litres/minute) and humidif bottle. • Should be seamless cylinder of water capacity 10 liters. • Should have flowmeter for controlling inflow of nitrous. • Should contain capacity of 4 cu M. • Should be supplied with its trolley. • Should be having spare humidifier, key and flow meter. • Cylinder should have ISI Mark and ISO certificate for quality standard or BIS, IS 3224. • Cylinder should have explosive safety certificate and should be provided along with each cylinder during installation • Should have certificate of calibration, PESO Certificate and inspection from the factory. • Should provide training to the users who are in operation. • Should have warranty of 10 years. • Color codes to be displayed on the cylinders.
32.	Regulator and flow meter for medical gas		20,000 Kpa @ • Inlet Pressure 15ºC • InletPin Indexed Yoke • Flow Settings (LPM)- 0.25, 0.5, 1, 2, 3, 4, 6, 8, 10, 15, 25 • Maximum Outlet Pressure 400 Kpa • Weight (Grams) 320 • Should be brass body all metal parts that channel the gas stream are brass (no aluminium) • Sintered metal filter between gas source and seat.

S.No.	Item		Specifications
33.	ECG machine**		• Should be 12 - channel portable ECG machine with simultaneously acquisition of leads. • Should be portable, Light weight not more than 4.5 Kgs. • Should have at least 3.5” or more Color LCD Display • Should have full QWERTY hard keyboard to enter the patient data conveniently. • Should have single button operation. • Should have Measurement and interpretation software. • Printing of Interpretation and waveform should come on single sheet of paper. • Should have paper size of at least 110 mm X 70 mm and should be Z fold. • Should have Recording speed selection of 5, 6.25,10,12.5, 25 & 50 mm/sec • Should have recording modes Manual, Automatic, Rhythm. • Complete digital filters, avoids baseline drift, AC (On/Off) and EMG (25Hz/35Hz/45Hz/OFF) • Interference, Low pass filter (150Hz/100Hz/75Hz), DFT Filter: 0.05/0.15/0.25/0.5/0.67Hz. • ECG Machine should have CMMR ≥115dB • Should have 24bits A/D Converter. • 12 Channel type • Should have Sample rate of 1000Hz/Channel, 10,000 Hz for pacemaker detection. • Should have single and 3 Channel selectable rhythm leads. • Facility to enter patient information (Name, age, sex, height, weight, Blood pressure, doctor’s name, Hospital’s name) which get updated in system and is recorded on the recorder thermal paper. • Internal Patient memory function should save 200 patient ECG data. • Should have SD CARD and USB port for data transfer and Printer connectivity. • Inbuilt measurement and interpretation software and tested the same from AHA/MIT Database. • Should have option to connect with Barcode reader. • Should have option to convert the file into PDF format to save in USB Drive and SD card for data transmission from machine to PC. • Should have option to upgrade for data transfer to PC thru WIFI and LAN • Should have IEC 60601 certifications.Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001-14001/9001-2008/ 9001-13485 and European CE certification or USFDA certification or BIS certificationshould be attached to ensure quality • Should have Inbuilt lithium –Ion battery with upto 2 hours of backup. • Should have UL and US FDA Quality certifications. • Should be Supplied with Following Accessories

S.No.	Item		Specifications
			• Limb Electrodes (Set of 4) – 1 No. • Chest Electrodes for Child/ Paed (Set of 6) – 1 No. • Chest Electrodes for Adults (Set of 6) – 1 No. • ECG Cable (10 Leads) – 1 No. • Power Cord -1 No.
34.	Paediatric ventilator for ICU**		1. Should have facility for Invasive and Non-Invasive ventilation. 2. Microprocessor control with external compressor based ventilator suitable for neonatal and paediatric ventilation. 3. Should have modes of ventilation equipped with newer modes of ventilation: a. Assist/ Control b. Volume control c. Pressure control d. Pressure support e. SIMV with pressure support (Pressure and volume control) f. PEEP g. Inverse ratio Ventilation h. Non-invasive ventilation-BIPAP, CPAP i. Apnea ventilation, user selectable, volume & pressure control; 4. Should have built in color screen TFT/LCD display of minimum 10” for display of waveforms and monitored value; 5. Should have inbuilt facility to upgrade with EtcO2 6. Should have facility to measure and display of the following parameters a. Airway Pressure (Peak & Mean) b. Tidal volume (Inspired & Expired) c. Minute volume (Inspired & Expired) d. Respiratory mechanic

S.No.	Item		Specifications
			e. Spontaneous Minute Volume f. Total Frequency g. FiO2 dynamic h. Intrinsic PEEP i. Plateau Pressure j. Resistance & Compliance k. Use selector Alarms for all measured & monitored parameters l. Occlusion Pressure m. Pressure Flow & Volume curves 7. Automatic compliance and leakage compensation for circuit and ET tube 8. Should have facility of log book, for events and alarms with date & time 9. Should have following setting; a. Tidal volume (Minimum 2ml, Maximum up to 2000ml); pre-set range for both neo-natal &paediatric modes to be provided b. Inspiratory pressure (up to 60cm of H2O) c. Respiratory rate 1 to 80 bpm; d. Apnea back up rate e. CPAP/PEEP; f. Pressure support; g. FiO2 setting range between 21% and 100%; h. Pause time; i. Pressure/flow Trigger; j. Inspiratory flow up to 1-20 LPM; 10. Oxygen cylinder/central pipeline connector/ (to be supplied along with the machines) should be compatible with ventilator. 11. Disposable Heat Moisture Exchanger, qty 100 to be supplied with unit 12. User interface should be manual and automatic; also the software should be inbuilt, 13. Should be convenient and quick USB interface. 14. **Accessories**: a) Full face mask- 5 Nos each of 0,1 and 3 b) Nasal cannulae for neonates- 5 nos c) Reusable breathing circuit of silicone material (5Nos)

S.No.	Item		Specifications
			d) Air & oxygen hose- 1 each 15. Should be less then 50kg including trolley. 16. Should have compatible hanged arm for holding the circuit 17. Should have caster with braking system. 18. Noise of device operation max-50dbA 19. Should have audio visual alarm for battery low, source gas low and high/low pressure in the breathing circuit or source gas inlet. 20. Should maintain nominal Temp of the control unit and the heat should be disbursed through an cooling mechanism 21. Alarm volume-min. 65 dB 22. **Standards & Safety** : a) FDA (US)/CE (EU) from authorized third party and BIS/ISO 13485 b) Relevant IEC-60601-Part 1&2, certificates by a notified agency. c) Manufacturer/Supplier should have ISO 13485 certificate for quality standard 23. **Documentation**: Should provide 1 set (Hard Copy) to user and 1 Set (Soft copy) by User, technical, maintenance and service manuals to be supplied along with machine diagrams. a. List of equipment and procedures required for local calibration and routine maintenance. b. Certificate of calibration and inspection. 24. **Energy Source:** a. Power Requirement**:** Input voltage 220 VAC, 50Hz a) b. Battery powered, silence able alarm for power failure. c. Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit. d. Internal, replaceable, rechargeable battery allows operation for at least four hour in the event of power failure. 25. Should have Electrical protection, resettable over current breakers or replaceable fuses (fitted in both live and neutral lines). 26. Any warning signs would be adequately displayed. 27. **Storage condition**: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

S.No.	Item	Specifications
		28. **Operating condition**: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%. 29. Supplier to perform installation, safety and operation checks before handover. 30. Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
35.	Examination table SS with foot step	• Dimensions: 1830mm (L) 570mm (W), 820mm (H) ±5% • Upper section should be : 1230mm (L) 450mm (W)X610mm (H) with three sliding drawers with separate three doors. • The main top frame made of rectangular tubes of 18 G ERW tubes. The Top Frame shall be reinforced with horizontal supports at the middle width wise (mm three). • The top sheet made of CRCA (Ms) sheet of 18 G. double pressed bent on three side and reinforced with angles supports at the middle. A rubber foam padded with leather rexine cover shall be provided in 2 sections which can be fixed by strips from underneath the table as per dimensions of the table (64mm thickness). • Body frame work should be from CRCA sheet. • Couch should be fitted with mild steel legs. • Headrest should be adjustable by gas spring. • BP apparatus tray should be provided. • Finish should be pre-treated& powder coated. • The materials from reputed companies shall be used. • European CE certification or USFDA certification or BIS certification Foot Step • Overall appox size 505mmLx305mmW • First Step height 230 mm & second step size 450 mm • Step made of CRCA sheet fitted with aluminium tread flats by pop rivets • Finish should be pre-treated epoxy powder coating • Frame made of 1”x18G tubes fitted with PVC stumps. • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality

S.No.	Item		Specifications
36.	Delivery Instrument set (Scissor, artery forceps, cord clamp, sponge holding forceps, urinary catheter, bowl for antiseptic lotion, speculum, kidney tray)		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
37.	Episiotomy Instrument set (Episiotomy scissor, kidney tray, artery forceps, allis forceps, sponge holding forceps, needle holder, needle (round body and cutting), chromic catgut no. 0, thumb		• • • SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification

S.No.	Item		Specifications
	forceps)		
38.	MVA/ EVA Instrument set (Speculum, anterior vaginal wall retractor, posterior vaginal wall retractor, sponge holding forceps, MVA syringe and cannulas, MTP cannulas, small bowl of antiseptic lotion)		• • SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
39.	PPIUCD Instrument set (PPIUCD insertion forceps, Cu IUCD 380A/ Cu IUCD 375 in a sterile package)		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
40.	Outlet forceps		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
41.	Digital thermometer		• The system should have minimum 4 digit display with 0.1 increment • Should have degree Celsius and Fahrenheit display • Measurement Accuracy: ± 0.10C (32.0 to 42.0 0C) i. ± 0.2 0 F (89.6 to 107.6 0 F) • Measurement Range: 32.0 to 42.0 0C (89.6 to 107.60F) • The sensing unit should be thermistor or equivalent

S.No.	Item		Specifications
			• Should work with a battery and lasts for a minimum measurement of 1000 readings (10 min operation each)
42.	Ventouse (for vaccum extraction delivery)		• Should be Oil-free vacuum pump, maintenance-free • Should be High level of under-pressure- at-least 93 kPa/700 mmHg (93% of vacuum). • Should be Simple operation by means of foil-keyboard keys with acoustic signal and Visual light indication of achieved under-pressure level. • Should have Very low noise level. • Should have reliable protection system against reservoirs overfilling • Should have safety vessel • Should be suitable for multi surgical and Vacuum assisted delivery extraction mode • Should have automatic under-pressure rise • Should have Unbreakable autoclavable vessels for secretion with volume • Set of stainless steel metal cups size 40mm, 50mm, 60mm, metal occipito-posterior cup 50mm. (03 each) • Set of medical grade silicon rubber cups 50mm and 60mm (03 each) • One caesarean-aid cup 50mm or more. • Cups should be compatible with all vacuum sources. • Electrical Requirement – 220-230 volts, 50Hz • Should be High suction output – at least 40 l/min • Should have possibility of all functions operation by means of foot control • Should be provided with additional silicone suction hoses. • Should be provided with dedicated SS trolley • Should be US FDA or European CE or BIS approved. • Manufacturer or supplier should be ISO13485 certified. •
43.	Infusion pump		• Should be operated on drip rate Peristaltic finger pump method. • Should compatible with most of the IV set (macro/micro drip sets). • Should have the following flow rates. • IV Set ml/hr drops/min 15 drops/ml 3~450ml/hr 1~100drops/min 20drops/ml 3~450ml/hr 1~100drops/min 60drops/ml 1~100ml/hr 1~100drops/min • Should have a flow rate accuracy of ±10% and drip rate accuracy of ±2%. 6. Should have a volume infused display from 0 to 999.9ml.

S.No.	Item		Specifications
			• Should have a purge and KVO facility. • Should have an audible and visual alarm for occlusion pressure, air alarm, door open, empty, low battery • Should have a LCD display with backlight and graphical display of infusion Should have a minimum 2hr battery back up at highest delivery rate. • Should work with input 200 to 240Vac 50 Hz supply. • Should have safety certificate from a competent authority CE / FDA (US) / STQC Certificate
44.	MTP set with karmon's suction canula and MVA syringe		• • SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
45.	PN sterilisation		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
46.	Caesarean Section		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
47.	Suture removal		• SS Make rust free metals • Ultrasonic Cleaned • Dull-Polished • ISI certification
48.	Suturing tray		• SS make sterilisable
49.	Anaesthesia trolley and General anaesthesia kit**		Boyle's Apparatus with Monitor Module • The Trolley should be made of Powder Coated Rigid Steel Sections, mounted on Anti-Static Rubber Castors. • Should be Gas Specific (Pin-Indexed) Yokes with clamping bars, two each for Oxygen and Nitrous Oxide. • Two Pressure Gauges each for Oxygen and Nitrous Oxide, fitted at convenient angle. • Completely encased, Detachable Pneumatic Circuitry. • Twin Canister Circle Absorber System, which should be Transparent & Reversible with swiveling facility. • Redesigned heavy duty Pressure Regulators for efficacy and reliability -- 0 2 Nos. each for Oxygen & Nitrous Oxide.

S.No.	Item	Quantity	Specifications
			•OXYGEN FAILURE PROTECTION DEVICE (OFPD): Should works as a true Fail-Safe-System as it should allows flow of Nitrous Oxide only in presence of Oxygen at Rotameter Level, thus locking the flow of Nitrous Oxide in absence of flow of Oxygen through its Rotameters. •OXYGEN RATIO CONTROLLER (ORC): In the ORC there should be a Slave Valve pneumatically linked to two Pressure Balancing Diaphragms of Nitrous Oxide & Oxygen guarantees a minimum delivery of 25% Oxygen Concentration. •ALARM: Audio-Visual-Alarm should activated if flow of Oxygen falls below 1LPM. •ROTAMETERS: Shouldprovidelong (230mm) Rotating Bobbin Flow meters taper tubes, accurately calibrated in double/triple scale to ensure accuracy and clarity in reading. •OXYGEN:100ml/min. to 8 LPM. Nitrous: 200ml/min. to 12 LPM. •AIRWAY PRESSURE MANOMETER:ShouldbeSwivel Type Outlet-cum-Airway Pressure Manometer Assembly. •EMERGENCY OXYGEN: Emergency Oxygen Flush Button Should be provided at Table Top level on the front. •VENTILATOR DRIVING SOURCE:A Quick-fit System Should be provided for driving Ventilator. •VAPORIZER:Provision for incorporating Vaporizer of Users Choice in the Back-Bar. •Should provide NON-RETURN CUM PRESSURE RELIEF VALVEforMinimum risk of back flow of gases. The Relief Valve Should blows when pressure exceeds 100 cm H2O. •Should provide PATIENT CIRCUIT:A) Standard Magill's Circuit-01 No.each for adult &Pediatric, B) Heidbrink Valve-01 No., C) Bag-Mount-01 No., D) Antistatic Face Mask-02 Nos.(Adult &Pediatric), E) 2 Ltrs. Rebreathing Bag-02 Nos., F) Complete Closed Circuit 01 No.. •TABLE TOP: Guarded Table Top Should be provided with a Stainless Steel Tray. •DRAWER: Sufficient space should be provided in storage drawer to accommodate all accessories. •INSTRUMENT TRAY: Top Tray should be provided at eye level for keeping Monitoring Equipments. •SHOULD PROVIDE IN BUILT ACCESSORIES: like RIGID Top Tray for Monitors load capacity 20 Kg or more. •Two built-in self- sealing Oxygen Outlets (4.22 Kg/cm2) for driving Ventilators etc. Space for Ventilator (Ventilator at extra cost) •Monitor (To be kept at the top of anaesthesia Machine) o Should be suitable for adult, paediatric, neonatal patients monitoring. o The monitor should be European Certified/ US FDA Approved towards highest standard of quality. o Manufacturer/Supplier should have ISO 13485 certificate for quality standard.

S.No.	Item	Quantity	Specifications
			o Should be suitable for adult, paediatric, neonatal patients monitoring. o Monitor should have facility to display ECG, RR, HR, SPO2, NIBP, low perfusion state as Standard Parameters with built in rechargeable battery backup of at least 2 hrs. & recorder for continuous operation. o Display : Touch Screen Colour TFT Display of size not less than 12" . Should display atleast 7 waveforms of selected parameters simultaneously. o It should be able to analyse arrhythmia & ST segments. o Monitor should have large font display and inbuilt thermal printer. o It should be able to display the interactive relationship between HR, Respiration & Oxygen parameters observing the respiration, clinically termed as OxyCRG. o Should be able to store & display data upto 120 hrs. Of graphical trends of all parameters and upto 60 events with waveform. o The monitor should have built in facility connectivity to Central Station through Ethernet Card. o Provision for Universal Serial Bus port for software upgrade. o Should have battery backup of 120 Min. o Should have port for Central Monitor.
50.	Microscope binocular**		Technical Specifications of Binocular Microscope • A microscope with a head that has two eyepiece lenses where the two eyepieces view through a single objective lens. • The distance between the two eyepieces, should be adjustable to fit individual users. • Microscopes should be modular in the sense that the same body can be used with different bases and vice versa. • Microscope base should incorporate an adjustable arm or boom and enables the body to be aligned in a variety of different positions. • An adapter kit designed to enable a camera to fit on to the Binocular port of the microscope (23mm or 30mm port diameter). The camera should connects to a step ring (or T-Mount) and then to the camera adapter. • The C-Mount should 1” diameter, 32 TPI (threads per inch), male on the lens and female on the camera. • The microscope should provide an evenly illuminated field, a bright image without glare and minimum heating of the specimen. • Separate coarse and fine focusing knobs should be provided and should be mounted on the same axis. • Should provide minimum three lenses of different power, which should be anti-fungal in property. The oil immersion should be 100X.

S.No.	Item	Quantity	Specifications
			• The body should be such that there should be comfort while working long hours in sitting position. • The light source should be long lasting LED. • The unit should come with Iris Diaphragm. • Movement of slide should be controlled by easy to handle knobs. • European CE certification or USFDA certification or BIS certification • Quality Certificate of manufacturer like OHSAS-18001 or ISO 9001- 14001/9001-2008/ 9001-13485 should be attached to ensure quality
51.	Semi auto biochemistry analyzer**		• Semi Auto analyzer required for Routine Chemistries • Measurement Procedures o End point with or without Reagent Blank o Kinetic with Linearity Check o Kinetic with Linearity Check sample slope Blank o Two point with or without Reagent Blank o Bichromatic End point, with or without Reagent Blank o End point with sample Blank and With or Without Reagent Blank • Analyzer must be fully open system, having as many as 75 Programmable parameters displaying on board • For Kinetic graph be available on screen and also on printer • In Kinetics, it takes two reading per second and automatic Zero Setting. • Photometric range -0.1 to 2.3 abs; • Wavelength must cover 340 nm to 650 nm with Six Standard filters and Additional Six Free Position for Optional Filters, • Wavelength selection by IFL filters. • Maximum reagent consumption should not exceed 500 ul. • Metal with Quartz window Cross Type flow cell with Volume not exceeding 32 ul. • Calibration Mode o Factor, One Point, Two point & Multi Point o Automatic on one standard Linear mode o Automatic on up to 10 standard Non Linear mode • Aspiration System with internal Pump of Bellows Type driven by Stepper motor. • Fixed Flow cell temperature 37* C by means of Peltier Element. • Quality Control record of atleast last 30 controls measurement with on Screen Levey-Jennings Plot.

S.No.	Item		Specifications
			• Two controls Per Test can be programmed • Facility to attach external Printer • All Test Results must be available on screen • Instrument must have European CE or US FDA certified. • PS 2 Type port for External Keyboard is must apart from inbuilt alpha Numeric Keyboard. • Real Time Clock 24 Hour System • High Contrast Graphical LCD display • For Operational Support o 1 KVA Sine wave UPS with 4 hrs battery backup. o Fixed and variable pipettes: o Fixed range 5µl, 10µl, 50µl, 100µl, 500µl & 1000µl variable range 2 - 20µl, 20 - 100µl, 100 - 1000µl. 16 channel Centrifuge machine.
52.	Glucometer**		• Should have reading range/linearity from 30to 600mg/dl. • Should have a maximum reading time of less than 10 seconds. • Should use a min blood sample less than 1.5µl • Should have a min memory of 50 tests; accuracy +/-10% and reproducibility +/-5%. • Packing of strips should be such that there are not more than 50 strips/pack. This strips should be readily available throughout the country. • Should have automatic code detection facility, display of sugar in Mg/dl and not in mili moles. • Should have LCD display • Should be US fDA or Eu CE and BIS or ISO 13485 certified.
53.	Serum bilirubinometer**		• Sample volume of < 100 µL required, automatic calibration facility. • Total bilirubin concentration measurable (at least) in range of 0 to 30 mg/dl. • Time for total concentration measurement: ≤ 5 seconds. • Should have filters: 455 and 575 nm (•} 2%). • Should have error rate less than 5%. • Should have resolution- 0.1 mg/dl. • Automatic correction for Haemoglobin. • Measuring cell: Direct Haematocrit capillary readings. • Heparinized haematocrit glass capillary. • Settings should have method to recalibrate / save current calibration, set sample size. • User's interface- Manual interface, Backlit display with easy viewing in all ambient light levels.

S.No.	Item		Specifications
			• Inbuilt software. Convenient and quick USB interface. • Dimensions (metric) Approx. 110 x 150 x 200 mm. • Weight (lbs, kg) 5 kg - 15 kgs • Configuration (Ex : Compact, modular, to be fixed to walls, ceiling, etc). • Noise (in dBA) <60dB • Heat Dissipation: Should maintain nominal temp and the heat should be disbursed through an cooling mechanism. • Easy and safe transport to be possible by hand, stable when table top mounted; • Power Requirements 220VAC ± 10%, 50 Hz; • Tolerance (to variations, shutdowns) Voltage corrector / stabilizer to allow operation at ± 10% of local rated voltage. • Other energy supplies Length of mains power cable should be at least 3 meters. • Hard and splash-proof case to be supplied. • Spare parts (main ones) a. Spare/replaceable fuses - 2 sets. b. Reagents and capillary tubes sufficient for minimum 100 tests. c. Reagents and consumables per test should be declared. • Consumables / reagents (open, closed system) a. Capillary tubes, haemofluorometric reagents (e.g., aqueous cyanide salt with stabilizers, if applicable). b. Price of all Consumables to be mentioned. • Operating condition: Capable of operating continuously in ambient temperature of 10 to 40˚ C and relative humidity of 15 to 90% in ideal circumstances. • Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50˚C and relative humidity of 15 to 90%. • Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. • Should be CE (EU)/FDA (US) approved product. • Manufacturer / supplier should have ISO 13485 certificate for quality standard. Should have IEC 61010 certificate. • Availability of 5Amps electrical socket.

S.No.	Item		Specifications
54.	X-ray view box		• 3 Panel Side by Side X-Ray View Box Illuminators; High quality with aesthetic finish. • Should have the following Standard Features: • 1 foot fluorescent tube per panel • Roller gravity film holding system • Durable steel construction • Thin 3" profile • Chip resistant hospital white finish • Continuous bottom film ledge • Even view reflective system, with white acrylic translucent surface. • Centralized cluster On/Off switching • Optional Features: • FAS – Film Activated Switching • MS - Master Switch • HGP - Hospital Grade Plug Specs: Surface Wall Mount 3 Panel Side by Side 56" x • 17" Viewing Area • Overall Dimensions approx: 56" (L) 21" (H) 3 3/8" (D) (approx.) • Illumination: 2000 cd/m2 • It should be aesthetic and high quality • Power Supply : Power input to be 220-240VAC, 50Hz
55.	Colour ultrasound machine Mobile – For Screening Purposes**		• The system should be state-of-the-art model and all digital beam former for superior image quality with integrated light weight mobile cart. • The system should have General Sonographic and Vascular applications • Should have 15” or more high resolution TFT/LCD monitor with tilt and swivel facility and should be able to view in all angles and all light conditions • Should have three active ports, switchable electronically for Probe selection. • Should have an alpha-numeric keyboard with easy access scan controls and track ball. • Should have operating frequency of 2-5 MHz broadband Convex probe for general

S.No.	Item	Quantity	Specifications
			imaging. • Should have 8-12 MHz broadband Linear Array probe for Vascular imaging. • The machine should have cardiac package and the rate for Cardiac Probe (2-4 MHz • broadband phased array sector probe) • Should have 4-9 MHz broadband Trans-vaginal Probe of FOV 1200 • Should have for 4-9 MHz broadband side firing Trans-Rectal Probe • Should have independently selectable gain control. • Should have 2D, M-Mode, Power Doppler, Pulsed Wave Doppler and Colour Doppler. • Triplex imaging display modes on all probes • Should have Tissue Harmonic Imaging. • Should have color flow imaging • The system should have extensive calculation software package for General ultrasonographic imaging, vascular imaging and obstrectics and gynaecology including NT measurement. • The system should have provision for measurement and calculation of distance, area, volume and circumferences on the image. • The system should have dedicated reporting pages for all the applications. • Should have patient reporting page with embedded images. • The system should have minimum 256 grey scales or more. • The system should have facility to store images in a hard disk of capacity more than 150GB. • DICOM output facility without additional Hardware or software. • The system should have dedicated reporting pages for all the applications. • Unit should function with 200-240Vac, 50/60 Hz input power supply. • Should have a CD/DVD writer and option to connect external printer. • Should have DICOM compatibility without additional hardware. • Voltage corrector / stabilizer to allow operation at ± 15% of local rated voltage. Use of SMPS to correct voltage. • Electrical protection, resettable over current breakers or replaceable fuses (fitted in both live and neutral lines). • The system should have following documentation devices a. Laser color printer for color image printing. b. B/W Thermal printer of latest model c. Glazed thermal paper rolls 50 no. & 10 rim of Glossy paper sheet. d. Online UPS for power back up of minimum 30 minutes

S.No.	Item	Quantity	Specifications
			e. 50 nos. of DVDs to be supplied • Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. • Standards & Safety : a. Should be US FDA and European CE approved product. b. Manufacturer and Supplier should have ISO 13485 certification for Quality standards. c. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements d. Shall meet internationally recognized for Electromagnetic Compatibility (EMI/EMC) for electro medical equipment: 61326-1. e. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety. • Manufacturer/supplier should have ISO 13485 certificate for quality
56.	Height measuring stand		• Wall Mounted • Up to 2 meters height • Measurement in centimetres only not in inches
57.	Blood storage refrigerator**		• Should be able to accommodate 120 numbers standard blood bags for each of 350 ml capacity • Temperature should maintain between +2º C to +6 ºC. • Should be provided with a temperature recorder (weekly chart recorder). • The unit should be mounted on wheels.
			• The external cabinet should be of rust proof material and have internal SS sheet and should have sliding trays made of stainless steel. • Should have an inner plexi door for each compartment separately for easy viewing the blood bags. Outer lockable double glass door with air gaps • Should have a digital sensor dipped in liquid/air medium • Should have a display for temperature. • Internal temperature hold overtime in case of power failure should be at least 1 ½ hrs. • Should have an internal light. • Should have visual, audible indication for door open, high and low temperature and power on. • Alarm system should be incorporated with battery backup for minimum 2 hrs. • Should have a vertical cabinet. • Should have a CFC free, Urethane foam insulation (50-90mm) to protect cabinet from ambient temperature fluctuations • System should have a positive forced air circulation to maintain temperature uniformity at all shelf levels with +/- 1degC. • Should have sensors for activating automatic defrost cycles to minimize the frost build up. • Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings. • Should operate on mains 220-240Vac, 50 Hz single phase. • Temperature recording chart and ink pen for 5 years shall be supplied free of cost.

			• Equipment should have brand name / model number embossed/ etched on the equipment. • All the technical specifications accepted in the compliance statement must be supported by Original Literature from the firm/ O.E.M with Highlighting, Numbering & flagging. • Standards & Safety : a) Should be US FDA or European CE approved. b) Relevant IEC-60601-Part 1 & 2, certificates by a notified agency c) Manufacturer/Supplier should have ISO 13485 certificate for quality standard.
58.	Transport ventilator**		1. Ventilation modes: - a. Volume Controlled mode. b. Pressure Controlled mode c. Asst. Controlled mode. d. SIMV(VC/PC) e. Pressure Support f. CPAP and PEEP g. Shall have NIV in all modes. 2. Tidal volume - 100 – 2000 ML (Adult patient) a. Respiratory rate - 0 – 60 BPM. b. Inspiratory Pressure - 4 – 50 cm H2O. c. Oxygen Concentration - 21 –100 % d. Audible alarms for low pressure, apnoea, high-pressure, high respiratory rate circuit disconnection. 3. Standard Accessories (with each machine): a. Patient circuit (Adult) - 1 complete set, reusable b. O2 Pressure Regulator - 1 No. c. Hose for O2 connection - 5 mts. d. Test lung - 1 No. e. Shall supply with all other accessories necessary to operate the ventilator. f. NIV Mask -1No(Adult Reusable) 4. Power Source a. 220/240 V Ac 50 Hz supply b. Internal battery (maintenance free) with 2.5 hours minimum operating 5. Mounting a. Provision for mounting on trolley & bedrail with necessary clamps. Should have carry handle/ provisions for transport easily 6. Should not have ventilator circuit with multiple tubing which is not easy to assemble or re-assemble. 7. Should have trigger setting facility for pressure/flow. 8. Should be electrically driven to prevent wastage of gases and to avoid dry run. 9. Patient circuit – 10 nos disposable should be supplied along with the machine. 10. The ventilator shall be able to monitor VTE, VTi, RR, FiO2, NVE, Pif, I:E Ratio,

S.No.	Item		Specifications
			graphs – V-T/P-T/F-T(at least one) 11. Shall have weight <10kg 12. Oxygen – input either low pressure or high pressure. in case of low pressure, FiO2 shall be able to set more than 0.9. 13. **Standards & Safety** : a) Should be FDA (US) and CE (EU) notified body approved b) ISO 13485;2003; IEC-60601-1-2; ISO 15001-2010 (Anestheric& respiratory equipment- compatibility with oxygen). Certificate Of approval for transport ventilator. c) Manufacturer/Supplier should have ISO 13485 certificate for quality standard. 14. **Documentation**: a) User, technical, maintenance and service manuals to be supplied along with machine diagrams. b) List of equipment and procedures required for local calibration and routine maintenance. c) Certificate of calibration and inspection. 15. Any warning signs would be adequately displayed. 16. **Storage condition**: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. 17. **Operating condition**: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%. 18. Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall b documented.
59.	Transport ventilator (Neonatal) **		• Mountable transport ventilator (Neonate/Paediatric). • Invasive Modes (CMC and SIMV) and Non-invasive Mode (CPAP) • Pressure controlled - Pressure upto 15mmHg. • Respiration Rate upto 40. • There should be two FiO2 setting range between 21% and 100%. Setting 100% FiO2 should be mandatory. • PEEP 0-20 cm of water. • Trigger sensitivity - Pressure. • The associated cylinder (to be supplied along with the machines) should be such that it could be locally filled. • Oxygen Cylinder connector (to be supplied along with the machines) should be compatible with ventilator. • Audio and visual alarm for disconnection and high pressure. • The device should be capable of operation in various environments such as Emergency, Ambulance, Aircraft,

S.No.	Item		Specifications
			Hospital and MRI. • The device should be MRI conditioned up to 3 Tesla, 430 G/cm. • User interface should be automatic. • Weight should be less then 8kgs. • Should have audio visual alarm for disconnection and high pressure. • Power Requirement: 220to240V,50Hz;electricity andbattery driven;should be compatible With ambulance power supply system with other life saving equipments running parallel in the ambulance. • Battery backup should be atleast 6hrs. • Tolerance ± 10% of input • Should have OVP Protection and earth leakage protection. • Power consumption : <140 Watt. • **Accessories**: Full face mask, 4 reusable breathing circuit of silicone material (2 for pediatric and 2 for neonates), carry bag, ventilator connecting tubes. • **Standards &Safety** : Should be FDA (US) and CE (EU) notified body approved • ISO 13485;2003; IEC-60601-1-2; ISO 15001-2010 (Anestheric& respiratory equipment- compatibility with oxygen). Certificate • Manufacturer/Supplier should have ISO 13485 certificate for quality standard. • Any warning signs would be adequately displayed. • **Storage condition**: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. • **Operating condition**: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
60.	Defibrillator**		• US FDA or Eu CE notified body approved • Biphasic, Manual and AED with voice prompt, compact and light weight • Energy selection 5J to 200J in steps. 3. Momentary energy selection access on front panel. • Should have adult and pediatrics paddles integrated on same handle • Momentary charge key on front panel and on the apex hand. • Monitor should display selected and delivered energy • Should have disarm facility. • Energy should be delivered within 30ms after the detected R wave in synchronization mode. • Charging time maximum 5 sec for 200J. • Should have battery back up for 50 discharges of 200J.

S.No.	Item		Specifications
			• Should have ECG inputs through paddles or 3 lead cables. • Should have display for selected ECG input source(I, II, III, paddles) • Lead off message should appear with alert tone. • Amplitude gain of ECG waveform should be adjustable • Should have display for heart rate. • Should have alarm for high and low HR. • Should have an inbuilt thermal recorder. • Should have enable/disable option for printer. • Should supply 2 bottle of jelly, 12 roll of thermal paper. • Should supply three pairs of AED pads 21.Should operate on mains 230V, 50Hz
61.	Portable ultrasound**		• System should weight: not more than 7.5 kgs with battery and one single regular probes • System should be preferably spill proof and fluid resistant for easy to clean and disinfect • System cold start up time off to on not more than 90 second • Architecture: all digital broadband • Should have dual imaging • Should have zoom capability • Should have dynamic range & gain • Should have S-Video (in/out) for record & playback • Should have RGB or DVI output to external LCD display • Should have composite video output (NTSC/PAL) or HDMI to Video printer or external LCD display • Should have minimum of 2 USB ports for data transfer • System should work both in AC power and battery • System should have minimum battery backup of 1hr on fully charged condition • System should be compatible for TEE/TOE, and should support both in A/C Mains and in battery • AC: Universal Power adaptor, 110-240 VAC, 50/60Hz input II. • The equipment must be capable of operating in B mode, M Mode, Color Doppler, Pulsed Wave and Continuous Wave modes. It must support transducers with linear, phased array and curved array formats. • It must include a fully array of measurement and calculation packages. The specific requires for this equipment are the following; o Beam Former: universal digital broadband former accepting routine phased array sector, convex, and linear probes o Monitor: should have high-resolution medical grade monitor not less than 10” with adjustable display

S.No.	Item		Specifications
			contrast o Digital processing channels: at least 128 channels o Gray scale: system should have a minimum of 256 gray levels with system dynamic range to be at least 100 Db o Display modes: with B, 2B, M, PW, HPRF/CW and Color Doppler with Power Doppler, Tissue Harmonic should be available on convex and phased array probes, steering on color / PW modes on linear probe should be available o Cine review: standard cine memory providing minimum 200 frames on 2D mode and up to 60 seconds Doppler cine o System should be capable of handling 2-15 MHz – multi frequency imaging with independent selection of 2D/Color/Spectral Doppler frequency should be offered 8. Image optimization on B and M modes: System should have the following: ▪ Up/down & right/left image rotation ▪ Multiple steps of edge enhancement settings ▪ Up to 25cm depth. ▪ Levels of persistence o Measurements and calculations ▪ System should have at least 4 calipers with depth information and extensive, customizable measurement and report packages ▪ Distance, area, % stenosis on B mode c. Distance, Time, Heart Rate, slope on M mode d. Velocity, acceleration time, slope, PI, RI, S/D Ratio with Auto Doppler on Doppler mode o Transducers: ▪ Supported by this system should include multi frequency, broad brand, linear array 6- 12MHz transducer for, vascular, musculoskeletal, nerve and superficial imaging ▪ Transducers supported by this system should include multi-frequency, broadband phased array transducer 2-4 MHz for cardiac, abdominal, and obstetrics imaging. o Machine should be supplied with a convex probe (2-5 MHz) as standard o Should be US FDA or Eu CE notified body approved o Manufacturer should have ISO 13485
62.	3-D Ultrasound – High End for Diagnostics**		Specification of colour Doppler Ultrasound Machine • It should be State of the art new generation technology, ergonomically designed integrated trolley mounted Digital Ultrasound Unit with Color Doppler facility & should be capable of performing imaging application of

S.No.	Item	Specifications
		abdomen, Obstetrics, Gynaecology, cardiac paediatric, fetal cardiac, small parts, vascular etc. • The system should incorporate facility for High resolution 2D, M Mode PW, CW, Color Flow imaging, Color Power Anzio Imaging, Directional Color Power Doppler Imaging mode. System should have Triplex Modes all three modes B &Color Live Mode, M mode. • System should have 4D scanning facility and elastography facility with elastography quantification for better initial scanning of melignant patients. • The system should have facility of tissue harmonic imaging, trapezoidal imaging &Spatial compound imaging. • The system should have Zoom facility on live and freeze image. • The system should have touch panel operation facility along with Key board for fast working • All transducers should have Broad Bandwidth Beam former technology for extreme High Resolution 2D/3D Imaging. Frequency range of Transducers should be 2 to 15 MHz or more. • The System should be equipped with speckle noise suppression function (or equivalent facility with different name). Such function should be visible on the screen. • Facility for independent steering of color beam on liner probe. • The system should provide 188 dB or more full input dynamic range. • Should have one touch image optimization & automatic real-time Doppler tracing. • System should have a High resolution LCD Monitor of medical grade of 17 inches or more with anti-glare & maximum viewing angle facility. • System should have facility of panoramic view imaging. • The system should have touch pannel 10' screen for better and easy operation of machine. • Machine should have at least 3 active general transducer ports. • System should have Image management facility for direct storage of Images and loops in the hard Disk Drive. • Should have in built at least 320 GB HDD or more to store images and cine loops. • Archive-should have inbuilt DVD-RW, USB Drive with the facility to transfer images. • Should direct connectivity to color inkjet printer for printing images & report. • Should have high frame rates more than 800 FPS. • Should have Digital Processing channels of 84000 or more. • Grey scale (min 256 or more). • System should have scanning depth of 34 cm or more. • The system should have automatic quantification of Doppler Parameters to display user selected measurement. • DICOM 3.0 including storage, print and send facility to be quoted as standard. • The System should be compatible of the supporting different types of probes including, convex, micro-convex,

S.No.	Item		Specifications
			linear, sector/phase, array and transvaginal/ transrectalprobe for wider application requirements which should be supported by original database, user manual & catalogue. • Cine-loop should be 600 loops/60 sec. • The accessories to be supplied as standard supply with the unit are: o Color Photo Printer o Suitable online UPS with 20 min. backup and o Thermal Printer • The quoted model should be US FDA approved, Requisite certificate should be attached. • The Equipment should be offered with the following standard probes: o Multi frequency Convex probe of 2-5 MHz, or better o Multi frequency Linear probe of 4-10 MHz, or better o Multi frequency TV/TR probe of 4-8 MHz, or better o Multi Frequency cardiac phased array probe of 2-4 MHz or better
63.	X-ray		Specifications of Mobile X-Ray Machine 100 mA • Radiography Rating: 15-60mA stations 40 KVP to 100 KVP in steps of 5 KVP each. • Output: 3.5 KW • Rectification: Full wave rectified High Frequency 40 KHz • Timer: Electronic Solid State in 24 Steps 0.01 to 3 Sec. • Digital Display: Digital Display to mAs. & KV • X-Ray Tube: BEL DSA-3/Imported, Focal Spot Focal spot 1.4 mm^2 • Power Supply: 230 Voltages AC, 15 Amps • Requirement: 40 Hz, Single Phase • Line Regulation: 10% 0.6 Max • Protection: Electronic over-load protection • Tube Stand: Counter Balanced/ Spring Balanced Mobile stand, should be easily Transported in elevators/lift because of low height. • Mobility: High Mobility • AERB Approved and Eu CE approved & ISO 13485 certified
64.	Laryngoscope		• Fiber optic Laryngoscope - preferably should be reusable using the latest LED technology and reusable light source using the latest LED technology. • The main body of the handle should incorporate an excellent grip & should feel even wearing a glove.

S.No.	Item		Specifications
			• There should be a freely moving light intensifier of light from the light source through to the tip of the fiber optic blade to prevent any possibility of cross contamination. • Should be light weight (upto 500 gms). • The unit should allow the blade to be inserted easily & should provide a positive locking mechanism when moved in to the closed position. • The patient contact material should be biocompatible. • Handheld unit, single piece when in use. • On/off switch to be robust and easy to use. • External material to be non-ferrous. • Blades to be surgical grade 316 stainless steel. • Supplied in protective, reclosable container. • Internal batteries, rechargeable preferred/Penlight battery AA size, Battery charger (if rechargeables), Battery compartment (if reusables) to be sealed against liquid ingress, yet easily opened. • Accessories mandatory with Batteries, blades of various adult, neonatal and pediatric sizes. • 5 LED should be given as spare. • Manufacturer/supplier should have ISO7376 standard; certificate for quality standard. • The lithium battery should comply to IEC 62133 or its equivalent. • The device should meet IEC 60601-1, IEC 60601-2 standard requirements. • Should be US FDA or EU CE approved product.
65.	Constant Temp Water Bath with Thermometer for Lab		• Should have a double walled construction. • The inner chamber and top lid should be made of stainless steel. • The space between the two walls should be packed with thick glass wool. • Should provide with a thermostat control and a thermometer to measure temp. • Working temperature should be from ambient+5 ºC to 80ºC having an accuracy of +/- 1ºC • Should have an approximate ± 5 % variation in inner chamber dimension of 350mm x 250mm x 125mm. • It should be a water bath with a surface that provides high thermal conductivity rates and outstanding scratch resistance due to its special plastic coating. • Temperatures can be selected between ambient and 80°C. To increase safety and reliability it should have features an overheating protection system along with a stand-by mode.

S.No.	Item		Specifications
			• The broad oversized rim of the water bath should allow convenient storage for microscope slides and the rounded inner corners of the instrument should allow it to be cleaned easily and efficiently. • The jet black surface with scratch-proof plastic coating to provide better contrast to identify sections and an easy to clean surface. • Should have LED display for programmed & current temperature and visual indication when the temperature exceeds above 44°C. • Membrane keyboard should be less sensitive to water and paraffin contamination and more easily cleaned. • Should have BIS and ISO 13485 certification.
66.	Centrifuge -12 Tubes		• Should have a maximum speed of 5000 RPM with stepless regulator • Should be supplied with safety lid and lock. • Should have digital speedometer and timer. • Should have imbalance detector and automatic cutoff. • Should be US FDA / European CE / BIS approved. • Manufacturer or supplier should have ISO 13485 certificate. • Should work on 200-240Vac 50Hz power supply. • Should have swing out rotor of size 16*15ml.
67.	Ambu Bag		• High Grade Rubber/Silicon • auto shut valve • Facility to connect Oxygen
68.	Microprocessor Based Incubator (transport type)		Dimensions (metric): Baby bed should be atleast 60X30cm and the canopy should be atleast 80X40 cm Weight (lbs, kg): not exceeding 40kg. (without cylinders)

S.No.	Item		Specifications	
			Configuration	Oxygen port with tubing, also mount for oxygen cylinder of 5 litre size Accommodates shelves, suction unit and I/V poles. Double-walled cabinet with at least two hand ports. Should have collapsible trolley with lockable castors. Mounted on mobile base, lowest height setting of which is at least 80 cm high Minimum castor diameter 12cm At least two castors must be fitted with brake facility Castors must be made of conductive material and rotate (swivel) freely around the vertical axis The canopy and infant bed should be crevice free for ease of cleaning.
			heat dissipation	Should maintain upto 37 deg temp
			Mobility, portability	Yes, on castors
			Voltage (value, AC or DC, monophase or triphase)	220 to 240V, 50 Hz
			Battery operated	battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit.Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines. Battery backup of 2 hours for equipment operation. The battery should be protected from overcharging.
			Tolerance (to variations, shutdowns)	Voltage corrector / stabilizer / UPS to allow operation at ± 30% of local rated voltage

S.No.	Item		Specifications	
			Protection	Internal, replaceable, rechargeable battery allows operation for at least two hours in the event of power failure
			Power consumption	
			Other energy supplies	Mains cable to be at least 3m in length
			ACCESSORIES, SPARE PARTS, CONSUMABLES	
			Accessories (mandatory, standard, optional)	With washable and removable straps and binders
			Spare parts (main ones)	Two extra sets of all sensors
			Consumables / reagents	Two extra sets of filters, two extra set of fuses (if replicable) fuses used)
			Environmental and Departmental Considerations	
			Atmosphere / Ambiance (air conditioning, humidity, dust)	Operating condition: –Capable of operating continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. – an ambient air velocity is less than 0.3 m/s.
			User's care, Cleaning,	Unit layout to enable easy cleaning and sterilization of all surfaces, with no unreachable fluid traps. The case is to be
			Standards and Safety	
			Certificates (pre-market, sanitary, ..);Performance and safety standards (specific to the device type);Local and/or international	Should be US FDA / European CE approved product Manufacturer / supplier should have ISO 13485 certificate for quality standard Electrical safety conforms to standards for electrical safety IEC-60601-1

S.No.	Item	Quantity	Specifications
			Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility) Shall comply with IEC 60601-2-20 transport incubator standard requirement.
69.	Transfer Trolley for OT Sterile zone		• Patient transfer trolley without side railings. • Overall approx. dimension: 1900 x 710 x 665 mm and 915 mm H (L x W x H) ± 50 mm tolerance accepted. • Should have Mild steel tubular frame work made of 60 mm x 30 mm x 1.2 mm (18 G) supported by MS tube 25 mm x 25 mm x 1.2 mm (18 G) and linkages made from flats thickness 10 mm. This frame is mounted on four 125 mm dia. castor with synthetic body two with brakes and two without brakes. • Should have 1.5mm thick SS 304 sheet stretcher, 25 x 2mm SS 304 round tube frame. Decorative laminated (compact) sheet of 8 mm thick make Top is also accepted • Should have cross bar placed in between the leg frames on both ends. • Should have two transverse supports to be provided beneath the stretcher. • Should have Backrest on ratchet. • Should be fitted with swing away type mild steel epoxy powder coated railing. • Should have Oxygen cylinder holder & storage tray 11. Should have Stainless steel I.V. rod made of SS 304 with two provisions. • Should have provisions for height adjustment. • Should be pre-treated and powder coated finish. • Should be Eu(CE) or BIS approved. • Manufacturer or supplier should have ISO-13485 certificate

S.No.	Item	Specifications
70	BLOOD GAS ANALYSER	1. Should be able to measure directly PH, PCO2, PO2, Sodium, Potassium, Chloride, and Calcium in a single run. 2. Should have minimum 15 calculated parameters including SaO2,Bi-carbonate (HCO3), Standard HCO3, Base Excess of Blood (BE), Base Excess of extra cellular fluid 3. Should have a sample through put of minimum 30 samples per hour 4. Should have an automatic calibration for all the measured parameters without the use of gas cylinder 5. Electrode should be individual with ON/OFF facility and durable. 6. Should have an inbuilt printer and minimum inbuilt memory of 100 samples 7. Warm up time should be less than 30 minutes 8. Reagent pack for doing 1000 test, one deprotieniser of 125 ml, printer paper and one three level quality control of 5ml. 9. Should work on 200-240Vac 50Hz power supply. 10. Should be supplied with on line pure sine wave UPS of sufficient capacity for a minimum back of 30 minutes. 11. Should be provided with calibration certificate issued by the manufacturer at the time of installation and calibration certificate should be issued for the machine by the supplier during preventive maintenance visit in the warranty/AMC period if demanded by the end user. 12. Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid. 13. All types of electrodes supplied initially shall have one year warranty and there after any types of electrodes supplied shall have six months warranty. 14. Reagents supplied should have at least six months shelf life. 15. All consumables should have at least 45 days on-board stability.

71	Hematology Analyzer (3 Part Differential)	The Equipment should be fully automated three part differential 18 parameters Hematology Analyzer having automatic start up, shut down and sample analysis. Principles : Electrical impedance method with advanced SRV technology for better accuracy and precision. Photometry – LED based technology. Parameters : The Equipment should be able to report following parameters- WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, LYM#, MID#, GRA#, LYM%, MID%, GRA%, RDW-SD, RDW-CV, PDW-SD, PDW-CV, MPV, PCT. Histograms: WBC, RBC and PLT . Throughput : The equipment should have throughput of at least 60 samples per hour . Sample volume : 25µl of whole blood using automatic sample holder . Chambers : Dual chamber advanced system for higher accuracy & resolutions . Reagent System : Environment-friendly reagents . Auto Clean Modes : Chemical cleaning of the aperture using reagent , Back-flush using high-pressure . Data capacity : 1 000 results with all histograms. USB Interface (2) : Support for host computer . Support for USB keyboard (optional). Support for external printers (hp DeskJet, LaserJet) .Data back-up method : USB mass storage device Software upgrade method : Via USB port (using USB mass storage) .The equipment should have in built printing facility .It should have option for RS 232 port and integration with LAN for intranet and internet. The equipment should have internal and international quality control support. The equipment should be CE marked/FDA (US) approved. Source: Indigenous /Imported.

72.	Oxygen Concentrator	1. Oxygen concentrator to provide oxygen from ambient air 2. Oxygen concentration measured at the flow meter by oxygen sensing device (OSD) 3. Sound level <15 dB 4. Superior grade of molecular sieve 5. Maintenance free rotary proppet valve. 6. Oxygen purity, approx: 90% 7. Oxygen output, approx: 0 - 5 LPM 8. Pressure, approx: 8 psi 9. Double outlet or flowsplitter for oxygen Delivery 10. Oxygen tube of 2 m length must be provided with 11. Facility for nebulization with tube & mask 12. With two humidifier bottles and two cabinet filters 13. Unit should function with 200-240Vac, 50/60 Hz input power supply 14. Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid. 15. The equipment shall be supplied with i. One spare set of tubing ii. One spare set of internal and external filters (bacterial) iii. One spare set of fuses iv. User manual with trouble shooting guidance, in English v. Technical manual with maintenance and first line technical intervention instructions, in English vi. List of priced accessories and priced spare parts

73.	Bacteriological Incubator	1. Temperature range: Ambient +5.0°C to 60.0°C. 2. Temperature control accuracy: ±0.5°C of set point. 3. Temperature uniformity :±0.5°C . 4. Control type: Time proportionate digital / Microprocessor PID, Auto tune . 5. Temperature display: 3½ digit LED . 6. With motorized fan blower for air circulation. 7. Inner full length acrylic door . 8. Input voltage: 230Volts AC, 50 Hz. 9. Calibration certificate by ERTL –with traceability to NPL – New Delhi 10. Outer cabinet mild steel powder coated.
74.	Baby Bassinet	1. Preprex transparent crib with soft mattress. 2. Should have fine finish, Sturdy and robust design. 3. Should be on 5cms castors with IV rod. 4. Finish: Pretreated and Epoxy powder coated.
75.	CPAP Machine with Heated Humidifier	The **CPAP Machine with Heated Humidifier** should offer advanced features for therapy comfort and success. Exhalation Relief makes breathing out against the air flow easier while the Auto-Adjusting technology provides optimum therapy pressure on a breath by breath basis. The integrated Heated Humidifier is included to maximize therapy comfort. **Specifications** • Auto-CPAP Machine • Heated Humidifier for Auto-CPAP • 6 Ft Hose (22mm) • Carry Case • Power Cord • 2 Disposable Filters -1 Installed & 1 Extra • Manual **Machine & Humidifier Warranty** 2 years

		Pressure 4 to 20 cm H2O (.5 increments) **Ramp Time** 0 to 60 min. (5-min. increments) **Starting Ramp Pressure** 4 to min pressure. **Filter** Disposable - Dual Filtration **Sound level**<30 dBA **Tubing** Standard 6 Ft Hose, Flexible plastic, 22mm inner diameter **Device Set-Up** Control Panel Push Buttons **Humidification** Integrated Heated Humidifier or Pass-over Humidifier **DC Power** Use with Inverter **Data Storage Capacity** Display: 365 days summary data **Temperature Range for Operation of Machine** 41 to 86° F (5-30° C) **Humidifier Temperature Output** Settings 1 - 5 (104° to 149° F)
76.	Blood cell Counter (Manual)	1. 8-Key Counter 2. Table top
77	Instruments Tray Different Sizes	1. Instrument tray with cover 2. Kidney Tray 3. Catheter Tray 4. Dressing Tray 5. All should be made of heavy duty stainless steel.

Annexure- II

List of Hospitals/Districts	
1	Ambedkar Nagar
2	Aauriya
3	Azamgarh
4	Bagpat
5	SantKabir Nagar
6	Etah
7	Hardoi
8	JyotibaPhule Nagar (Amroha)
9	Kannauj
10	Kaushmabi
11	Kushinagar
12	Maharajganj
13	Siddharth Nagar
14	Mau
15	Pratapgarh
16	Jaunpur
17	Gorakhpur
18	Ghazipur
19	Deoria
20	Ballia

Signature of Authorized Person

Date :

Full Name:

Place :

Company's Seal:

Annexure-III

UNDERTAKING

This has reference to the RFP published in the website of HLL Mother & Child Care Hospitals Ltd., on..... In response to the RFP, we have submitted our technical & financial bids on.....at your office..... In connection with the above bids, we hereby declare as under:-

1. That we are neither related to any of your Trustees, Officers and other employees nor do we have any financial, commercial or other interests with any of the above persons in any capacity whatsoever.

2. That we have submitted the bids in the name of M/s.....and declare that no other bids have been submitted by us in the name of any other firms/companies/proprietors/individuals which comes under the same management and related parties.

3. We hereby undertake that the information, documentary evidence on financial standing, past experience, performance report from clientele provided with tender are authentic. HLL MCCH Ltd reserves the sole right to forfeit the EMD submitted by us if at any stage the information, documents provided by us, are found forged/manipulated/modified.

4. We here by undertake that in case of any violations to the above declarations at any stage of the contract, HLL MCCH Ltd. reserves the sole right to cancel the contract and recover the full value of the contract from us.

Signature of Authorized Person

Date :

Full Name:

Place :

Company's Seal:

ANNEXURE - IV

PRICE SCHEDULE FOR COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD

1	2	3	4							5
Item Sl. No.	Brief Description of the Goods	Quantity (Nos.)	Comprehensive Maintenance Contract Cost for Each Unit year wise*.							Total Comprehensive Maintenance Contract Cost for 5 (or as specified) Years
			1st (Shall be covered under warranty)	2nd (Shall be covered under warranty)	3rd	4th	5th	6th	7th	
					Rates to be quoted for the next 05 (years)					[3 x (4a+4b+4c+4d+4e)]
					a	b	c	d	e	

*** After completion of Warranty period**

NOTE:-

- In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
- The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual and labour at specified frequent interval (as specified in Operational Manual), after satisfactory completion of Warranty period may be quoted for next 5 (or as specified) years on yearly basis for complete equipment and Turnkey (if any).

- The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
- Cost of CMC will be added for Ranking/Evaluation purpose.
- The uptime warranty will be 98 % on 24 (hrs) x 7 (days) x 365 (days) basis or as stated in Technical Specification of the TE document.
- All software updates should be provided free of cost during CMC period.
- The stipulations in Technical Specification will supersede above provisions
- The supplier shall keep sufficient stock of spares required during Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Name_____

Business Address_____

Place: _____ Signature of Bidder_____

Date: _____ Seal of the Bidder_____