TENDER ENQUIRY DOCUMENT

For

RATE CONTRACT

For procurement of

MEDICAL EQUIPMENT

TENDER NO.: HLL/HITES/PCD/RC-ME/01/2015

HLL Infra Tech Services Limited

A fully owned subsidiary of

HLL Lifecare Limited

(A GOVERNMENT OF INDIAENTERPRISE)

B-14 A, Sector-62,Noida-201 307

PHONE: 0120-4071500; FAX: 0120-4071579

URL: www.lifecarehll.com

Email: hites@lifecarehll.com

Disclaimer

The information contained in this Tender Document has been prepared solely for the purpose of providing information to the interested bidders, and is not in any way binding on HLL Infra Tech Services Limited (HITES). By accessing this Tender Document, prospective bidders agree that HITES will not be liable for any direct or indirect loss arising from the use of the information and the material contained in this Tender Document. This tender document is only for calling tenders from suppliers of individual items and the tender conditions may be modified depending on the item for which Rate Contracts are to be finalized. By this Tender invitation HITES does not assures any item or every item contract shall be finalised or purchase shall be made. Bidders access to it does not imply a license to produce and / or distribute this information and you are not allowed to any such act without the prior approval of HITES.

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SECTION I

NOTICE INVITING eTENDER (NIT)

HLL Infra Tech Services Limited

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B-14 A, Sector-62, Noida-201 307
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TenderEnquiryNo: HLL/HITES/PCD/RC-ME/01/2015 Dated. 06-10-2015

HLL Infra Tech Services limited (HITES), a fully owned subsidiary of HLL Lifecare Ltd. (HLL), invites e-tenders for conclusion of Rate Contract, from eligible and qualified bidders for supply of following medical equipments and devices, intended to be supplied to Medical Colleges/ Hospitals/ Dispensaries across India under Ministry of Health and Family Welfare, any other Ministry of Govt. of India, State government departments and other autonomous institutions, as and when required by them during the validity of Rate Contract.The Rate contract shall be valid initially for a period of one year, extendable for another one year,

1.

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Prebid Meeting Date and time	Last date for submission of Tender fee and EMD	Last date for online submission and opening of Tender
Group: Special Neonatal Care Unit						
1		Radiant Warmer	10,000	27th Oct'2015 at 11 AM	23rd Nov'2015	24th Nov'2015
2		Bassinet	10,000			
3		Irradiance Meter	10,000			
4		Suction Pump, Foot Operated	10,000			
5		Suction Pump Portable	10,000			
6		Transport Incubator	20,000			
Group: Laboratory						
7		Automated 3 – part Differential Haematology Analyzer	1,00,000	27th Oct'2015 at 02 PM	24th Nov'2015	25th Nov'2015
8		Automated 5 – part Differential Haematology Analyzer	1,00,000			
9		Binocular Microscope	10,000			
10		Capillary Bilirubinometer	10,000			
11		Centrifuge	10,000	27th		

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Prebid Meeting Date and time	Last date for submission of Tender fee and EMD	Last date for online submission and opening of Tender
12		Colorimeter	10,000	Oct'2015 at 02 PM	24th Nov'2015	25th Nov'2015
13		Fully – Automated Biochemistry Analyzer	1,00,000			
14		Portable Compact Mobile Lab with Accu Kine	20,000			
15		Semi – Automated Biochemistry Analyzer	1,00,000			
16		Semi – Automated Elisa Washer and Reader	1,00,000			
17		Semi – Automated Urine Strip Analyser	20,000			
18		Non Invasive Hemoglobinometer- Conjunctiva based	20,000			
19		Non Invasive hemoglobinometer- Probe based	20,000			
20		SMS based Multi-parameter Patient Monitoring System	20,000			
21		Urine Analyser	20,000			
Group: Radiology						
22		300 mA HF X-Ray Machine	1,00,000	28th Oct'2015 at 11 AM	25th Nov'2015	26th Nov'2015
23		Color Doppler flow Ultrasound	1,00,000			
24		Ultrasound Machine	1,00,000			
25		500 mA X–Ray Machine (HF)	1,00,000			
26		C-Arm System (HF)	1,00,000			
27		CR System	1,00,000			
28		Digital Radiography System (HF)	1,00,000			
29		Mobile X – Ray Machine (HF)	1,00,000			
30		Mammography	1,00,000			
Group: Emergency Response System						
31		Suction Pump Foot Operated	10,000	28th Oct'2015 at 02 PM	26th Nov'2015	27th Nov'2015
32		Flowmeter with Humidifier Bottle	10,000			

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Prebid Meeting Date and time	Last date for submission of Tender fee and EMD	Last date for online submission and opening of Tender
33		Oxygen Cylinder"B"Type	10,000	28th Oct'2015 at 02 PM	26th Nov'2015	27th Nov'2015
34		Oxygen Cylinder"D"Type	10,000			
35		Artificial Manual Breathing Unit (Adult)	10,000			
36		Artificial Manual Breathing Unit (Child and Neonatal)	10,000			
37		Trolley Stretcher- With Back Tilt Facility And Collapsible Wheels For Uploading Into The Trolley	10,000			
38		Canvas stretcher(Folding)	10,000			
39		Stretcher Scoop	10,000			
40		BP Instrument Aneroid	10,000			
41		Stethoscope	10,000			
42		Pneumatic Splints	10,000			
43		Gauze Cutter	10,000			
44		Artery Forceps	10,000			
45		Magill's Forceps	10,000			
46		Cervical Collar	10,000			
47		First Aid Bag	10,000			
48		Spinal Board	10,000			
49		Double Head Immobilizers	10,000			
50		Foetal Doppler	10,000			
51		Portable hand Held Gulcometer	10,000			
52		Nebulizer (Electric)	10,000			
53		Baby Hypothermia Wrap Kit	10,000			
54		Transport Ventilator	20,000			
55		Drug Vending Machine	20,000			

Group: Neonatal and Pediatric Care ICUs						
56		Direct ophthalmoscope	10,000	29th Oct'2015 at 11 AM	27th Nov'2015	30th Nov'2015
57		Mobile X Ray	20,000			
58		Bilirubinometer	10,000			
59		ECG Unit	10,000			
60		Low cost Glucometer	10,000			
61		Blood Gas Analyzer	1,00,000			
62		Transilluminator Cold Light Source	10,000			
63		CPAP	20,000			
64		Intensive Care Ventilator (Neonatal & Pediatric)	1,00,000			
65		Transport Ventilator (Neonatal & Pediatric)	20,000			
66		Defibrillator	20,000			
67		Syringe Pump	10,000			
68		Infusion Pump (Volumetric)	10,000			
69		Suction Pump Foot Operated	10,000			
70		Self Inflating Reservoir Bag	10,000			
71		Laryngoscope	10,000			
72		Oxygen Hood	10,000			
73		Oxygen Concentrator	10,000			
74		Phototherapy	10,000			
75		Thermometer Digital	10,000			
76		Pulse Oxymeter, Line Powered	10,000			
77		Monitor	10,000			
78		Baby Weighing Scale	10,000			
79		Breast Pump	10,000			
80		Examination Treatment Light	10,000			
81		EEG Electroencephalography	20,000			
Group: Skill Laboratories						
82		Abdominal palpation mannequin for Leopold maneuvers during pregnancy	10,000	29th Oct'2015 at 02 PM	30th Nov'2015	01st Dec'2015
83		Adult CPR mannequin	10,000	29th Oct'2015 at 02 PM	30th Nov'2015	01st Dec'2015
84		Child birth simulator along with attachment for cervical dilatation	10,000			
85		Adult IV training arm kit	10,000			

86		Episiotomy suturing trainer	10,000			
87		Female lower torso mannequin with normal and postpartum uterus and accessories	10,000			
88		Normal new born baby simulation model	10,000			
89		Pediatric IV Arm Kit	10,000			
90		Uterine model	10,000			
91		Essential new born care and resuscitation mannequin	10,000			
92		Female catheterization mannequin	10,000			
93		Intramuscular Injection training mannequin	10,000			
94		OG Tube insertion simulation model	10,000			
95		Postpartum hemorrhage simulation model	10,000			
Group: Operational Theatres						
96		Suction pump portable electric	10,000	30th Oct'2015 at 11 AM	01st Dec'2015	02nd Dec'2015
97		Autoclave HP vertical (single bin)	20,000			
98		Autoclave HP horizontal	20,000			
99		Autoclave HP vertical (2 bin)	20,000			
100		Bowl sterilizer (big)	10,000			
101		Bowl sterilizer (small)	10,000			
102		Operation Table Orthopedic	1,00,000			
103		Dehumidifier	10,000			
104		Electrosurgical unit	20,000			
105		Ethylene oxide sterilizer	1,00,000			
106		Flash sterilizer with trolley	20,000			
107		Operation Table Hydraulic major	1,00,000			
108		Shadow less lamp ceiling type major	1,00,000	30th Oct'2015 at 11 AM	01st Dec'2015	02nd Dec'2015
109		Sterilizer (big instruments)	20,000			
110		Gynae- examination table	20,000			
111		Table for Obstetric Labour	20,000			
112		Focus lamp Ordinary for	10,000			

		Examination				
113		Operation Table Electro-Hydraulic (Electrical With Manual Over Side)	1,00,000			
114		Operation Table Hydraulic Minor	1,00,000			
115		Shadow less Lamp Ceiling Type Minor	20,000			
116		Shadow less Lamp Ceiling Type Minor	20,000			
Group: Preclinical Items						
117		Embalming Machine	10,000	30th Oct'2015 at 02 PM	02nd Dec'2015	03rd Dec'2015
118		Meat cutting Machine (Bakon's slicer)	10,000			
119		Hot plate - Electrical	10,000			
120		Incubator	10,000			
121		Dissection Table - Std	20,000			
122		Dissection table small	10,000			
123		X - Ray viewing Lobby	10,000			
124		Charts (in set)	10,000			
125		Models (in set)	10,000			
126		Refrigerator (Laboratory type)/REAGENT REFRIGERATOR	10,000			
127		Dissecting Microscope	20,000			
128		Paraffin water bath	10,000			
129		Water bath serological	10,000			
130		Hot air oven	10,000			
131		ICE flaking machine	10,000			
132		BOD incubator	20,000			
133		All glass distillation apparatus	20,000			
134		Peristaltic pump	10,000			
135		Biological safety cabinet	20,000	30th Oct'2015 at 02 PM	02nd Dec'2015	03rd Dec'2015
136		Single channel physiological recorder	20,000			
137		Algometer	10,000			
138		Kymograph with accessories	10,000			
139		Ph Meter	10,000			
140		Drug Cart	10,000			
141		View Box	10,000			
142		Infantometer	10,000			
143		Stadiometer	10,000			
144		Centrifuge machine with hematocrit reader(Capillary)	10,000			

145		Air Oxygen blender	10,000			
146		Exercise table	10,000			
147		Tilt table (Manual)	10,000			
148		Tilt Table (Motorized)	10,000			
149		Parallel bar(12ft with platform with mirror	10,000			
150		HEMOGLOBINOMETER	20,000			
151		Dielectric Tube Sealer, Handheld	10,000			
152		Blood Bag Tubing Stripper	10,000			
153		Refrigerated Blood Bag Centrifuge (12 BAGS)	20,000			
154		Electronic Double Pan Component Balance	10,000			
155		Manual Plasma Extractor	10,000			
156		Vertical Blood Bank Refrigerator	10,000			
157		Platelet Agitator & Incubator (96 Bags)	20,000			
158		VDRL SHAKER	10,000			
159		Micro Pipet 2-1000 ul	10,000			
160		Micro Pipet Fixed Volume (One Set)	10,000			
161		Refrigerated Blood Component Transport Box	10,000			
162		LED Head Light	10,000			
163		Tail Flick Analgesiometer	10,000			
164		Electroconvulsiometer (with ear and corneal electrodes)	10,000			
165		Cook's Pole Climbing Apparatus	10,000	30th Oct'2015 at 02 PM	02nd Dec'2015	03rd Dec'2015
166		Rotarod (6 compartments)-Computerized	10,000			
167		Digital Photoactometer	10,000			
168		Video assisted Elevated plus maze for rats and mice	10,000			
169		Portable Autoclave (25L)	10,000			
170		Digital Spirometer	10,000			
171		Bicycle ergometer with digital display	10,000			
172		Digital Reaction Time apparatus	10,000			
173		Multiple Choice Apparatus (with digital display)	10,000			
174		Critical flicker fusion apparatus	10,000			
175		Isolated Organ bath	10,000			
176		Multi Channel Pipette (Manual)	10,000			

177		Bioelectric Impedance Analyzer for bodycomposition	10,000			
178		Vortex Mixer	10,000			
179		Pharmaceutical refrigerators	10,000			
180		Automated tissue grinder(Homogenizer)	10,000			
181		Weighing Machine for dead bodies	10,000			
182		Digital Weighing Machine for organs/fetus	10,000			
183		Cadaver/ Autopsy carrier (Non-elevating)	10,000			

2.

Sl. No.	Description	Schedule
a	Cost of the Tender Enquiry Document (Bidder may submit tender for one or more items against payment of single tender fee)	**Rs. 3000/-** (Rs. Three Thousands Only)
b	Pre-bid meeting date , time & Venue	On the scheduled date and time mentioned in Para-1 above)
c	Closing date & time for submission of **Tender fee and EMD in physical form**	**1700hrs** IST, (On the scheduled date mentioned in para-1 above)
d	Closing date & time for submission of online bids	**1300hrs** IST, (On the scheduled date mentioned in para-1 above)
e	Time and date of opening of online bids	**1400hrs** IST, (On the scheduled date mentioned in para-1 above)
f	Venue for :- Pre-Bid meeting, Training, Submission of Tender fee & EMD in physical form, e-Tender opening and Price bid opening	HLL Infra Tech Services Limited Procurement & Consultancy Services Division. B-14A, Sector-62, Noida -201 307
g	Training to prospective bidders for online registration and submission of e-Tender	**1100hrs** IST, on 16th, 17th and 18th Nov'2015

SPECIFIC Instructions for e-Tender Participation:-

1. Bidders should have valid Class 3 Digital Signature Certificate with encryption.
2. Bidders are requested to read the bidders help document on e-tender web site link before proceeding for bidding.
3. The prospective bidders have to register with the E-procurement system of HLL at https://etender.lifecarehll.com/irj/portal. On completion of the registration process, the bidders will be provided user ID and password within 48 hours (excepting non-working days). In order to submit the bids electronically bidders are required to have a valid Class 3 Digital Signature Certificate (signing and encryption/ decryption certificates).
4. Post receipt of User ID & Password, Bidders can log on for downloading & uploading tender document.
5. **The tenderers shall submit tender fee and EMD in physical form at the scheduled time and venue.**

6. Tenderer may download the tender enquiry documents from the web site www.lifecarehll.com or www.eprocure.gov.in/cppp or https://etender.lifecarehll.com/irj/portal.
7. The submission of tender online can only be done thru' https://etender.lifecarehll.com/irj/portal.
8. Prospective bidders may send their queries 2 days before the pre-bid meeting so that they can be studied and addressed during pre-bid meeting, as far as possible. Query can also be raised during pre-bid meeting. No queries/ representations will be addressed after pre-bid meeting.
9. All prospective tenderers may attend the Pre Bid meeting and Training for online registration and submission of e-tender. The venue, date and time indicated above.
10. Tenderers shall ensure that their tenders complete in all respects, are submitted **online through HLL's e-portal (as described above) ONLY. No DEVIATION is acceptable.**
11. Date and time of HLL's server clock, as is also displayed on the dash board of the bidders, shall be taken as reference time for deciding the closing time of bid submission.Bidders are advised to ensure that they submit their bid within the due date and time of bid submission taking server clock as reference. No request on the account that the server clock was not showing the correct time and that a particular bidder could not submit their bid because of this shall be entertained.

IMPORTANT NOTE **:-Tender fee and EMD**in favour of "HLL Infra Tech Services Limited" Payable at New Delhi, should be submitted in the Tender Box located at **HLL Infra Tech Services Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201307, Uttar Pradesh** on or before the specified date and time mentioned in the Table -2, above. **Submission beyond stipulated date & time would result in REJECTION of BID.**

CEO
HLL Infra Tech Services Limited,
B-14A, Sector-62, G. B. Nagar,
Noida - 201307

SECTION - II

GENERAL INSTRUCTIONS TO TENDERERS (GIT)
CONTENTS

SECTION-II

GENERAL INSTRUCTIONS TO TENDERERS (GIT)

A. PREAMBLE

1. Definitions and Abbreviations

1.1 The following definitions and abbreviations, which have been used in these documents shall have the meaning as indicated below:

1.2 **Definitions**:

i. "Purchaser" means the organization purchasing goods and services.
ii. "eTender" means Bids / Quotation / Tender received from a Firm / Tender / Bidder.
iii. "Tenderer" means Bidder / the Individual or Firm submitting Bids / Quotation / Tender.
iv. "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract.
v. "Goods" means the articles, material, commodities, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, medical equipment, industrial plant, etc. which the supplier is required to supply to the purchaser under the contract.
vi. "Services" means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service and other such obligations of the supplier covered under the contract.
vii. "Earnest Money Deposit" EMD means Bid Security / monetary or financial guarantee to be furnished by a tenderer.
viii. "Contract" means the written agreement entered into between the purchaser and/or consignees and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc. therein.
ix. "Rate Contract" means contracts for the supply of stores at specified rates ordered during the period covered by the contract. No fixed quantities are mentioned in the contract, and the contractor is bound to execute any order from the HITES at the rates specified in the contract provided the order is placed within the contract period. The purchaser on his part is bound to order from the contractor all stores under the contract (subject to its demand and acceptability by user) which are required to be purchased subject to certain reservations for submitting prices to competition and for dividing the contract between more contractors than one.
x. "Supply Order" means an order on a contractor to supply against Rate Contract. The term "Requisition" will not be used.
xi. "Performance Security" means monetary of financial guarantee to be furnished by the successful tenderer for due performance of the contract placed on it. Performance Security is also known as Security Deposit.
xii. "Consignee" means the Hospital/Institute/Medical College/person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as in interim consignee for the purpose of despatch to another person as provided

in the Contract then that "another" person is the consignee, also known as the ultimate consignee.

xiii. "Specification" means the document/standard that prescribes the requirement with which goods or service has to conform.

xiv. "Inspection" means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.

xv. "Day" means calendar day.

xvi. "HITES" means HLL Infra Tech Services Limited, a fully owned subsidiary of HLL Lifecare Limited.

1.3 **Abbreviations**:

i. "T E Document" means Tender Enquiry Document
ii. "NIT" means Notice Inviting Tenders
iii. "GIT" means General Instructions to Tenderers
iv. "SIT" means Special Instructions to Tenderers
v. "GCC" means General Conditions of Contract
vi. "SCC" means Special Conditions of Contract
vii. "DGS&D" means Directorate General of Supplies and Disposals
viii. "NSIC" means National Small Industries Corporation
ix. "PSU" means Public Sector Undertaking
x. "CPSU" means Central Public Sector Undertaking
xi. "LSI" means Large Scale Industries
xii. "MSEs" means Micro & Small Enterprises
xiii. "LC" means Letter of Credit
xiv. "DP" means Deliver Period
xv. "BG" means Bank Guarantee
xvi. "ED" means Excise Duty
xvii. "CD" means Custom Duty
xviii. "VAT" means Value Added Tax
xix. "CENVAT" means Central Value Added Tax
xx. "CST" means Central Sales Tax
xxi. "RR" means Railway Receipt
xxii. "BL" means Bill of Lading
xxiii. "FOB" means Free on Board
xxiv. "FCA" means Free Carrier
xxv. "FOR" means Free on Rail
xxvi. "CIF" means Cost, Insurance and Freight
xxvii. "CIP (Destinations)" means Carriage and Insurance Paid up to named port of destination. Additional the Insurance (local transportation and storage) would be extended and borne by the Supplier from warehouse to the consignee site for a period including 3 months beyond date of delivery.
xxviii. "DDP" means Delivery Duty Paid named place of destination (consignee site)
xxix. "INCONTERMS" means International Commercial Terms as on the date of Tender Opening
xxx. "MoHFW" means Ministry of Health & Family Welfare, Government of India
xxxi. "CMC" means Comprehensive maintenance Contract (labour, spare and preventive maintenance)
xxxii. "RT" means Re-Tender

xxxiii. "RC" means Rate Contract
xxxiv. "SO" means Supply Order.
xxxv. "EXW" means Ex-Works

2. Introduction

2.1 The Purchaser has issued these TE documents for purchase of Medical equipments/goods and related services as mentioned in Section VI – "List of Requirements", which also indicates, *interalia*, the delivery schedule offered, terms and place of delivery.

2.2 This section (Section II – "General Instructions to Tenderers") provides the relevant information as well as instructions to assist the prospective tenderers in preparation and submission of tenders. It also includes the mode and procedure to be adopted by the purchaser for receipt and opening as well security and evaluation of tenders and subsequent placement of contract.

2.3 The tenderers shall also read the Special Instructions to Tenderers (SIT) related to this purchase, as contained in Section III of these documents and follow the same accordingly. Whenever there is a conflict between the GIT and the SIT, the provisions contained in the SIT shall prevail over those in the GIT.

2.4 Before formulating the tender and submitting the same to the purchaser, the tenderer should read and examine all the terms, conditions, instructions, checklist etc. contained in the TE documents. Failing to provide and/or comply with the required information, instructions, etc. incorporated in these TE documents may result in rejection of its tender.

2.5 The Rate Contract to be awarded pursuant to this tender enquiry and supply orders placed against the rate contract so awarded will be governed by the terms and conditions as contained in the following section:

a. General Conditions of Contract – Section IV
b. Special Conditions of Contract – Section V
c. General Instructions to Tenderers – Section II
d. Special Instructions to Tenderers – Section III
e. List of Requirements – Section VI

3. Rate Contract / Parallel Rate Contract

3.1 Purchaser reserves the rights for placement of Rate Contract / conclusion of parallel Rate contracts. The Purchaser(s) also reserve(s) right (1) to enter into parallel Rate Contract(s) simultaneously or at any time during the period of the rate contract with one or more tenderer(s) as he/they may think fit and (2) to place ad-hoc contract or contracts simultaneously or at any time during the period of this contract with one or more supplier(s) / tenderer(s) for such quantity of such item or items as the Purchaser (whose decision shall be final) may determine.

3.2 Purchaser also reserves the right to arrive at reasonable eligible L-1 price and make counter offers to higher quoting eligible firms for awarding Parallel Rate Contracts.

3.3 The successful tenderers shall note that a supply order may be placed up to the last day of the currency of the Rate Contract or thereafter if mutually agreed with applicable guidelines/ terms and conditions.

4. Language of Tender

4.1 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, shall be written in the English language, unless otherwise specified in the Tender Enquiry. However, the language of any printed literature furnished by the tenderer in connection with its tender may be written in any other language provided the same is accompanied by an English translation and, for purposes of interpretation of the tender, the English translation shall prevail.

4.2 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, may also be written in the Hindi language, provided that the same are accompanied by English translation, in which case, for purpose of interpretation of the tender etc., the English translations shall prevail.

5. Eligible Tenderers

5.1 This invitation for tenders is open to all suppliers who fulfil the eligibility criteria specified in these documents.

6. Eligible Goods and Services

6.1 All goods and related services to be supplied under the contract shall have their origin in India or any other country with which India has not banned trade relations. The term "origin" used in this clause means the place where the goods are mined, grown, produced, or manufactured or from where the related services are arranged and supplied.

7. Tendering Expense

7.1 The tenderer shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and for subsequent processing the same. The purchaser will, in no case be responsible or liable for any such cost, expenditure etc. regardless of the conduct or outcome of the tendering process.

B. TENDER ENQUIRY DOCUMETNS

The tender document should be read in conjunction with the Notice Inviting Tender (NIT) a copy of which is enclosed with this document. All clauses should be read in conjunction with any other instructions given elsewhere in this document on the same subject matter of the clause.

8. Content of Tender Enquiry Documents

8.1 In addition to Section I – "Notice Inviting Tender" (NIT), the TE document include:

- Section II - General Instructions to Tenderers (GIT)
- Section III - Special Instructions to Tenderers (SIT)
- Section IV - General Conditions of Contract (GCC)
- Section V - Special Conditions of Contract (SCC)
- Section VI - List of Requirements
- Section VII - Technical Specification
- Section VIII - Quality Control Requirement
- Section IX - Qualification Criteria
- Section X - Tender Form
- Section XI - Price Schedules
- Section XII - Questionnaire

- Section XIII - Bank Guarantee Form for EMD
- Section XIV - Manufacturer's Authorisation Form
- Section XV - Bank Guarantee Form for Performance Security / CMC Security
- Section XVI - Contract Forms (Rate Contract and Supply Order)
- Section XVII -Proforma of Consignee Receipt Certificate
- Section XVIII- Proforma of Final Acceptance Certificate by the consignee
- Section XIX - Check List for Tenderers
- Section XX - Form for Integrity Pact
- Section XXI -Notice-cum-cancellation letter
- Section XXII - Revocation-cum-cancellation letter

8.2 The relevant details of the required goods/equipment and services, the terms, conditions and procedure for tendering, tender evaluation, placement of contract, the applicable contract terms and, also, the standard formats to be used for this purpose are incorporated in the above mentioned documents. The interested tenderers are expected to examine all such details etc. to proceed further.

9. Amendments to TE document

9.1 At any time prior to the deadline for submission of tenders, the purchase may, for any reason deemed fit by it, modify the TE documents by issuing suitable amendment(s) to it.

9.2 Such an amendment will be notified in writing by registered/speed post or by fax/telex/e-mail, followed by copy of the same by registered post/courier to all prospective tenderers, which have received the TE document and will be binding on them. The amendments, if any shall be posted in the websites only.

9.3 In order to provide reasonable time to the prospective tenderers to take necessary action in preparing their tenders as per the amendment, the purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.

10. Clarification of TE document

10.1 A tenderer requiring any clarification or elucidation on any issue of the TE documents may take up the same with the purchaser in writing. The purchaser will respond in writing to such request provided the same is received by the purchaser before the pre-bid meeting (unless otherwise specified in the SIT).

C. PREPARATION OF e TENDERS

11. Documents Comprising the Tender

11.1 THE TENDER SHALL BE SUBMITTED ONLINE ONLY, EXCEPT TENDER FEE & EMD (to be submitted in physical form on or before the date and time specified in NIeT) as mentioned below:

(i) Technical Bid (Consisting of Eligibility Criteria & Technical Specifications viz. Product Specification Sheets/Brochures, OEM Certificate etc.). Bidders may name the files indicating the nature of content in pdf format which would be required to be attached in e-tender.

(ii) Price Bid (To be filled up in the Proforma, Signed, Stamped, Scanned to pdf mode & attach under PRICE BID.

DO NOT"

Bidders are requested NOT to submit the hard copy of Financial Bid along with the physical form of tender. In case the hard copy of financial bid is submitted in physical form, the tender shall be straightway rejected. Also, uploading of the price bid in prequalification bid or technical bid will **RESULT IN REJECTION** of the tender.

a) Techno-Commercial Tender (Un Priced Tender)

All Technical details (e.g. Eligibility Criteria requested (as mentioned below)) should be attached in C-Folder of e-tendering module , failing which the tender stands invalid &**REJECTED**.

Bidders shall furnish the following information along with technical tender (in pdf format):

i. Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption for payment of earnest money.
ii. Tender Form as per Section X
iii. Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender, and, also, qualified to perform the contract if its tender is accepted.
iv. Tender/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form as per Section XIV.
v. Power of Attorney in favour to signatory of TE documents and signatory of Manufacturer's Authorisation Form.
vi. Documents and relevant details to establish in accordance with GIT clause 18 that the goods and the allied services to be supplied by the tenderer conform to the requirement of the TE documents.
vii. Performance Statement as per Section IX along with relevant copies of orders and end users' satisfaction certificate.
viii. Price Schedule(s) as per Section XI filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices)
ix. Certificate of Incorporation in the country of origin.
x. Checklist as per Section XIX
xi. Whether the manufacturer is LSI or MSE, In case of LSI, they should indicate the percentage of contracts (value wise) purchased from MSEs (which also includes sub-contracts on MSEs) for the goods offered against this tender item wise.

b) Price Tender

1. Prices are to be quoted in the attached Price Tender format online on e-tender portal in pdf format & apply digital signature certificate. While uploading the price the tenderer has to ensure that the FILE NAME of the attached document SHOULD BE SAME as that of provided price bid format.
2. The price should be quoted for the accounting unit indicated in the e-tender document.

The bidder shall not submit hard copy of bid, otherwise his tender shall be straightway rejected. Also, uploading the price bid in prequalification bid or technical bid will result in rejection of the tender.

1. The information given at clause no.11.1 A) viii) above should be reproduced with the prices indicated.
2. It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.
3. Tenderer should quote firm and fixed rates.
4. Free goods will be incorporated in price comparison.
5. The specification and size of each product should be as per details given in tender.
6. Any variation may result in the rejection of the tender.
7. Plea of clerical error, typographical error etc., committed by the tenderer would not be accepted.
8. No correspondence will be entertained after opening of the price bid.
9. Any conditional price bid would not be entertained and such tender will be rejected

Note:
It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by HITES.

11.2 A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.

11.3 A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.

11.4 Tender sent by fax/telex/cable/electronically shall be ignored.

12. Tender Currencies

12.1 The tenderer supplying indigenous goods or already imported shall quote only in Indian Rupees.

12.2 For imported goods if supplied directly from abroad, prices shall be quoted in any freely convertible currency say US Dollar, Euro, GBP or Yen**.** As regard price(s) for allied services, if any required with the goods, the same shall be quoted in India Rupees only if such services are to be performed/undertaken in India. Commission for Indian Agent, if any and if payable shall be indicated in the space provided for in the price schedule and will be payable in Indian Rupees only.

12.3 Tenders, where prices are quoted in any other way shall be treated as non-responsive and rejected.

13. Tender Prices

13.1 The Tenderer shall indicate on the Price Schedule provided under Section XI 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. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a tenderer, same should be indicated as 'NIL' by the tenderer.

13.2 Quantity/slab discount, if any, should be indicated prominently.

13.3 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 attached under Section XI.

13.3.1 The price quoted by the tenderer for indigenous goods shall not be higher than the lowest price charged for the goods of the same nature, class or description to an individual/firm/organisation or department of Government of India or any state Governments.

13.3.2 For imported goods, the price quoted shall not be higher than the lowest price charged by the tenderer for the goods of the same nature, class or description to a purchaser, domestic or foreign or to any organisation or department of Government of India or any state Governments.

13.3.3 If it is found at any stage that the goods as stated have been supplied at a lower price, then that price, with due allowance for elapsed time will be applicable to the present case and the different in cost would be refunded by the supplier to the purchaser, if the contract has already been concluded.

13.4 While filling up the columns of the Price Schedule, the following aspects should be noted for compliance:

13.4.1 **For domestic goods the prices in the corresponding price schedule shall be entered separately in the following manner:**

a) The price of the goods, quoted ex-factory/ex-showroom/ex-warehouse/off-the-shelf, as applicable, including all taxes and duties like sales tax, CST VAT, CENVAT, Custom Duty, Excise Duty etc. already paid or payable or on the previously imported goods of foreign origin quoted ex-showroom etc.

b) Any sales or other taxes and any duties including excise duty, which will be payable on the finished goods in India if the contract is awarded.

c) Charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from warehouse to the consignee site for a period including 3 months beyond date of delivery, Loading/Unloading and other local costs incidental to deliver of the goods to their final destination all over India (consignee details as indicated in the Supply Order).

d) The price of Incidental Services, as mentioned in List of Requirements and Price Schedule.

e) The prices of annual CMC, if applicable, as mentioned in List of Requirements, Technical Specification and Price Schedules.

13.4.2 **For Goods manufactures outside the Purchaser's country, already imported:**

a) The price of the goods, including the original import value of the goods, plus any mark-up (or rebate), plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the goods already imported.

b) The custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the goods already imported.

c) Any Purchaser's country sales and other taxes which will be payable on the goods if the contract is awarded to the Bidder.

d) The price for inland transportation, insurance, and other local services required to the country of Goods form the named place of destination all over India (consignee details as indicated in the Supply Order).

e) The price of annual CMC, if applicable, as mentioned in List of Requirements, Technical Specifications and Price Schedules.

f) Supplier of Imported stores must submit a notarized affidavit along with a letter from their foreign principal (OEM) that the product/model number being quoted against the tender is currently undergoing production and have NOT been discontinued by them. The OEM shall further furnish an undertaking that they shall continue to provide support to the product/model no. being quoted/supplied, during their warranty period.

13.4.3 **For goods offered from abroad, the prices in the corresponding price schedule shall be entered separately in the following manner:**

i. The price of goods quoted FOB/FCA port of shipment, as indicated in the List of Requirements and Price Schedules.

ii. The amount of freight and insurance and price of goods quoted CIP port of entry in India.

iii. The price of goods quoted CIP (name port of destination) in India nearest airport, seaport basis as indicated in the List of Requirements and price schedule.

iv. Wherever applicable the amount of custom duty as percentage of net CIP value.

v. The charges of Insurance (local transportation and storage) would be extended and borne by the Supplier from port of entry to the consignee located all over India for a period including 3 months beyond date of delivery. Other local costs and Incidental costs, as specified in the List of Requirements and Price Schedule

vi. The charges for Incidental Services, as in the List of Requirements and Price Schedule

vii. The price of annual CMC, if applicable, as mentioned in List of Requirements/ Technical Specification and Price Schedule, if applicable.

viii. Supplier of Imported stores must submit a notarized affidavit along with a letter from their foreign principal (OEM) that the product/model number being quoted against the tender is currently undergoing production and have NOT been discontinued by them. The OEM shall further furnish an undertaking that they shall continue to provide support to the product/model no. being quoted/supplied, during their warranty period.

13.5 **Additional information and instruction on Duties and Taxes:**

13.5.1 If the Tenderer desires to ask for excise duty, sales tax/VAT, Services Tax, Works Contract Tax etc. to be paid extra, the same must be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such duties and taxes and no claim for the same will be entertained later.

13.5.2 **Excise Duty:**

a) If reimbursement of excise duty is intended as extra over the quoted pries, the supplier must specifically say so, also indicating the rate, quantum and nature of the duty applicable. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of excise duty will be entertained after the opening of tender.

b) If a Tenderer chooses to quote a price inclusive of excise duty and also desires to be reimbursed for variation, if any, in the excise duty during the time of supply, the tenderer must clearly mention the same and also indicate the rate and quantum of excise duty included in its price. Failure to indicate all such details in clear terms may result in rejection of that tender.

c) Subject to sub clauses 13.5.2 (a) & (b) above, any change in excise duty upward/downward as a result of any statutory variation in excise duty taking place within contract terms shall be allowed to the extent of actual quantum of excise duty paid by the supplier. In case of downward revision in excise duty, the actual quantum of reduction of excise duty shall be reimbursed to the purchaser by the supplier. All such adjustments shall include all reliefs, exemptions, rebates, concession etc. if any obtained by the supplier.

13.5.3 **Sales Tax/VAT:**

If a tenderer asks for sales tax/VAT, Service Tax and Works Contract Tax to be paid extra, the rate and nature of sales tax applicable should be shown separately. The sates tax/VAT, Service Tax and Works Contract Tax will be paid as per the rate at which it is liable to be assessed or has actually been assessed provided the transaction of sale is legally liable to sales tax/VAT, Service Tax and Works Contract Tax and is payable as per the terms of the contract. If any refund of tax is received at a later date, the Supplier must return the amount forth-with to the purchaser.

13.5.4 **Octroi Duty and Local Duties & Taxes:**

Normally, goods to be supplied to government departments against government contract are exempted from levy of entry tax/town duty, Octroi duty, terminal tax and other levies of local bodies. However, on some occasions, the local bodies (like town body, municipal body etc.) as per their regulations allow such exemptions only on production of certificate to this effect from the concerned government department. Keeping this in view, the supplier shall ensure that the stores to be supplied by the supplier against the contract placed by the purchaser are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the purchaser.

However, if a local body still insists upon payment of such local duties and taxes, the same should be paid by the supplier to the local body to avoid delay in supplies and possible demurrage charges and obtain a receipt for the same. The supplier should forward the receipt obtain for such payment to the purchaser to enable the purchaser reimburse the supplier and take other necessary action in the matter.

13.5.5 **Customs Duty:**

The Supplier will pay the customs duty and clear the goods for transportation to consignee's site. The applicable - % rates and amount of custom duty and the corresponding Indian custom tariff number should be shown separately in the price schedule. Duty paid by the supplier shall be reimbursed on submission of documents (supported with documentary evidence). Customs duty exemption certificate (CDEC) wherever applicable shall be issued by the consignee.

13.6 For transportation of imported goods offered from aboard, relevant instructions as incorporated under GCC Clause 10 shall be followed.

13.7 For insurance of goods to be supplied, relevant instructions as provided under GCC Clause 11 shall be followed.

13.8 Unless otherwise specifically indicated in the TE document, the terms FCA, FOB, FAS, CIF, CIP, DDP, etc. for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the current edition of INCOTERMs, published by the International Chamber of Commerce, Paris.

13.9 The need for indication of all such price components by the tenderers, as required in this clause (viz., GIT clause 13) is for the purpose of comparison of the tenders by the purchaser and will no way restrict the purchaser's right to award the contract on the selected tenderer on any of the terms offered.

14. Indian Agent

14.1 If a foreign tenderer has engaged an agent in India in connection with its tender, the foreign tenderer, in addition to indicating Indian agent's commission, if any, in a manner described under GIT sub clause 12.2 above, shall furnish the following information:

a) The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax Authority.

b) The details of services to be rendered by the agent for the subject requirement.

c) Details of Service outlets in India, to render service to consignees during Warranty and CMC period.

d) A copy of agreement between the Agent & their principal detailing the terms & conditions as well as services and after sales services as above to be rendered by the agent and the precise relationship between them and their mutual interest in the business.

e) Principal/manufacturers original proforma invoice with the price bid.

f) The enlistment of the Indian Agent with DGS&D under the compulsory Registration Scheme of Ministry of Finance.

14.2 In a tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

14.3 If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

15. Firm Price

15.1 Unless otherwise specified in the SIT, prices quoted by the tenderer shall remain firm and fixed during the currency of the contract and not subject to variation on any account.

15.2 However, as regards taxes and duties, if any, chargeable on the goods and payable, the conditions stipulated in GIT clause 13 will apply.

16. Delivery Period

16.1 Tenderer should quote guaranteed monthly rate of supply and lead time required for commencement of supply after placement of supply order.

17. Documents Establishing Tenderer's Eligibility and Qualifications

17.1 Pursuant to GIT clause 11, the tenderer shall furnish, as part of its tender, relevant details and documents establishing its eligibility to quote and its qualifications to perform the contract if its tender is accepted.

17.2 The documentary evidence needed to establish the tenderer's qualification shall fulfil the following requirements:

a) In case the tenderer offers to supply goods, which are manufactured by some other firm, the tenderer has been duly authorised by the goods manufacturer to quote for and supply the goods to the purchaser. The tenderer shall submit manufacturer's authorization letter to this effect as per the standard form provided under Section XIV in this document.

b) The tenderer has the required financial, technical and production capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section IX in these documents.

c) In case the tenderer is not doing business in India, it is duly represented by an agent stationed in India fully equipped and able to carry out the required contractual functions and duties of the supplier including after sale service, maintenance & repair etc. of goods in question, stocking of spare parts and fast moving components and other obligations, if any, specified in the conditions of contract and/or technical specifications.

d) In case the tenderer is an Indian agent/authorised representative quoting on behalf of a foreign manufacturer for the restricted item, the Indian agent/authorised representative is already enlisted under the Compulsory Enlistment Scheme of Ministry of Finance, Govt. of India, operated through Directorate General of Supply & Disposals (DGS&D), New Delhi.

18. Documents establishing Good's Conformity to TE document.

18.1 The tenderer shall provide in its tender the required as well as the relevant documents like technical data, literature, drawing etc. to establish that the goods and services offered in the tender fully conform to the goods and services specified by the purchaser in the TE documents. For this purpose the tenderer shall also provide a clause-by-clause commentary of the technical specifications and other technical details incorporated by the purchaser in the TE documents to establish technical responsiveness of the goods and services offered in its tender.

18.2 In case there is any variation and/or deviation between the goods & services prescribed by the purchaser and that offered by the tenderer, the tenderer shall list out the same in a chart form without ambiguity and provide the same along with its tender.

18.3 If a tenderer furnishes wrong and/or misguiding data, statement(s) etc. about technical acceptability of the goods and services offered by it, its tender will be liable to be ignored and rejected in addition to other remedies available to the purchaser in this regard.

19. Earnest Money Deposit (EMD)

19.1 Pursuant to GIT clauses 8.1 and 11.1 the tenderer shall furnish along with its tender, earnest money for amount as indicated in the NIT and List of Requirements. The earnest money is required to protect the purchaser against the risk of the tenderer's unwarranted conduct as amplified under sub-clause 19.7 below.

19.2 All MSEs and tenderers who are currently registered and also will continue to remain registered during the tender validity period with Directorate General of Supplies & Disposals or with National Small Industries Corporation shall be eligible for exemption for EMD. In case the tenderer falls in these categories, it should furnish copy of its valid registration details with DGS&D or NSIC, as the case may be.

19.3 The earnest money shall be denominated in Indian Rupees or equivalent currencies as per GIT clause 12.2. The earnest money shall be furnished in one of the following forms:

i. Account Payee Demand Draft
ii. Banker's cheque and
iii. Bank Guarantee

19.4 The demand draft or banker's cheque shall be drawn on any schedule commercial bank in India or in country of the tenderer, in favour of the "HLL Infra Tech Services Limited" payable at New Delhi. In case of bank guarantee, the same is to be provided from any commercial bank in India or in country of the tenderer as per the format specified under Section XIII in these documents.

19.5 The earnest money shall be valid for a period of forty-five (45) days beyond the validity period of the tender, if submitted in the form of Bank Guarantee. As validity period of Tender as per Clause 20 of GIT is 120 days, the EMD shall be valid for 165 days from Techno-Commercial Tender opening date.

19.6 Unsuccessful tenderers' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the

resultant contract. Successful tenderer's earnest money will be converted as a security towards performance and operation of Rate Contract and shall be retained /made to valid till two months beyond the validity of Rate Contract.

19.7 Earnest Money is required to protect the purchaser against the risk of the Tenderer's conduct, which would warrant the forfeiture of the EMD. Earnest money of a tender will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The successful tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser if it fails to furnish the required performance security within the specified period.

19.8 In the case of Bank Guarantee furnished from banks outside India (i.e. foreign Banks), it should be authenticated and countersigned by any nationalised bank in India by way of back-to-back counter guarantee.

20. A. Tender validity

a If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of 120 days (one hundred and twenty days) after the date of tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.

b In exceptional cases, the tenderers may be requested by the purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by surface mail or by fax/telex/cable followed by surface mail. The tenderers, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly. A tenderer, however, may not agree to extend its tender validity without forfeiting its EMD.

c. In case the day up to which the tenders are to remain valid falls on/subsequently declared a holiday or closed day for the purchaser, the tender validity shall automatically be extended up to the next working day.

20. B. Alternative Tenders

Alternative Tenders are not permitted.

21. Digital Signing of e-Tender

The tenderers shall submit their tenders as per the instructions contained in GIT Clause 11. Tenders shall be uploaded with all relevant PDF format . The relevant tender documents should be uploaded by an authorised person having Class 3 B digital signature certificate

D. SUBMISSION OF TENDERS

22. Submission of Tenders

22.1 The tender shall be submitted online only.

(i) Pre-qualification and Technical compliance as per following documents (ONLY Online submissions for all the documents.)

a) Manufacturer's authorization in case bid is submitted by an Indian agent (A declaration must be attached here in case directly quoted by a manufacturer or a document establishing the relation of the Indian office with the manufacturer in case quoted by Indian office of the manufacturer).

b) Tender Form as per section X.

c) Compliance of all terms and conditions of TED like- warranty, delivery period, delivery terms, payment terms etc

d) Declaration regarding Fall Clause and Deregistration, debarment from any Govt. Dept/ Agencies

e) Copy of PAN.

f) Certificate of Incorporation/Declaration being a proprietary firm.

g) Abridged Annual report of last 03 years (Balance sheet and Profit & Loss Account) in pdf format.

h) Name, address and details of account with respect to bidder and/or beneficiary of L/C.

i) Quality Control Requirements as per Section VIII

j) Performance statement along with required PO copies and its corresponding end user‟s satisfactory performance certificate as per section IX.

k) Technical Bid along with clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications along with product catalogue and data sheet in the tender enquiry

(ii) PRICE BID (ONLY ONLINE)

22.2 The tenderers must ensure that they submit the on-line tenders not later than the closing time and date specified for submission of tenders.

Along with price bid recent purchase order copies for the same model and technical configuration issued by institute of National importance / reputed central / state government hospitals should be uploaded in pdf form for price reasonability.

23. Late Tender

There is NO PROVISION of uploading late tender beyond stipulated date & time in the e-tendering system.

24. Alteration and Withdrawal of Tender

The tenderer, is permitted to change ,edit or withdraw its bid on or before the end date & time.

E. Opening of e-Tenders

25. Opening of e-tenders

25.1 The purchaser will open the e-tenders at the specified date and time and at the specified place as indicated in the NIT. In case the specified date of tender opening falls on / is subsequently

declared a holiday or closed day for the purchaser, the tenders will be opened at the appointed time and place on the next working day.

25.2 Authorized representatives of the tenderers, who have submitted tenders on time may attend the tender opening provided they bring with them letters of authority from the corresponding tenderers. The tender opening official(s) will prepare a list of the representatives attending the tender opening. The list will contain the representatives‟ names & signatures and corresponding tenderers‟ names and addresses.

25.3 Two - Tender system as mentioned in Para 21.6 above will be as follows. The Techno - Commercial Tenders are to be opened in the first instance, at the prescribed time and date as indicated in NIT. These Tenders shall be scrutinized and evaluated by the competent committee/ authority with reference to parameters prescribed in the TE document. During the Techno - Commercial Tender opening, the tender opening official(s) will read the salient features of the tenders like brief description of the goods offered, delivery period, Earnest Money Deposit and any other special features of the tenders, as deemed fit by the tender opening official(s). Thereafter, in the second stage, the Price Tenders of only the Techno - Commercially acceptable offers (as decided in the first stage) shall be opened for further scrutiny and evaluation on a date notified after the evaluation of the Techno – Commercial tender. The prices, special discount if any of the goods offered etc., as deemed fit by tender opening official(s) will be read out.

F. SCRUTINY AND EVALUATION OF TENDERS

26. Basic Principle

Tenders will be evaluated on the basis of the terms & conditions already incorporated in the TE document, based on which tenders have been received and the terms, conditions etc. mentioned by the tenderers in their tenders. No new condition will be brought in while scrutinizing and evaluating the tenders.

27. Preliminary Scrutiny of Tenders

27.1 The Purchaser will examine the Tenders to determine whether they are complete, whether any computational error have been made, whether required sureties have been furnished, whether the documents have been properly signed stamped and whether the Tenders are generally in order.

27.2 Prior to the detailed evaluation of Price Tenders, pursuant of GIT Clause 34, the Purchaser will determine the responsiveness of each Tender to the TE Document. For purposes of these clauses, a responsive Tender is one, which conforms to the technical specifications and all the terms and conditions of the TE documents without material deviations. Deviations from, or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 5),Warranty (GCC Clause 15), EMD (GIT Clause 19), Taxes& Duties (GCC Clause 20),Force Majeure (GCC Clause 26) and Applicable law (GCC Clause 31) will be deemed to be a material deviation. The Purchaser's determination of a Tenderers responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence

27.3 The tenders will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. as prescribed in the TE document. The tenders which do not meet the basic requirements are liable to be treated as non-responsive and will be ignored.

27.4 The following are some of the important aspects, for which a tender shall be declared non-responsive and will be summarily ignored;

a) Tender form as per Section X (signed and stamped) not enclosed.
b) Tender validity is shorter than the required period.
c) Required EMD (Amount, validity, etc.)/exemption documents have not been provided.
d) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorization Form as per Section XIV.
e) Tenderer has not agreed to give the required performance security.
f) Goods offered are not meeting the tender enquiry Technical Specification.
g) Tenderer has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, terms of delivery, liquidated damage clause, warranty period.
h) Poor/unsatisfactory past performance
i) Tenderers who stand deregistered/banned/blacklisted by any Statutory Authorities as per Gov. rules/procedures.
j) Tenderer is not eligible as per GIT Clauses 5.1 & 17.1.

28 Minor Informality/Irregularity/Non-Conformity

28.1 If during the preliminary examinations, the purchaser find any minor informality and/or irregularity and/or non-conformity in a tender, the purchaser may waive the same provided it does not constitute any material deviation and financial impact and, also, does not prejudice or affect the ranking order of the tenderers. Wherever necessary, the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post etc. asking the tenderer to respond by a specific date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

28.2 The purchaser may seek clarifications of historical nature from the tenderers which has no bearings on prices.

29 Discrepancies in Prices

29.1 If, in the price structure quoted by a tenderer, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the purchaser feels that the tenderer has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.

29.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals shall prevail and the total corrected; and

29.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 29.1 and 29.2 above.

29.4 If, as per the judgement of the purchaser, there is any such arithmetical discrepancy in a tender the same will be suitably conveyed to the tenderer by registered/speed post. If the tenderer does not agree to the observation of the purchaser, the tender is liable to be ignored.

30 Qualification Criteria

30.1 Tenders of the tenderers, who do not meet the required Qualification Criteria prescribed in Section IX will be treated as non-responsive and will not be considered further.

31 Conversion of tender currencies to Indian Rupees

31.1 In case the TE document permits the tenderers to quoted their prices in different currencies, all such quoted prices of the responsive tenderers will be converted into a single currency viz. Indian Rupees for the purpose of equitable comparison and evaluation, as per the exchange rates established by Reserve Bank of India for similar transactions, as on the date of 'Price Tender' opening.

32 Purchase/Price preference

32.1 The purchaser reserves the option to give a purchase/price preference to the offers from Public Sector Units and/or from SMEs and PMA compliant items over those from other firms, in accordance with the policies of the Government from time to time.

32.2 Compliance of 'Procurement Policy' for Micro & Small Enterprises (MSEs) order 2012.

32.2.1 Central Government Ministries Departments and Public Sector Undertakings shall procure minimum of 20% of their annual value of goods or services from Micro and Small Enterprises

The above procurement also includes sub-contracts to MSEs by Large Enterprises and consortia of Micro & Small Enterprises formed by National Small Industries Corporation.

32.2.2 In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in situation where L1 price is from someone other than Micro & Small Enterprise such Micro & Small Enterprise shall be allowed to supply up to 20 per cent of total tendered value.

32.2.3 In case of more than one such Micro & Small Enterprise, the supply shall be shared proportionally (to tendered quantity)

32.2.4 Out of 20% of total tendered value 4% shall be earmarked for MSEs owned by Scheduled Caste & the Scheduled Tribe enterprises subject to their meeting tender requirements and L-1 price.

32.3 PMA Compliant Item:

32.3.1 Department of Electronic & IT (Deity) vide Notification No. 33(3)/2013-JPHW dated 23.12.2013 has laid down the PMA policy for providing preference to domestically manufactured products in procurement of Electronic goods.

32.3.2 For the items covered under PMA policy the preference to domestic manufacturer shall be applied as per the guidelines decided by the Government

33 Comparison of Tenders

Unless mentioned otherwise in Section – III, Special Instructions to Tenderers and Section – VI, List of Requirements, the comparison/ranking of the responsive tenders shall be carried out based on Delivery Duty Paid (DDP) at consignee site basis.

34 Additional Factors and Parameters for Evaluation and Ranking of Responsive Tenders

34.1 Further to GIT clause 34 above, the purchaser's evaluation of a tender will include and take into account the following:

i) In the case of goods manufactured in India or goods of foreign origin already located in India, sales tax & other similar taxes and excise duty & other similar duties, Customs Duties, Service Tax, Works Contract Tax etc. which will be contractually payable (to the tenderer), on the goods if a contract is awarded on the tenderer; and

ii) In the case of goods of foreign origin offered from abroad, customs duty and other similar import duties/taxes, which will be contractually payable (to the tenderer) on the goods if the contract is awarded on the tenderer.

34.2 The purchaser's evaluation of tender will also take into account the additional factors, if any, incorporated in SIT in the manner and to the extent indicated therein.

35 Tenderer's capability to perform the contract

35.1 The purchaser, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the tenderer, whose tender has been determined as the lowest evaluated responsive tender is eligible, qualified and capable in all respects to perform the Rate Contract satisfactorily.

35.2 The above mentioned determination will, interalia, take into account the tenderer's financial, technical and production capabilities for satisfying all the requirements of the purchaser as incorporated in the TE document. Such determination will be based upon scrutiny and examination of all relevant data and details submitted by the tenderer in its tender as well as such other allied information as deemed appropriate by the purchaser.

35.3 Purchaser reserves the right to assess/verify the credentials and capability/capacity of the bidders/manufacturers before awarding the Rate Contracts.

36 Contacting the Purchaser

36.1 From the time of submission of tender to the time of awarding the contract, if a tenderer needs to contact the purchaser for any reason relating to this tender enquiry and/or its tender, it should do so only in writing.

36.2 In case a tenderer attempts to influence the purchaser in the purchaser's decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the tenderer shall be liable for rejection in addition to appropriate administrative actions being taken against that tenderer, as deemed fit by the purchaser.

G. AWARD OF RATE CONTRACT

37 Purchaser's Right to accept any tender and to reject any or all tenders

37.1 The Purchaser reserves the right to accept in part or in full any tender or reject any or more tender(s) without assigning any reason or to cancel the tendering process and reject all tenders

at any time prior to award of rate contract, without incurring any liability, whatsoever to the affected tenderer or tenderers.

38 Award Criteria

38.1 Subject to GIT clause 37 above, the Rate Contract will be awarded to the lowest evaluated responsive tenderer decided by the purchaser in terms of GIT Clause 35.

38.2 Provisions in Parallel Rate Contract:

38.2.1 In cases, where price of L-1 is considered acceptable, its price will be counter offered to all the other higher eligible quoting firms. Those who accept the counter offered prices or below may be awarded parallel rate contracts. However, if L-1 prices so counter offered to the higher quoting firms are not acceptable by any of the higher quoting firms, R/C will be concluded with L-1.

38.2.2 Where, however, the price of L-1 is not acceptable, may in the first instance, negotiate with L-1 only for arriving at a reasonable/acceptable price. On successful conclusion of negotiations with L-1, R/C may be awarded to the L-1 at the agreed negotiated price and the same may be counter offered to all the other higher quoting eligible firms and R/C would be concluded in the same manner as indicated in Para 38.2.1.

39 Letter of Award

39.1 Before expiry of the tender validity period, the purchaser will notify the successful tenderer(s) in writing, by registered/speed post or by fax/cable (to be confirmed by registered/speed post) that its tender for goods & services, which have been selected by the purchaser, has been accepted for conclusion of Rate Contract, also briefly indicating therein the essential details like description, specification and delivery of the goods & services and corresponding prices accepted.

39.2 The successful tenderer must furnish to the purchaser the required performance security as indicated in the Supply Orders placed against the Rate Contract within thirty days from the date of dispatch of Supply Order. Relevant details about the performance security have been provided under GCC Clause 5 under Section IV.

39.3 The Supply Orders placed against the Rate Contract constitute the conclusion of the contract.

40 Issue of Rate Contract

40.1 Promptly after notification of Rate Contract, the Purchaser will place the Rate Contract form (as per Section XVI) duly completed and signed, in duplicate, to the successful tenderer/tenderers by registered/speed post.

40.2 Within twenty one days from the date of the contract, the successful tenderer shall return the original copy of the contract, duly signed and dated, to the Purchaser by registered/speed post.

41 Non-receipt of Performance Security and contract by the Purchaser/Consignee

41.1 Failure of the successful tenderer in providing performance security and/or returning contract copy duly signed in terms of GIT clauses 39 and 40 above shall make the tenderer liable for

forfeiture of its EMD and, also, for further actions by the Purchaser against it as per the clause 24 of GCC – Termination of default.

42 Return of EMD

42.1 The earnest money of the unsuccessful tenderers will be returned to them without any interest, whatsoever, in terms of GIT clause 19.6

43 Publication of Tender Result

43.1 The name and address of the successful tenderer(s) receiving the Rate Contract(s) will be mentioned in the notice board/bulletin/website of the purchaser.

44 Book examination clause

44.1 The contractor shall whenever called upon and requiring to produce or cause to be produced for examination by the Purchaser, any cost or other account, book of account voucher, receipt, letter, memorandum, paper or writing or any copy of or extract from such document and also furnish information any wise relating to such transaction and produce before the duly authorised representative of the Purchaser returns verified in such manner as may be required relating, in any way to the execution of this contract or relevant for verifying or ascertaining the cost of execution of this contract (the decision of Purchaser on the question of relevancy of any document, information or return being final and binding on the parties). The obligation imposed by this clause is without prejudice to the obligations of the contractor under any statue, rules or orders and shall be binding on the contractor.

44.2 The contractor shall, if the Purchaser so requires (whether before or after the prices have been finally fixed), afford facilities to the Purchaser to visit the contractor's works for the purpose of examining the cost or production of the articles. If any portion of the work be entrusted or carried out by a sub-contractor or any of its subsidiary or allied firm or company, the authorised representative of Purchaser shall have the power to examine all the relevant book of such sub-contract or any subsidiary of allied firm or company shall be open to his inspection as mentioned in clause 44.1.

44.3 If on such examination, it is established that the contracted price is in excess of the actual cost plus reasonable margin of profit, the Purchaser shall have the right to reduce the price and determine the amount to a reasonable level.

44.4 Where a contract provides for book examination clause, to contractor or its agency bound to allow examination of its books within a period of 60 days from the date the notice is received by the contractor, or its agencies calling for the production of documents as under clause 44.1 above. In the event of contractor's or his agencies failure to do so, the contract price would be reduced and determined according to the best judgement of the purchaser which would be final and binding on the contractor and his agencies.

45 Integrity Pact

45.1 The Bidders/tenderers may note that it is prescribed to use, practice and observe all the best, clean, ethical, honest and legal means & behaviour maintaining complete transparency and fairness in all activities concerning Bidding, Contracting/Rate Contracting and performance thereto for which the "Integrity Pact" shall be executed between Firm and Purchaser as per the format provided as Section-XX to be attached with the bid duly signed.

46 Cartel Formation

46.1 Cartel Formation and Quoting Prices in Pool – Tenderers may note that offers of such firms who resort to unethical practice of cartel formation and quote prices in a pool shall be rejected and their offers shall also not be considered for award of RC for the next two years.

SECTION - III
SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the General Instructions to Tenderers (GIT). Whenever there is a conflict, the provisions herein shall prevail over those in GIT.

GIT Clause Reference

SECTION - IV
GENERAL CONDITIONS OF CONTRACT (GCC)
TABLE OF CLAUSES

SECTION - IV

GENERAL CONDITIONS OF CONTRACT (GCC)

1. Application

1.1 The General Conditions of Contract incorporated in this section shall be applicable for this purchase to the extent the same are not superseded by the Special Conditions of Contract prescribed under Section V, List of requirements under Section VI and Technical Specification under Section VII of this document.

1.2 The parties to the contract, which shall be deemed to be "Rate Contract" and which is intended for the supply of stores of the descriptions set forth in the Tender during the period therein specified shall be the contractor on the one part and the Purchaser(s) named in the Schedule to Tender.

1.3 Subject as hereinafter mentioned, no guarantee can be given as to the number or quantity of the stores which will be ordered during the period of the rate contract which is only in the nature of standing offer from the Contractor but the purchaser(s) undertakes(s) to order from the contractor all stores as detailed in the schedule of stores and prices which he/they require(s) to purchase except that he/they reserve(s) the right (1) of submitting to competition any supply of articles included in the contract the total value of which exceeds such amount as the Purchaser (whose decision shall be final), may determine upon consideration of the tenders, (2) of placing this contract simultaneously of at any time during its period with one or more contractors as he/they may think fit, and (3) of obtaining from any source any stores referred to in the contract to meet an emergency, if the Purchaser (whose decision will be final) is satisfied that the contractor is not in a position to supply specific quantities or numbers within the period in which supplies are required

2. Use of contract documents and information

2.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the purchaser in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this TE document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.

2.2 Further, the supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC sub-clause 2.1 above except for the sole purpose of performing this contract.

2.3 Except the contract issued to the supplier, each and every other document mentioned in GCC sub-clause 2.1 above shall remain the property of the purchaser and, if advised by the purchaser, all copies of all such documents shall be returned to the purchaser on completion of the supplier's performance and obligations under this contract.

3. Patent Rights

3.1 The supplier shall, at all times, indemnify and keep indemnified the purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the supplier

under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trademarks etc. being made against the purchaser, the purchaser shall notify the supplier of the same and the supplier shall, at his own expenses take care of the same for settlement without any liability to the purchaser.

4. Country of Origin

4.1 All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.

4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.

4.3 The country of origin may be specified in the Price Schedule

5. Performance Security

5.1 Within fifteen (15) days from date of the placement of supply order against Rate Contract by the Purchaser, the supplier, shall furnish performance security to the Purchaser for an amount equal to ten percent (10%) of the total value of the supply order placed against Rate Contract, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations.

5.2 The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:

a) It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in section XV of this document in favour of the Purchaser/Consignee. The validity of the Fixed Deposit receipt or Bank Guarantee will be for a period up to sixty (60) days beyond Warranty Period.

5.3 In the event of any failure /default of the supplier with or with out any quantifiable loss to the government/purchaser including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma in Section XV, the amount of the performance security is liable to be forfeited. The Administration Department may do the needful to cover any failure/default of the supplier with or without any quantifiable loss to the Government/purchaser.

5.4 In the event of any amendment issued to the contract, the supplier shall, within twenty-one (21) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

5.5 The supplier shall enter into Annual Comprehensive Maintenance Contract as per the 'Contract Form – B' in Section XVI with respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC will commence from the date of expiry of the Warranty Period.

5.6 Subject to GCC sub – clause 5.3 above, the Purchaser/Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations & after receipt of Consignee wise bank

guarantee for CMC security in favour of Head of the Institute of the consignee as per the format in Section XV.

6. Technical Specifications and Standards

6.1 The Goods & Services to be provided by the supplier under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification' and 'Quality Control Requirements' under Sections VII and VIII of this document.

7. Packing and Marking

7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, (the entire journey during transit to their final destination as indicated in the contract), rough handling, extreme weather conditions etc. so that there is no damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

7.2 The quality of packing, the manner of marking within & outside the packages and provision of accompanying documentation shall strictly comply with the requirements as provided in Technical Specifications and in SCC. In case the packing requirements are amended due to issue of any amendment to the contract, the same shall also be taken care of by the supplier accordingly.

7.3 Packing instructions:

Unless otherwise mentioned in the Technical Specification and in SCC, the supplier shall make separate packages for each consignee (in case there is more than one consignee mentioned in the contract) and mark each package on three sides with the following with indelible paint of proper quality:

a. Contract number and date
b. Brief description of goods including quantity
c. Packing list reference number
d. Country of origin of goods
e. Consignee's name and full address and
f. Supplier's name and address

8. Inspection, Testing and Quality Control

8.1 The Contractor should satisfy himself that the Stores are in accordance with terms of the Contract and fully conform to the required specification by carrying out a thorough pre-inspection of each lot of the stores before actually tendering the same for inspection to the Inspection Agency nominated under the terms of contract. Such precaution on the part of the Contractor minimises the chances of rejection and the consequences thereof.

8.2 The purchaser and/or its nominated representative(s) will /shall be at consignee site, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform the supplier in advance, in writing, the purchaser's programme for such inspection and, also the identity of the officials to be deputed

for this purpose. The cost towards the transportation, boarding & lodging will be borne by the purchaser and/or its nominated representative(s).

8.3 The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the purchaser's inspector at no charge to the purchaser.

8.4 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the purchaser's inspector may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the purchaser and resubmit the same to the purchaser's inspector for conducting the inspections and tests again.

8.5 In case the contract stipulates pre-despatch inspection of the ordered goods at supplier's premises, the supplier shall put up the goods for such inspection to the purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period. The goods, should, on no account be dispatched /delivered without getting the same inspected and passed by the inspecting officer stipulated in the contract.

8.6 If the supplier tenders the goods to the purchaser's inspector for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, the inspector may carry out the inspection and complete the formality beyond the contractual delivery period at the risk and expense of the supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the purchaser under the terms & conditions of the contract.

8.7 The purchaser's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by purchaser's inspector during pre-despatch inspection mentioned above. On rejection the supplier shall remove such stores within 14 days of the date of intimation of such rejection from consignee's premises. If such goods are not removed by the supplier within the period aforementioned, the purchaser/consignee may remove the rejected stores and either return the same to the supplier at his risk and cost by such mode of transport as purchaser/consignee may decide, or dispose of such goods at the supplier's risk to recover any expense incurred in connection with such disposals and also the cost of the rejected stores if already paid for.

8.8 Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC Clause 15.

8.9 Principal/ Foreign supplier shall also have the equipment inspected by recognised/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch at the supplier's cost and furnish necessary certificate from the said agency in support of their claim.

9. Terms of Delivery

9.1 Goods shall be delivered by the supplier in accordance with the terms of delivery as specified in the list of requirement.

10. Transportation of Goods

10.1.1 Instructions for transportation of imported goods offered from abroad:

The supplier shall not arrange part-shipments and/or transhipment without the express/prior written consent of the purchaser. The supplier is required under the contract to deliver the goods under DDP consignee site The shipment shall be made by Indian flag vessel or by vessels belonging to the conference lines in which India is a member country through India's forwarding agents/coordinators. In case the forwarding agent/coordinators are unable to provide timely adequate space in Indian flag vessel or by vessels belonging to the conference lines, the supplier shall arrange shipment through any available vessel to adhere to the delivery schedule given in the contract. The procedure followed should be intimated to the purchaser.

10.1.2 In case of airlifting of imported goods offered from abroad, the same will be done only through the National Carrier i.e. Air India wherever applicable. In case the National Carrier is not available, any other airlines available for early delivery may be arranged.

10.1.3 The procedure followed as above should be intimated to the purchaser.
The goods will be custom cleared by the supplier/Indian Agent after paying customs duty and will be transported to the consignee's site as per terms of the contract.

10.2 Instructions for transportation of domestic goods including goods already imported by the supplier.

In case no instruction is provided in this regard in the SCC, the supplier will arrange transportation of the ordered goods as per its own procedure. The supplier shall be responsible for all loss, destructions, damage or deterioration of or to the goods from any cause whatsoever while the goods after approval by the inspector are awaiting despatch or delivery.

11. Insurance:

11.1 Unless otherwise instructed in the SCC, the supplier shall make arrangements for insuring the goods at his cost against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the following manner:

i) In case of supply of domestic goods on Consignee site basis, the supplier shall be responsible till the entire stores contracted for arrival in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured for an amount equal to 110% of the value of the goods from "warehouse to warehouse" (consignee site) on all risk basis. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.

ii) Supply of the imported goods DDP basis, the supplier shall arrange and pay for marine/air insurance making the consignee as beneficiary. The additional extended Insurance (local transportation and storage) would also be borne by the Supplier from the port of entry to the consignee site for a period including 3 months beyond date of delivery. The insurance

shall be taken for an amount equal to 110% of overall expenditure to be incurred by the purchaser for receiving the goods at consignee's site.

If the equipment is not commissioned and handed over to the consignee within 3 months, the insurance will be got extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to the consignee is completed. In case the delay in the installation and commissioning is due to handing over of the site to the supplier by the consignee, such extensions of the insurance will still be done by the supplier, but the insurance extension charges at actual will be reimbursed.

12. Spare parts

12.1.1 If specified in the List of Requirements and in the resultant contract, the supplier shall supply/provide any or all of the following materials, information etc. pertaining to spare parts manufactured and/or supplied by the supplier including their prices:

a) Spare Parts list and prices of parts, consumables should be mentioned clearly and quoted. Bidder should also mention regarding the availably of spares for at least eight years.

b) The spare parts as selected by the Purchaser/Consignee to be purchased from the supplier, subject to the condition that such purchase of the spare parts shall not relieve the supplier of any contractual obligation including warranty obligations; and

c) In case the production of the spare parts is discontinued:

i. Sufficient advance notice to the Purchaser/Consignee before such discontinuation to provide adequate time to the purchaser to purchase the required spare parts etc., and

ii. Immediately following such discontinuation, providing the Purchaser/Consignee, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Purchaser/Consignee.

12.2 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the goods so that the same are supplied to the Purchaser/Consignee promptly on receipt of order from the Purchaser/Consignee.

13. Incidental services

13.1 Subject to the stipulation, if any, in the SCC (Section – V), List of Requirements (Section – VI) and the Technical Specification (Section – VII), the supplier shall be required to perform the following services.

i) Installation & commissioning, Supervision and Demonstration of the goods
ii) Providing required jigs and tools for assembly, minor civil works required for the completion of the installation.
iii) Training of Consignee's Staff, operators etc. for operating and maintaining the goods
iv) Supplying required number of operation & maintenance manual for the goods

14. Distribution of Dispatch Documents for Clearance/Receipt of Goods

The supplier shall send all the relevant despatch documents well in time to the Purchaser/Consignee to enable the Purchaser/Consignee clear or receive (as the case may be) the goods in terms of the contract.
Unless otherwise specified in the SCC, the usual documents involved and the drill to be followed in general for this purpose are as follows.

A) For Domestic Goods, including goods already imported by the supplier under its own arrangement

Within 24 hours of despatch, the supplier shall notify the purchaser, consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract):

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Two copies of packing list identifying contents of each package;
(iii) Inspection certificate issued by the nominated Inspection agency, if any.
(iv) Certificate of origin;
(v) Insurance Certificate as per GCC Clause 11.
(vi) Manufacturers/Supplier's warranty certificate & In-house inspection certificate.

B) For goods imported from abroad

Within 24 hours of despatch, the supplier shall notify the purchaser, consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract). In case of CIP contracts where custom clearance is to be done by purchaser any delay or demurrage occurred during the customs clearance on account of the non-availability of technical support/ clarifications /documents from the supplier shall be borne by the supplier:

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Original and four copies of the negotiable clean, on-board Bill of Lading/Airway bill, marked freight pre paid and four copies of non-negotiable Bill of Lading/Airway bill;
(iii) Four Copies of packing list identifying contents of each package;
(iv) Insurance Certificate as per GCC Clause 11.
(v) Manufacturer's/Supplier's warranty certificate;
(vi) Inspection Certificate for the despatched equipments issued by recognized/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch
(vii) Manufacturer's own factory inspection report;
(viii) Certificate of origin
(ix) Port of Loading;
(x) Port of Discharge and
(xi) Expected date of arrival.

15. Warranty

15.1 The supplier warrantscomprehensivelythat the goods supplied under the contract is new, unused and incorporate all recent improvements in design and materials unless prescribed otherwise by the purchaser in the contract. The supplier further warrants that the goods supplied under the contract shall have no defect arising from design, materials (*except when the design adopted and / or the material used are as per the Purchaser's/Consignee's specifications*) or

workmanship or from any act or omission of the supplier, that may develop under normal use of the supplied goods under the conditions prevailing in India.

15.2 This warranty shall remain valid for the period as mentioned in the SCC Section-V/ List of Requirement Section VI , after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the Purchaser/Consignee in terms of the contract, unless specified otherwise in the SCC.

a. No conditional warranty will be acceptable.
b. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work.
c. Replacement and repair will be under taken for the defective goods.
d. Proper marking has to be made for all spares for identification like printing of installation and repair dates.

15.3 In case of any claim arising out of this warranty, the Purchaser/Consignee shall promptly notify the same in writing to the supplier. The period of the warranty will be as per G.C.C clause number 15.2 above irrespective of any other period mentioned elsewhere in the bidding documents.

15.4 Upon receipt of such notice, the supplier shall, within 24 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. The penalty clause for non-rectification will be applicable as per tender conditions.

15.5 In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended to a further period of twenty four (24) months from the date such rectified / replaced goods starts functioning to the satisfaction of the purchaser. In case the supplier is not able to rectify the defects to the full satisfaction of the purchaser the goods shall have to be replaced with a new one and fresh warranty as per Clause 15.2 above shall be applicable. The decision of the purchaser in this respect shall be final and binding on the supplier.

15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 24 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.

15.7 During Warranty period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the installation for preventive maintenance of the goods

15.8 The Purchaser/Consignee reserve the rights to enter into Annual Comprehensive Maintenance Contract between Consignee and the Supplier for the period as mentioned in Section VII, Technical Specifications after the completion of warranty period.

15.9 The supplier along with its Indian Agent and the CMC provider shall ensure continued supply of the spare parts for the machines and equipment supplied by them to the purchaser for 10 years from the date of installation and handing over.

16. Assignment

16.1 The Supplier shall not assign, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the Purchaser's prior written permission.

17. Sub Contracts

17.1 The Supplier shall notify the Purchaser in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.

17.2 Sub contract shall be only for bought out items and sub-assemblies.

17.3 Sub contracts shall also comply with the provisions of GCC Clause 4 ("Country of Origin").

18. Modification of contract

18.1 If necessary, the purchaser may, by a written order given to the supplier at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract in any one or more of the following:

a) Specifications, drawings, designs etc. where goods to be supplied under the contract are to be specially manufactured for the purchaser,
b) Mode of packing,
c) Incidental services to be provided by the supplier
d) Mode of despatch,
e) Place of delivery, and
f) Any other area(s) of the contract, as felt necessary by the purchaser depending on the merits of the case.

18.2 In the event of any such modification/alteration causing increase or decrease in the cost of goods and services to be supplied and provided, or in the time required by the supplier to perform any obligation under the contract, an equitable adjustment shall be made in the contract price and/or contract delivery schedule, as the case may be, and the contract amended accordingly. If the supplier doesn't agree to the adjustment made by the Purchaser/Consignee, the supplier shall convey its views to the Purchaser/Consignee within twenty-one days from the date of the supplier's receipt of the Purchaser's/Consignee's amendment / modification of the contract.

19. Prices

19.1 Prices to be charged by the supplier for supply of goods and provision of services in terms of the contract shall not vary during currency of the Rate Contract period from the corresponding prices quoted by the supplier in its tender and incorporated in the Rate Contract except for any price adjustment authorised in the SCC.

20. Taxes and Duties

20.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.

20.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

20.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

21. Terms and Mode of Payment

21.1 Payment Terms

Payment shall be made subject to recoveries, if any, by way of liquidated damages or any other charges as per terms & conditions of contract in the following manner.

A) Payment for Domestic Goods Or Foreign Origin Located Within India.

Payment shall be made in Indian Rupees as specified in the contract in the following manner:

a) On delivery:

80 % payment of the contract price shall be paid on receipt of goods in good condition and upon the submission of the following documents:

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Consignee Receipt Certificate as per Section XVII in original issued by the authorized representative of the consignee;
(iii) Two copies of packing list identifying contents of each package;
(iv) Inspection certificate issued by the nominated Inspection agency, if any.
(v) Insurance Certificate as per GCC Clause 11
(vi) Certificate of origin.

b) On Acceptance:

Balance 20 % payment would be made against 'Final Acceptance Certificate' as per Section XVIII of goods to be issued by the consignees subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.

B) Payment for Imported Goods:

Payment for foreign currency portion shall be made in the currency as specified in the contract in the following manner:

For contracts placed on DDP (consignee site) basis

(a) On delivery:

Eighty (80)% of the net CIP price (CIP price less Indian Agency commission) of the goods shipped shall be paid through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the supplier in a bank in his country and upon submission of documents specified hereunder:

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount.

(ii) Original and four copies of the negotiable clean, on–board Bill of Lading/Airway bill, marked freight pre paid and four copies of non-negotiable Bill of Lading/Airway bill;
(iii) Four copies of packing list identifying contents of each package;
(iv) Insurance Certificate as per GCC Clause 11
(v) Manufacturer's/Supplier's warranty certificate;
(vi) Manufacturer's own factory inspection report and
(vii) Certificate of origin by the chamber of commerce of the concerned country,
(viii) Inspection Certificate for the despatched equipments issued by recognized/reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch.
(ix) Consignee Receipt Certificate as per Section XVII in original issued by the authorized representative of the consignee.

(b) On Acceptance:

Balance payment of Twenty (20)% of net CIP price of goods would be made against 'Final Acceptance Certificate' as per Section XVIII to be issued by the consignees through irrevocable, non- transferable Letter of Credit (LC) opened in favour of the Foreign Principal in a bank in his country, Subject to recoveries, if any.

(c) For contracts on DDP basis

Payment of custom duty amount with Custom Duty Exemption Certificate (CDEC), if applicable, customs clearance and handling charges, loading/ unloading, inland transportation, incidental costs till consignee site & incidental services (including installation & commissioning, supervision, demonstration and training) will be paid in Indian Rupees to the Indian agent at actual not exceeding the quoted rates on proof of such documents along with copy of Consignee Receipt Certificate for the respective item.

(d) Payment of Indian Agency Commission:

Indian Agency commission will be paid to the manufacturer's agent in the local currency for an amount in Indian rupees indicated in the relevant Price Schedule (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation. Payment shall be paid in Indian Rupees to the Indian Agent on proof of 100% payment to the Foreign Principal.

C) Payment of Turnkey, if any:

Turnkey payment will be made to the manufacturer's agent in Indian rupees indicated in the relevant Price Schedule (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation. Payment shall be made in Indian Rupees to the Indian Agent on proof of 100% payment to the Foreign Principal.

D) Payment for Annual Comprehensive Maintenance Contract Charges, if applicable:

The consignee may enter into CMC with the supplier at the rates as stipulated in the Rate Contract. The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by the consignee on receipt of bank guarantee for an amount equivalent to 2.5 % of the cost of the equipment as per contract in the prescribed format given in Section XV valid till 2 months after expiry of entire CMC period.

21.2 The supplier shall not claim any interest on payments under the contract.

21.3 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other tax as applicable will be made from the bills payable to the Supplier at rates as notified from time to time.

21.4 Irrevocable & non – transferable LC shall be opened by the purchaser. However, if the supplier requests specifically to open confirmed LC, the extra charges would be borne by the supplier. If LC is required to be extended and/or amended for reasons not attributable to the purchaser/consignee, the charges thereof shall be borne by the supplier.

21.5 The payment shall be made in the currency / currencies authorised in the contract.

21.6 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to respective consignees.

21.7 While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the contract.

21.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser/Consignee, as and if permitted under the contract, the supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the supplier) shall refund to the Purchaser/Consignee forthwith.

21.9 In case where the supplier is not in a position to submit its bill for the balance payment for want of receipted copies of Inspection Note from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, balance amount will be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the goods in question, subject to the following conditions:

(a) The supplier will make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of goods.
(b) Delay in supplies, if any, has been regularized.
(c) The contract price where it is subject to variation has been finalized.
(d) The supplier furnishes the following undertakings:

"I/We, _____ certify that I/We have not received back the Final Acceptance certificate from consignee or any communication from the purchaser or the consignee about non-receipt, shortage or defects in the goods supplied. I/We _____ agree to make good any defect or deficiency that the consignee may report within three months from the date of receipt of this balance payment.

22. Delivery Schedule

22.1 The supplier shall deliver of the goods and perform the services under the contract within the time schedule specified in the Supply Order. **The time for and the date of delivery of the goods stipulated in the schedule shall be deemed to be of the essence of contract and the delivery must be completed not later than the date(s) as specified in the Contract.**

22.2 Subject to the provision under GCC clause 26, any unexcused delay by the supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the supplier liable to any or all of the following sanctions:

(i) Imposition of liquidated damages,
(ii) Forfeiture of its performance security and
(iii) Termination of the contract for default.

22.3 If at any time during the currency of the contract, the supplier encounters conditions hindering timely delivery of the goods and performance of services, the supplier shall promptly inform the Purchaser/Consignee in writing about the same and its likely duration and make a request to the Purchaser/Consignee for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Purchaser shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of supplier's contractual obligations by issuing an amendment to the contract.

22.4 When the period of delivery is extended due to unexcused delay by the supplier, the amendment letter extending the delivery period shall, interalia contain the following conditions:

a) The Purchaser shall recover from the supplier, under the provisions of the clause 23 of the General Conditions of Contract, liquidated damages on the goods and services, which the Supplier has failed to deliver within the delivery period stipulated in the contract.
b) That no increase in price on account of any ground, whatsoever, including any stipulation in the contract for increase in price on any other ground and, also including statutory increase in or fresh imposition of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or on account of any other tax or duty which may be levied in respect of the goods and services specified in the contract, which takes place after the date of delivery stipulated in the contract shall be admissible on such of the said goods and services as are delivered and performed after the date of the delivery stipulated in the contract.
c) But nevertheless, the Purchaser shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or any other duty or tax or levy or on account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.

22.5 The supplier shall not dispatch the goods after expiry of the delivery period. The supplier is required to apply to the Purchaser for extension of delivery period and obtain the same before despatch. In case the supplier dispatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall lie against the purchaser.

22.6 Passing of Property:

22.6.1 The property in the goods shall not pass to the purchaser unless and until the goods have been delivered to the consignee in accordance with the conditions of the contract.

22.6.2 Where there is a contract for sale of specific goods and the supplier is bound to do something to the goods for the purpose of putting them into a deliverable state the property does not pass until such thing is done.

22.6.3 Unless otherwise agreed, the goods remain at the supplier's risk until the property therein is transferred to the purchaser.

23. Liquidated damages

23.1 Subject to GCC clause 26, if 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 Supply Order, the Purchaser

shall, without prejudice to other rights and remedies available to the Purchaser under the contract, 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 delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser may consider termination of the contract as per GCC 24.

During the above-mentioned delayed period of supply and / or performance, the conditions incorporated under GCC sub-clause 22.4 above shall also apply.

24. Termination for default

24.1 The Purchaser, without prejudice to any other contractual rights and remedies available to it (the Purchaser), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser pursuant to GCC sub-clauses 22.3 and 22.4.

24.2 In the event of the Purchaser terminates the contract in whole or in part, pursuant to GCC sub-clause 24.1 above, the Purchaser will forfeit the performance security and may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit . The supplier shall be liable to the Purchaser for the extra expenditure, if any, incurred by the Purchaser for arranging such procurement.

24.3 Unless otherwise instructed by the Purchaser, the supplier shall continue to perform the contract to the extent not terminated.

24.4 If the Supplier, in the judgement of Purchaser has engaged in fraud and corruption, as defined in GCC Clause 37, in competing for or in executing the Contract.

25. Termination for insolvency

25.1 If the supplier becomes bankrupt or otherwise insolvent, the purchaser reserves the right to terminate the contract at any time, by serving written notice to the supplier without any compensation, whatsoever, to the supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Purchaser.

25.2 Termination for Convenience

(a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

(b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

(i) To have any portion completed and delivered at the Contract terms and prices; and/or

(ii) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

26. Force Majeure

26.1 Notwithstanding the provisions contained in GCC clauses 22, 23 and 24, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.

26.2 For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of , the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, acts of the Purchaser/Consignee either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees , lockouts excluding by its management, and freight embargoes.

26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

26.5 In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

27. Purchaser's Right to Short Close/Revocation/Cancellation of the Rate Contract

27.1 Since the rate contract is a standing offer and is merely a document embodying various terms of the standing offer made by the Contractor, the purchaser can legally cancel the Rate Contract at any time during the currency of the contract giving a reasonable opportunity to the contractor to represent against such cancellation. The revocation/cancellation of the Rate Contract shall take effect immediately, thereafter. Any order placed by the Purchaser after the date of cancellation of the Rate Contract should not be taken up by the contractor for execution. The purchaser may, at its option negotiate with the Contractor so as to bring the R/C prices in line with the Market prices, whenever market fluctuation affects prices abnormally. If the negotiation fails, then the Rate Contract will be foreclosed and fresh Rate Contract will be concluded separately.

27.2 Either party namely, the R/C holder/the Purchaser can legally revoke/cancel the Rate Contract at any time during the currency of the Rate Contract giving a notice of 15 days. The revocation of the Rate Contract on the part of R/C holder shall take effect 15 days from the date of the communication of revocation is received by the Purchaser. The cancellation of the Rate Contract by the Purchaser shall take effect 15 days from the date of issue of letter notifying the short closure.

The notice-cum-cancellation of Rate Contract letter to be issued by the Purchaser given in **Section**-XXII and the R/C holder can revoke the Rate Contract by making the application in the Form given in **Section XXII**.

28. Governing language

28.1 The Rate Contract shall be written in English language following the provision as contained in GIT clause 4. All correspondence and other documents pertaining to the Rate Contract, which the parties exchange, shall also be written accordingly in that language. Supply offers placed based on the Rate Contract shall also be written in English language.

29. Notices

29.1 Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or by cable or telex or facsimile and confirmed in writing. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.

29.2 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

30. Resolution of disputes

30.1 If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the Rate Contract, the parties shall make every effort to resolve the same amicably by mutual consultations.

30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitrator appointed by the Chairman & Managing Director of HLL Life care Limited. The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One Lac (Rs. 1,00,000/-).

30.3 Venue: The venue of arbitration shall be Delhi/New Delhi (India).

31. Applicable Law

The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.

32. Withholding and Lien in respect of sums claimed

Whenever any claim for payment arises under the contract against the supplier the purchaser shallbe entitled to withhold and also have a lien to retain such sum from the security deposit or sum of money arising out of under any other contract made by the supplier with the purchaser, pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money so withheld or retained underthe lien referred to above,by the purchaser, will be kept withheld or retained till the claim arising about of or under the contract is determined by the Arbitrator or by the competent court as the case

may be ,and the supplier will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention.

33. S**ubmission of Quarterly Drawal Report:**

33.1 The offer of the firms of the next R/C will be considered only if their performance against the current and preceding R/Cs, if held by them, is satisfactory and they are otherwise eligible. For this purpose, the purchaser except that a firm should have supplied minimum 85%/95%/100% of the stores due for supply against the current RC and preceding two years R/C respectively on or before the cut-off date as indicated in the tender enquiry.

33.2 R/C holder not obtaining any Supply Order against the current R/C prior to the period indicated above and also against immediate previous Rate Contract will be considered to have a NIL performance and will not be eligible for award of next R/C.

33.3 The Contract shall submit a statement of Orders received and executed against the Rate Contract by the 10^{th} of each month in the proforma attached **(Annexure)** to the concerned Director of Purchaser with copy to Director (MIS), DGS&D, New Delhi – 110001.

34. **Limitation of Liability:**

34.1 Except in cases of criminal negligence or wilful misconduct,

(a) The Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and

(b) The aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement.

35. **Corrupt Practices**

35.1 It is required by all concerned namely the Consignee/Tenderers/Suppliers etc to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Purchaser: -

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;

(b) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the purchaser if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

36. Fall Clause

36.1 The prices charged for the stores supplied under the Contract by the Contractor shall in no event exceed the lowest price at which the Contractor sells the Stores or offer to sell stores of identical description to any person(s)/organisation(s) including the Purchaser or any Department of Central Government or any Department of a State Government or any statutory undertaking of the Central or a State Government, as the case may be, during the period till performance of all Supply Orders placed during the currency of Rate Contract is completed.

36.2 It at any time during the said period, the Contractor reduces the Sale price, sells or offers to sell such stores to any person(s)/organisation(s) including the Purchaser or any Statutory Undertaking of the Central or a State Government, as the case may be, at a price lower than the price chargeable under this Contract, he shall forthwith notify such reduction or Sale or offer of Sale to the Director General of Supplies and Disposals and the price payable under the Contract for the stores supplied after the date of coming into force of such reduction or sale or offer of sale stand corresponding reduced. The above stipulation will, however, not apply to:

(a) Export/deemed Export by the Contractor
(b) Sale of Goods as Original Equipment prices lower than the price charged for normal replacement.
(c) Sale of goods, such as drugs, which have expiry date.
(d) Sale of goods at lower price on or after the date of completion of sale/placement of order of goods by the authority concerned, under the existing or previous Rate Contracts as also under any previous contracts entered into with the Central or the State Government Departments including new undertaking (excluding joint sector companies and or private parties) and bodies.

36.3 The Contractor shall furnish the following certificate to the Paying Authority along with each bill for payment for supplies made against the Rate Contract.

"I/We certify that there has been no reduction in sale price of the Stores of Description identical to the Stores supplied to the Government under the contract herein and such Stores have not been offered/sold by me/us to any persons(s) organisation(s) including the purchaser or any Department of Central Government or any Department of a State Government or any statutory Undertaking of the Central or State Government as the case may be upto the date of the bill/ the date of completion of supplies against all supply order placed during the currency of the R/C at a price lower than the price charged to Government under the Contract except for quantity of Stores categorised under sub-clause (a), (b) and (c) of Para 36.2 above details of which are as follows:

NOTE: The Contract will also inform the Purchaser as soon as supplies against all the Supply Orders placed against the Rate Contract are completed.

37. General/ Miscellaneous Clauses

37.1 Each member/constituent of the Supplier/Joint Venture/Consortium/Association its Indian Agent/CMC/ Joint Venture/Consortium/Association/AMC Provider, in case of consortium shall

be **jointly and severally liable** to and responsible for all obligations towards the Purchaser/Consignee for performance of contract/services including that of its Associates/Sub Contractors under the Contract.

37.2 Joint Venture, Consortium or association of all the parties shall designate one party to act as a leader with authority to bind the joint venture, consortium or association. The composition or the constitution of the joint venture, consortium or association shall not be altered without the prior consent of the purchaser.

37.3 The Supplier/its Indian Agent/CMC/ Joint Venture/Consortium/Association/AMC Provider shall at all times, indemnify and keep indemnified the Purchaser against all claims/damages etc. for any infringement of any Intellectual Property Rights (IPR) while providing its services under CMC/AMC or the Contract.

37.4 The Supplier/its Agent/CMC/ Joint Venture/Consortium/Association/AMC Provider shall, at all times, indemnify and keep indemnified the Purchaser/Consignee against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its employees or agents or by any other third party resulting from or by any action, omission or operation conducted by or on behalf of the supplier/its associate/affiliate etc.

37.5 All claims regarding indemnity shall survive the termination or expiry of the contract.

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract (SCC) will apply for this purchase. The corresponding clauses of General Conditions of Contract (GCC) relating to the SCC stipulations have also been incorporated below.

These Special Conditions will modify/substitute/supplement the corresponding (GCC) clauses.
Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision contained in the SCC shall prevail.

The Rate Contract finalised under this tender enquiry can be operated only by HITES/HLL. Any supplier supplying against the said Rate contract to any other user, Govt./ Private without knowledge and permission of HITES/HLL will be considered breach of contract and HITES/HLL may initiate action as deemed appropriate including but not limited to forfeiture of their security towards performance and operation of Rate Contract, debarring, blacklisting, etc.

SECTION - VI

LIST OF REQUIREMENTS

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
Group: Special Neonatal Care Unit					
1		Radiant Warmer	10,000	3 Years	NA
2		Bassinet	10,000	3 Years	NA
3		Irradiance Meter	10,000	3 Years	NA
4		Suction Pump, Foot Operated	10,000	3 Years	NA
5		Suction Pump Portable	10,000	3 Years	NA
6		Transport Incubator	20,000	3 Years	NA
Group: Laboratory					
7		Automated 3 – part Differential Hematology Analyzer	1,00,000	3 Years	NA
8		Automated 5 – part Differential Hematology Analyzer	1,00,000	3 Years	NA
9		Binocular Microscope	10,000	3 Years	5 Years
10		Capillary Bilirubinometer	10,000	3 Years	5 Years
11		Centrifuge	10,000	3 Years	5 Years
12		Colorimeter	10,000	3 Years	NA
13		Fully – Automated Biochemistry Analyzer	1,00,000	3 Years	NA
14		Portable Compact Mobile Lab with Accu Kine	20,000	As per DGS&D Std.	NA
15		Semi – Automated Biochemistry Analyzer	1,00,000	3 Years	5 Years
16		Semi – Automated Elisa Washer and Reader	1,00,000	3 Years	5 Years
17		Semi – Automated Urine Strip Analyser	20,000	NA	NA
18		Non Invasive Hemoglobinometer- Conjunctiva based	20,000	3 Years	NA
19		Non Invasive hemoglobinometer- Probe based	20,000	1 Year	NA
20		SMS based Multi-parameter Patient Monitoring System	20,000	3 Years	NA
21		Urine Analyser	20,000	1 Year	NA

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
Group: Radiology					
22		300 mA HF X-Ray Machine	1,00,000	3 Years	5 Years
23		Color Doppler flow Ultrasound	1,00,000	3 Years	5 Years
24		Ultrasound Machine	1,00,000	3 Years	5 Years
25		500 mA X–Ray Machine (HF)	1,00,000	3 Years	5 Years
26		C-Arm System (HF)	1,00,000	3 Years	5 Years
27		CR System	1,00,000	3 Years	5 Years
28		Digital Radiography System (HF)	1,00,000	3 Years	5 Years
29	-	Mobile X – Ray Machine (HF)	1,00,000	3 Years	5 Years
30		Mammography	1,00,000	3 Years	5 Years
Group: Emergency Response System					
31		Suction Pump Foot Operated	10,000	3 Years	NA
32		Flowmeter with Humidifier Bottle	10,000	1 Year	NA
33		Oxygen Cylinder “B” Type	10,000	10 Years	NA
34		Oxygen Cylinder “D” Type	10,000	10 Years	NA
35		Artificial Manual Breathing Unit (Adult)	10,000	1 Year	NA
36		Artificial Manual Breathing Unit (Child and Neonatal)	10,000	1 Year	NA
37		Trolley Stretcher- With Back Tilt Facility And Collapsible Wheels For Uploading Into The Trolley	10,000	3 Years	3 Years
38		Canvas stretcher(Folding)	10,000	1 Year	NA
39		Stretcher Scoop	10,000	5 Years	NA
40		BP Instrument Aneroid	10,000	1 Year	NA
41		Stethoscope	10,000	1 Year	NA
42		Pneumatic Splints	10,000	1 Year	NA
43		Gauze Cutter	10,000	1 Year	NA
44		Artery Forceps	10,000	1 Year	NA
45		Magill’s Forceps	10,000	1 Year	NA
46		Cervical Collar	10,000	1 Year	NA
47		First Aid Bag	10,000	NA	NA
48		Spinal Board	10,000	1 Year	NA
49		Double Head	10,000	1 Year	NA

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
		Immobilizers			
50		Foetal Doppler	10,000	3 Years	NA
51		Portable hand Held Gulcometer	10,000	1 Year	NA
52		Nebulizer (Electric)	10,000	3 Years	NA
53		Baby Hypothermia Wrap Kit	10,000	1 Year	NA
54		Transport Ventilator	20,000	3 Years	NA
55		Drug Vending Machine	20,000	NA	NA
Group: Neonatal and Pediatric Care ICUs					
56		Direct ophthalmoscope	10,000	3 Years	NA
57		Mobile X Ray	20,000	3 Years	NA
58		Bilirubinometer	10,000	3 Years	NA
59		ECG Unit	10,000	3 Years	NA
60		Low cost Glucometer	10,000	2 Years	NA
61		Blood Gas Analyzer	1,00,000	3 Years	NA
62		Transilluminator Cold Light Source	10,000	3 Years	NA
63		CPAP	20,000	3 Years	NA
64		Intensive Care Ventilator (Neonatal & Pediatric)	1,00,000	3 Years	NA
65		Transport Ventilator (Neonatal & Pediatric)	20,000	3 Years	NA
66		Defibrillator	20,000	3 Years	NA
67		Syringe Pump	10,000	3 Years	NA
68		Infusion Pump (Volumetric)	10,000	3 Years	NA
69		Suction Pump Foot Operated	10,000	3 Years	NA
70		Self Inflating Reservoir Bag	10,000	1 Year	NA
71		Laryngoscope	10,000	3 Years	NA
72		Oxygen Hood	10,000	3 Years	NA
73		Oxygen Concentrator	10,000	3 Years	NA
74		Phototherapy	10,000	3 Years	NA
75		Thermometer Digital	10,000	1 Year	NA
76		Pulse Oxymeter, Line Powered	10,000	3 Years	NA
77		Monitor	10,000	3 Years	NA
78		Baby Weighing Scale	10,000	1 Year	NA
79		Breast Pump	10,000	3 Years	NA
80		Examination Treatment Light	10,000	1 Year	NA
81		EEG Electroencephalography	20,000	3 Years	NA

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
Group: Skill Laboratories					
82		Abdominal palpation mannequin for Leopold maneuvers during pregnancy	10,000	3 Years	NA
83		Adult CPR mannequin	10,000	3 Years	NA
84		Child birth simulator along with attachment for cervical dilatation	10,000	3 Years	NA
85		Adult IV training arm kit	10,000	3 Years	NA
86		Episiotomy suturing trainer	10,000	3 Years	NA
87		Female lower torso mannequin with normal and postpartum uterus and accessories	10,000	3 Years	NA
88		Normal new born baby simulation model	10,000	3 Years	NA
89		Pediatric IV Arm Kit	10,000	3 Years	NA
90		Uterine model	10,000	3 Years	NA
91		Essential new born care and resuscitation mannequin	10,000	3 Years	NA
92		Female catheterization mannequin	10,000	3 Years	NA
93		Intramuscular Injection training mannequin	10,000	3 Years	NA
94		OG Tube insertion simulation model	10,000	3 Years	NA
95		Postpartum hemorrhage simulation model	10,000	3 Years	NA
Group: Operational Theatres					
96		Suction pump portable electric	10,000	3 Years	NA
97		Autoclave HP vertical (single bin)	20,000	3 Years	NA
98		Autoclave HP horizontal	20,000	3 Years	NA
99		Autoclave HP vertical (2 bin)	20,000	3 Years	NA
100		Bowl sterilizer (big)	10,000	3 Years	NA
101		Bowl sterilizer (small)	10,000	3 Years	NA
102		Operation Table Orthopedic	1,00,000	3 Years	NA
103		Dehumidifier	10,000	3 Years	NA
104		Electrosurgical unit	20,000	3 Years	NA

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
105		Ethylene oxide sterilizer	1,00,000	3 Years	NA
106		Flash sterilizer with trolley	20,000	3 Years	NA
107		Operation Table Hydraulic major	1,00,000	3 Years	NA
108		Shadow less lamp ceiling type major	1,00,000	3 Years	NA
109		Sterilizer (big instruments)	20,000	3 Years	NA
110		Gynae- examination table	20,000	3 Years	NA
111		Table for Obstetric Labour	20,000	3 Years	NA
112		Focus lamp Ordinary for Examination	10,000	3 Years	NA
113		Operation Table Electro-Hydraulic (Electrical With Manual Over Side)	1,00,000	3 Years	NA
114		Operation Table Hydraulic Minor	1,00,000	3 Years	NA
115		Shadow less Lamp Ceiling Type Minor	20,000	3 Years	NA
116		Shadow less Lamp Ceiling Type Minor	20,000	3 Years	NA
Group: Preclinical Items					
117		Embalming Machine	10,000	1 Year	NA
118		Meat cutting Machine (Bakon's slicer)	10,000	1 Year	NA
119		Hot plate - Electrical	10,000	1 Year	NA
120		Incubator	10,000	1 Year	NA
121		Dissection Table - Std	20,000	NA	NA
122		Dissection table small	10,000	NA	NA
123		X - Ray viewing Lobby	10,000	NA	NA
124		Charts (in set)	10,000	NA	NA
125		Models (in set)	10,000	NA	NA
126		Refrigerator (Laboratory type)/REAGENT REFRIGERATOR	10,000	1 Year	NA
127		Dissecting Microscope	20,000	3 Years	5 Years
128		Paraffin water bath	10,000	1 Year	NA
129		Water bath serological	10,000	1 Year	NA
130		Hot air oven	10,000	1 Year	NA
131		ICE flaking machine	10,000	1 Year	NA
132		BOD incubator	20,000	3 Years	NA
133		All glass distillation apparatus	20,000	NA	NA

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
134		Peristaltic pump	10,000	1 Year	NA
135		Biological safety cabinet	20,000	3 Years	5 Years
136		Single channel physiological recorder	20,000	3 Years	5 Years
137		Algometer	10,000	NA	NA
138		Kymograph with accessories	10,000	NA	NA
139		Ph Meter	10,000	NA	NA
140		Drug Cart	10,000	NA	NA
141		View Box	10,000	NA	NA
142		Infantometer	10,000	NA	NA
143		Stadiometer	10,000	NA	NA
144		Centrifuge machine with hematocrit reader(Capillary)	10,000	3 Years	5 Years
145		Air Oxygen blender	10,000	NA	NA
146		Exercise table	10,000	NA	NA
147		Tilt table (Manual)	10,000	NA	NA
148		Tilt Table (Motorized)	10,000	NA	NA
149		Parallel bar(12ft with platform with mirror	10,000	NA	NA
150		HEMOGLOBINOMETER	20,000	3 Years	NA
151		Dielectric Tube Sealer, Handheld	10,000	1 Year	NA
152		Blood Bag Tubing Stripper	10,000	1 Year	NA
153		REFRIGERATED BLOOD BAG CENTRIFUGE (12 BAGS)	20,000	3 Years	NA
154		Electronic Double Pan Component Balance	10,000	1 Year	5 Years
155		MANUAL PLASMA EXTRACTOR	10,000	1 Year	5 Years
156		Vertical Blood Bank Refrigerator	10,000	3 Years	NA
157		PLATELET AGITATOR & INCUBATOR (96 BAGS)	20,000	3 Years	5 Years
158		VDRL SHAKER	10,000	3 Years	5 Years
159		MICRO PIPET 2-1000 ul	10,000	NA	NA
160		MICRO PIPET FIXED VOLUME (ONE SET)	10,000	NA	NA
161		Refrigerated Blood Component Transport Box	10,000	1 Year	NA
162		LED Head Light	10,000	3 Years	5 Years
163		Tail Flick Analgesiometer	10,000	1 Year	NA
164		Electroconvulsiometer (with ear and corneal	10,000	3 Years	5 Years

Sl. No.	e-Tender Ref. No.	Item Name	EMD (In INR)	Required Warranty Period	Required CMC Period
		electrodes)			
165		Cook's Pole Climbing Apparatus	10,000	1 Year	NA
166		Rotarod (6 compartments)-Computerized	10,000	1 Year	NA
167		Digital Photoactometer	10,000	1 Year	NA
168		Video assisted Elevated plus maze for rats and mice	10,000	1 Year	NA
169		Portable Autoclave (25L)	10,000	3 Years	NA
170		Digital Spirometer	10,000		NA
171		Bicycle ergometer with digital display	10,000	1 Year	NA
172		Digital Reaction Time apparatus	10,000	3 Years	NA
173		Multiple Choice Apparatus (with digital display)	10,000	1 Year	NA
174		Critical flicker fusion apparatus	10,000	1 Year	NA
175		Isolated Organ bath	10,000	1 Year	NA
176		Multi Channel Pipette (Manual)	10,000	NA	NA
177		Bioelectric Impedance Analyzer for bodycomposition	10,000	1 Year	NA
178		Vortex Mixer	10,000	1 Year	NA
179		Pharmaceutical refrigerators	10,000	3 Years	NA
180		Automated tissue grinder(Homozenizer)	10,000	1 Year	NA
181		Weighing Machine for dead bodies	10,000	1 Year	NA
182		Digital Weighing Machine for organs/fetus	10,000	1 Year	NA
183		Cadaver/ Autopsy carrier (Non-elevating)	10,000	NA	NA

Note:-Bidders are advised to offer their best competitive prices against this Rate Contract tender. The drawalsagainst the Rate Contractwill depends on the competitiveness of the prices, quality of equipment as essential requirements.

1. Destination/Consignee details

Stores are to be supplied all over India as indicated in the Supply Orders placed against the Rate Contract.

2. Delivery Period:

(a) For Indigenous goods or for imported goods if supplied from India:

60 days from date of Supply Order.

b) For Imported goods directly from foreign:

90 days from the date of Supply order or 60 days from the date of LC, whichever is earlier.

3. Terms of Delivery:

a) For Indigenous goods or for imported goods if supplied from India

Free Delivery at Consignee Site
Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period, including 3 months beyond date of delivery.

b) For Imported goods directly from abroad:

The foreign tenderers are required to quote their rates on DDP basis, at consignee site.

Insurance (local transportation and storage) would be extended and borne by the Supplier from warehouse to the consignee site for a period including 3 months beyond date of delivery.

4. Scope of Incidental Services:

Installation & Commissioning, Supervision, Demonstration, Trial run and Training etc. as specified in GCC Clause 13

Installation & commissioning shall be completed within 15 days, of handing over the site complete in all respect by the consignee. The date of handing over the site has to be intimated to the supplier by the consignee. The delay on the part of the supplier to install & commission the equipment will also attract the provisions as contained in the liquidated damage clause.

5. Warranty:

Warranty period as per details in general technical specification and for a period specified in the Table no. 1 above and/ or as per details in Technical Specification.

Warranty period will be effective from the date of installation, commissioning and acceptance

6. Comprehensive Maintenance Contract (CMC)

CMC shall be as per details in general technical specification and for a period as specified in the Table no. 1 above and/ or as per details in Technical Specification.

SECTION-VII

TECHNICAL SPECIFICATIONS

Group: Special Neonatal Care Unit

Item Sl. No.1

# Radiant Warmer		
Definition		Mains electricity (AC-powered) mobile device that contains an infrared (IR) heating element(s) designed to emit controlled, evenly distributed overhead heat to the body of a newborn/infant patient requiring supplemental heat. This device is equipped with wheels so that it can easily be moved to different areas of a room, ward, or department.
General		
1. Use		
1.1	**Clinical purpose**	Infant Radiant warmer is an electrically powered device with a radiant heating source intended to maintain the thermal balance of an infant by direct radiant of energy in the infrared region of the electromagnetic spectrum.
1.2	**Used by clinical department/ ward**	Neonatal ICU/ SNCU
1.3	**Overview of functional requirements**	Radiant warmer is a microprocessor controlled unit with heater placed on the over head panel. This work on both servo and manual mode options to maintain the baby temperature at the set value. There are two modes of operation manual and baby control or skin control (servo) mode. It has Digital displays reading of the set and baby observed temperatures separately.
Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	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°C. 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 tilt able 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 of / switch of , 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 at least 6mm thick; clear and transparent. 24. If there is more than 60% heater output for 10 minutes it should cut of 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. Th bay bed should be crevice free for ease of cleaning, infection control. 28. The mattress used should be of biocompatible material. 29. Skin temperature probe should be small in size not more than 10mm diameter and 3-4mm thick to ix the probe firmly on the infant. Baby contact material should be biocompatible as per ISO 10993 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.
2.2	**Settings**	1. Should have Manual mode and Baby (Servo) mode settings. 2. Mode of operation should be clearly displayed. 3. In servo mode baby set temperature should be 32 to 38° C.
2.3	**User's interface**	Manual and Servo controlled temperature regulation.
2.4	**Software and/or standard of communication(where ever required)**	LED Display and inbuilt software; Interruption and restoration of the power supply does not change the preset values.
2.5	**Others**	1. Device shall not overbalance when placed in any transport position of normal use on a 10° inclined plane from the horizontal plane. 2. Transformers of device shall be protected against overheating in the event of short circuit or overload of any output winding. 3. Patient leakage current should be less than 100 µA in normal condition 4. Temperature on the baby mattress should not exceed 43 deg C when the warmer is operating under steady temperature condition. 5. Temperature of HEATER GUARDS should not exceed 85 °C in normal use. 6. The Temperature differences on the mattress shall not exceed 2 °C.
3. Physical Characteristics		
3.1	**dimensions (metric)**	Specifications up to: 2000 mm (Height) X 900mm (Width) X 1100 mm (Length).
3.2	**Weight (lbs, kg)**	Maximum spec: 150kg.
3.3	**Configuration**	At least 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.
3.4	**noise (in dBa)**	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.
3.5	**heat dissipation**	Should maintain up to 36.5 deg temp and the heat disbursed through a exhaust fan , so that effect of UV light is not disturbed.
3.6	**mobility, portability**	Yes, on castors (2 of the castors should have breaks; castor size can be at least 4inch).
4. Energy Source (electricity, UPS, Solar, Gas, Water, CO2 ....)		

4.1	**Power Requirements**	220 to 240V, 50 Hz
4.2	**Battery operated**	Power failure indication during power fails.
4.3	**tolerance (to variations, shutdowns)**	± 10% of input
4.4	**Protection**	OVP, earth leakage protection
4.5	**Power consumption**	maximum 800 Watt
4.6	**Other energy supplies**	Solar Heating - desirable; not essential.
5.Accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	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 deg swivel; axed at level of warmer display) and storage trays.
5.2	**Spare parts (main ones)**	Skin temperature probes.
5.3	**Consumables / reagents (open, closed system)**	Thermal reflector to ix the skin probe on baby.
6.Environmental and Departmental Considerations		
6.1	**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.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. Standards and Safety		
7.1	**Performance and safety standards (specific to the device type); Certificates (pre- market, sanitary,); Local and/ or international**	Should be FDA / (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 IEC 60601-2-21: 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. Baby contact material should be biocompatible as per ISO 10993 standard requirement. Manufacturer should be ISO 13485 certified.
8. Training and Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Availability of 5 amp/15 Amp. Electrical socket (2 nos) for each warmer.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	User training manual required.
8.4	**Others**	List of important spare parts and accessories with their part number and costing.
9. Warranty and Maintenance		
9.1	**Warranty**	Nickel chrome wire filament and tube of quartz should have a life time warranty; equipment - 3 years.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Warranty of one year with free servicing (min. 3) during warranty.
9.4	**Others**	The spare price list of all spares and accessories (including

		minor) required for maintenance and repairs in future after guarantee / warranty period should be attached.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	To be supplied.
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English.
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Should provide complete contact details of sales and service departments.
11.2	**Recommendations or warnings**	Any warning/ precautions to be declared.

Item Sl. No.2

Basinet		
Definition		A bed or crib designed for new born babies. It is usually opened rectangular receptacle and mounted on a wheeled frame work (trolley). It is padded or lined with appropriate bedding and used mostly as the general purpose or standard baby bed in berthing departments. Source of additional heating can be provided to the new born.
General		
1. Use		
1.1	**Clinical purpose**	For care of neonate as a body positioning device.
1.2	**Used by clinical department/ ward**	NICU/SNCU, labour room, maternity ward.
Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	Baby Tray with mattress, along with head up/down facility, Mattress density approx 25Kg/m3 and with removable, washable, waterproof cover, mattress cover should be biocompatible and easy to clean. Lower Shelf which is rotatable and swivel castors (100mm) - 2 castors with brake. Baby tray should be of polycarbonate material. It should not topple on 10 deg inclined plane. Baby bed should withstand upto 10kg weight. It should have provision for baby name identification tag/label. Minimum dimensions of the bassinet mattress should be 20X30”and walls both for the radiant warmer and baby bassinet.
2.2	**Settings**	NA
2.3	**User’s interface**	Care giver should have a clean view of the neonate inside the basinet.
2.4	**Software and/or standard of communication(where ever required)**	NA
2.5	**Others**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	90cm-100cm height, 40cm-70cm width, 70-80cm length.
3.2	**Weight (lbs, kg)**	net weight: 30 kgs with loading capacity to be 10 kg.
3.3	**Configuration**	NA

3.4	**noise (in dBa)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, on castors
4. Energy Source (electricity, UPS, Solar, Gas, Water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. Accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	mattress
5.2	**Spare parts (main ones)**	castors
5.3	**Consumables / reagents (open, closed system)**	NA
5.4	**Others**	NA
6. Environmental And Departmental Considerations		
6.1	**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.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	Complete unit to be easily washable using both alcohol and chlorine agents.
7. Standards And Safety		
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international**	ISO 13485 and CE certified
8. Training and Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	NA
8.4	**Others**	NA
9. Warranty and Maintenance		
9.1	**Warranty**	3 year
9.2	**maintenance tasks**	
9.3	**Service contract clauses, including prices**	Warranty of one year with free servicing (min. 3) during warranty.
9.4	**Others**	
10. Documentation		
10.1	**Operating manuals, service manuals,**	NA

	other manuals	
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
10.3	**Recommendations for maintenance**	washing periodically
10.4	**Others**	Na
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	
11.2	**Recommendations or warnings**	

Item Sl. no. 3

Irradiance Meter

General		
1. Use		
1.1	**Clinical purpose**	used for checking raddiance of phototherapy units
1.2	**Used by clinical department/ward**	New born stabilisation unit, SNCU
1.3	**Overview of functional requirements**	
Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Hand held, Band pass filter with max transmission 425-475 nm. 2. Light detector sensitivity range: 0-2000 µW/cm²/nm. 3. Measurement range: 0-100 µW/cm²/nm. 4. Minimal graduation: 1µW/cm²/nm. 5. Accuracy: ± 10%. 6. LED or LCD display. 7. Should be able to zero between measurements. 8. Fast measurement response- <5 sec. 9. Memory storage: required. 10. UV and IR should be blocked. 11. Hold function.
2.2	**Settings**	NA
2.4	**User's interface**	Digital display
2.5	**Software and/or standard of communication(where ever required)**	Built in software
2.6	**Others**	
3. Physical Characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**noise (in dBa)**	NA

3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Mobile
4. Energy Source (Electricity, UPS, Solar, Gas, Water, CO2 ....)		
4.1	**Power Requirements**	220V/ 50 Hz
4.2	**Battery operated**	in built
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Should be provided with fuse while using mains for charging.
4.5	**Power consumption**	30W max
4.6	**Other energy supplies**	NA
5. Accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Charger
5.2	**Spare parts (main ones)**	No spares
5.3	**Consumables / reagents (open, closed system)**	NA
5.4	**Others**	
6. Environmental And Departmental Considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	NA
7. Standards And Safety		
7.1	**Certificates (pre-market, sanitary, ..);Performance and safety standards (specific to the device type);Local and/or international**	Shall meet IEC-61010(Or Equivalent BIS) Standard Requirements. Should be FDA / CE approved product; ISO certified company.
8. Training And Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	Hand-over report with end user sign.
8.3	**training of staf (medical, paramedical, technicians)**	user training on complete operation should be provided
8.4	**Others**	
9. Warranty And Maintenance		
9.1	**Warranty**	3 yrs
9.2	**maintenance tasks**	Calibration to be done at least once a year.
9.3	**Service contract clauses, including prices**	Two Preventive Maintenance annually under the warranty period.
9.4	**Others**	
10. Documentation		

10.1	**Operating manuals, service manuals, other manuals**	Operator & service manual with circuit diagram should be provided with the machine.
10.2	**Other accompanying documents**	calibration certification to be attached with the installation report.
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. Notes		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	
11.2	**Recommendations or warnings**	

Item Sl. No.4

Suction Pump, Foot Operated

Definition		A portable assembly of devices primarily intended to be used by emergency medical services (EMS) to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction. It typically consists of a manually- powered (hand or foot-operated) mechanism to drive the suction pump, tubing, a collection container, a vacuum gauge and control knob, and a microbial filter. The pump creates a vacuum in the suction tubing, which is used for the removal of materials into the collection container. This system is typically used during patient transport or for emergency situations.
General		
1. Use		
1.1	**Clinical purpose**	to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction.
Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	0-700 mm Hg ± 10 mm regulable, lutter free vacuum control knob, 90 ltrs / min, tight itting jar cap.
2.2	**Settings**	Manual
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	Max spec: 32 x 17 x 30 cms
3.2	**Weight (lbs, kg)**	2.5kg
3.3	**Configuration**	NA
3.4	**noise (in dBa)**	50 dB A ± 3
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	No

4. Energy Source (Electricity, UPS, Solar, Gas, Water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**accessories & spare parts**	Autoclavable collection bottles, tapering connector, a vacuum gauge, leak free non-return (NR) valve and control knob.
5.2	**Consumables / reagents (open, closed system)**	10 nos. polypropylene microbial filter (size: 0.45 micrometer particle size,90% filtration),air inlet: 8mm (outer diameter) 6mm(inner diameter), lubricant for foot paddle, Tubing:8 mm ID x 2 mtr (PVC), polycarbonate jar.
6. Environmental And Departmental Considerations		
6.1	**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.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. Standards and Safety		
7.1	**Certifications**	Should be FDA / CE approved product, ISO 13485:2003; ISO 10079-2-1999: Medical Suction unit - Part 2 : Manually powered suction equipment.
8. Training and installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians) Optional (depending upon scope of work order)**	Training of users in operation and basic maintenance shall be provided.
9. Warranty And Maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Local clinical staff / authorized officer on behalf of purchaser to affirm completion of installation.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in english language along with machine diagrams. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer.
11.2	**Recommendations or warnings**	Any recommendations for best use and supplimentary warning for safety should be declared.

Item Sl. no. 5

Suction Pump Portable

Definition		A portable assembly of devices primarily intended to be used by emergency medical services (EMS) to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction. It typically consists of a gas-powered mechanism driven by medical air or oxygen (O2) from a gas cylinder to create the suction (e.g., a venture tube), tubing, a collection container, a vacuum gauge and control knob, and a microbial filter. The pump creates a vacuum in the suction tubing which is used for the removal of materials into the collection container. This system is typically used during patient transport or for emergency situations.
General		
1	**Use**	
1.1	**Clinical purpose**	to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction.
1.2	**Used by clinical department/ward**	All
Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	0-700 mm Hg ± 10 reusable, flutter free vacuum control knob, 25ltrs/min, tight fitting jar cap, vacuum capacity; 18 litres/min, maximum depression: -75kPa (-563mmHg).
2.2	**technical characteristics (continued)**	Wide mouthed 2 x 2 Ltrs. (Polycarbonate) with self sealing bungs and mechanical over low safety device.
2.3	**Settings**	
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
2.6	**Others**	
3. Physical Characteristics		
3.1	**dimensions (metric)**	Max: 43 x 30 x 68 cms
3.2	**Weight (lbs, kg)**	Max: 27Kg
3.3	**Configuration**	
3.4	**noise (in dBa)**	50 dB A ± 3
3.5	**heat dissipation**	Should maintain upto 36.5 deg temp and the heat disbursed through a exhaust fan.
3.6	**mobility, portability**	Yes
4. Energy Source (Electricity, UPS, Solar, Gas, Water, CO2 ....)		
4.1	**Power Requirements**	230 V, 50 Hz, 2 ± 0.5 Amps, 200 watts.
4.2	**Battery operated**	NA

4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage. Use of SMPS to correct voltage.
4.4	**Protection**	Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines.
4.5	**Power consumption**	200W
4.6	**Other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**accessories (mandatory, standard, optional);Spare parts (main ones)**	autoclavable collection bottles, tapering connector, collection container, a vacuum gauge, lubricant, leak free NR valve and control knob.
5.2	**Consumables / reagents (open, closed system)**	10 nos. polypropylene microbial filter(size: 0.45 micrometer particle size; 90% filtration), Tair inlet: 8mm(outer diameter 6mm (inner diameter), tubing:8 mm ID x 2 mtr (PVC), polycarbonate jar.
6. Environmental And Departmental Considerations		
6.1	**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.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. Standards and Safety		
7.1	**Certificates (pre-market, sanitary, ..);Performance and safety standards (specific to the device type)**	Should be FDA / CE approved product, ISO 13485:2003; ISO 10079-2-1999: Medical Suction equipment - Part 1 : Electrically powered suction equipment- Safety requirements.
8. Training and Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Availability of 15 amp socket, Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staf (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
8.4	**Others**	
9. Warranty and Maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Local clinical staff to affirm completion of installation.
9.4	**Others**	
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer.
11.2	**Recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 6

Transport Incubator

Name and Coding		
Definition		An electrically-powered unit designed to provide an enclosed controlled environment to maintain appropriate temperature and humidity levels mainly for premature infants and other newborns who cannot effectively regulate their body temperature; it is typically on wheels and also designed for transporting infants either outside or within the healthcare facility. It typically consists of a clear removable plastic hood with a mattress and operates using mains electricity (AC-powered) when not in use for transportation. During transport, it is connected to an ambulance electrical outlet or is battery-powered from a battery pack.
General		
1. Use		
1.1	**Clinical purpose**	designed to provide an enclosed controlled environment to maintain appropriate temperature and humidity levels mainly for premature infants and other newborns who cannot effectively regulate their body temperature
1.2	**Used by clinical department/ ward**	(Ex : Intensive care unit (ICU), radiology department, orthopaedics, emergencies, ...)
1.3	**Overview of functional requirements**	Control of air temperature and infant skin temperature. Clear, hard cabinet for infant viewing Easy access control panel, with light touch operation switches. Facility to elevate base, adjustable range. Self-test functions are performed. Built for transport of infants between wards or health facilities, including by vehicle Must have skin temperature display
Technical		
2. Technical Characteristics		

2.1	**technical characteristics (specific to this type of device)**	1. Visual and audible alarms for: (i) Patient and air high/low temperature alarm. (ii) Air circulation / probe / system / power failure alarm. 2. Heater power indicator. 3. Air velocity 0.35m/sec. 4. Oxygen input low rate 5 to15 litres/min or oxygen concentration range 25 to 70%. 5. Maximum CO2 concentration inside incubator 0.2%. 6. Internal noise level < 60 dB. 7. Mode of operation should be properly displayed. 8. Green indicator light should be provided for its ready to be in normal use. 9. Infants straps should be provided to restrict the baby movement.
		10. skin temperature probe should be small in size not more than 10mm diameter and 4mm in height to ix the probe firmly on the infant. Baby contact material should be biocompatible as per ISO 10993 standard requirement. 11. Infant bed should be drawable. Mattress foam density should be minimum 25kg./cm3 and infant bed mattress cover should be biocompatible material. 12. Examination light should be provided for inspection. 13. Should have heater power indicator. 14. Warm-up time 30-40 minutes and shall not differ by more than 20%. 15. Shall be equipped with a thermal cut-out. It shall be so arranged that the heater is disconnected and an auditory and visual warning is given at an incubator temperature which does not exceed 40 deg C. 16. Should have elbow operateable ports and head access door. 17. It should not topple over at 10 deg inclined plane. 18. Patient skin temperature range: 35 deg C to 37.5 deg C. over ride upto 39 deg C. 19. Air temperature range: 30 deg C to 39 deg C; Temperature resolution ± 0.1 deg C; Temperature accuracy less than ± 0.2 deg C.
2.2	**Settings**	Patient skin temperature range: 35 deg C to 37.5 deg C. over ride upto 39 deg C Air temperature range: 30 deg C to 39 deg C. humidity: 40-80%.
2.3	**User's interface**	Display is to be backlit and allows easy viewing in all ambient light levels.
2.4	**Software and/or standard of communication**	In built
2.5	**Others**	1. Patient leakage current should be less than 100 µA. 2. Temperature on the baby mattress should not exceed 40 deg C and 43 deg for other materials. 3. Uniformity of temperature on the horizontal mattress shall not exceed 1.5 deg C and in tilted mattress not exceed 2 deg C. 4. The overshoot temperature shall not exceed 2 deg C. 5. The stability of temperature during steady temperature shall not difer from the average temperature by more than 1 deg C.
3. Physical Characteristics		
3.1	**dimensions (metric)**	Baby bed should be atleast 60X30cm and the canopy should be atleast 80X40 cm.
3.2	**Weight (lbs, kg)**	not exceeding 40kg. (without cylinders).

3.3	**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 itted 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.
3.4	**noise (in dBa)**	<60dBA; Audible sound level should be atleast 65dBA at 3meter distance from the device; the alarm sound level in the compartment shall not exceed dBA.
3.5	**heat dissipation**	Should maintain upto 37 deg temp.
3.6	**mobility, portability**	Yes, on castors.
4. Energy Source (electricity, UPS, Solar, Gas, Water, CO2....)		
4.1	**Voltage (value, AC or DC, monophase or triphase)**	220 to 240V, 50 Hz
4.2	**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 overcurrent 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.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.
4.4	**Protection**	Internal, replaceable, rechargeable battery allows operation for at least two hours in the event of power failure.
4.5	**Power consumption**	
4.6	**Other energy supplies**	Mains cable to be at least 3m length.
5 Accessories, Spare Parts, Consumables		
5.1	**accessories (mandatory, standard, optional)**	With washable and removable straps and binders.
5.2	**Spare parts (main ones)**	Two extra sets of all sensors.
5.3	**Consumables / reagents (open, closed system)**	Two extra sets of litters, two extra set of fuses (ifreplicable fuses used).
6. Environmental and Departmental Considerations		
6.1	**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.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	Unit layout to enable easy cleaning and sterilization of all surfaces, with no unreachable fluid traps.The case is to be cleanable with alcohol or chlorine wipes.
6.3	**Others**	
7. Standards and Safety		
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international**	Should be FDA / CE approved product Manufacturer / supplier should have ISO 13485 certificate for quality standard. Electrical safety conforms to standards for electrical safety IEC-60601-1. Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility) Shall comply with IEC 60601-2-20 transport incubator standard requirement.
8. Training and Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.

8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. Warranty and Maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Advanced maintenance tasks required shall be documented.
9.3	**Service contract clauses, including prices**	Local clinical staff to affirm completion of installation.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost.
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English
11. Notes		
11.1	**Other information**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer
11.2	**Recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Group:Laboratory

Item Sl. No.7

Automated 3- part Differential Hematology Analyzer

GENERAL		
1.use		
1.1	**Clinical purpose**	Automated differential blood count: Automated hematology instruments using multiple parameters and methods (such as impedance) are used to count and identify the 3 major white blood cell types in blood (so-called 3-part differential count):, lymphocytes, monocytes/mixed population and granulocytes/neutrophiles.
1.2	**Used by clinical department/ ward**	Clinical and Analytical Laboratories
TECHNICAL		
2. Technical Characteristics		

2.1	**Technical characteristics (specific to this type of device)**	1. 18 parameters (WBC, TC, RBC, Hb, hematocrit, MCV, MCH, MCHc, RDW- SD/RDW-CV, PLT, MPV, Pt Crit, PDW, PLCR optional), with 3-part WBC differential. 2. Maximum sample volume required 50 µl. 3. Screen Colour touch screen. 4. Printer Built-in printer and external printer option. 5. Memory for 1000 results incl. histograms. 6. Program Built-in QC program for. 7. 3 levels/control 8. Barcode reader and external option. 9. External keyboard. 10. Automatic sample dilution. 11. Automated start up and shutdown. 12. Auto probe wipe and external option. 13. System must have throughput of atleast 60 samples per hour. 14. Linearity of 18 parameters (Hematocrit, platelet, WBC, RBC, Hb) min.
2.2	**User's interface**	Touch screen.
2.3	**Software and/or standard of communication(where ever required)**	USB printer interface, HL7.
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	N/A
3.2	**Weight (lbs, kg)**	N/A
3.4	**Noise (in dBA)**	N/A
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Stationary laboratory Installation.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	230/110 VAC, 50/60 HZ, 60 VA, +-10%
4.2	**Battery operated**	No
4.7	**Protection**	N/A
4.8	**Power consumption**	Less than 100 VA
5.ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	1. 2D-Barcode Scanner. 2. Reagents: All the reagents required for 1000 tests should be supplied with the equipment along with one set of tri level control. 3. Closed System rate to be declared for cost/test. 4. Online UPS for 30 minutes back up. 5. Calibrator - 1.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
	7. STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US(FDA)/EU(CE) certification for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, 61010-2- 101 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO certificate for quality standard.
	8. TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of stafff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 Years including all spares and annual caliberation.
	10. Documentation	
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
	11. Notes	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided;
11.2	**Recommendations Or Warnings**	Any warning signs would be adequately displayed;

Item Sl. No. 8

Automated 5-Part Differential Hematology Analyzer
GENERAL
1. USE

1.1	**Clinical purpose**	Automated differential blood count: Automated hematology instruments using multiple parameters and methods (such as fluorescence, low cytometry and impedance) are used to count and identify the 5 major white blood cell types in blood (so-called 5-part differential count): neutrophils, lymphocytes, monocytes, eosinophils and basophils.
1.2	**Used By Clinical Department/ Ward**	Analytical laboratories.
TECHNICAL		
2.TECHNICAL CHARACTERISTICS		
2.1	**Technical Characteristics (Specific To This Type Of Device)**	1) Five-part differential. 2) 24 parameters, all different WBC's should be measured directly. 3) Advanced, integrated self-cleaning system. 4) On-screen patient results trending. 5) Stores 5, 000 test results with histograms and scattergrams. 6) Integrates with common practice management systems. 7) Maximum sample required 100 µL sample size permits whole blood analysis from venous collections. 8) Parameters Total Leukocytes (White Blood Cells) and Differential (in absolute numbers and %) for: Neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils. 9) Sample Material Capillary or venous (EDTA) whole blood. 10) Linearity of all parameters. 11) Measuring Time Within 60 Sec. 12) System must have throughput of atleast 60 samples per hour in all discrete modes. 13) Manual mode. 14) Stat mode. 15) Pre-diluted mode and whole blood mode.
2.2	**User's Interface**	Printer, keyboard, barcode reader, PC, optional.
2.3	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat Dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, Portability**	Stationary lab Installation.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, Co2 ....)		
4.1	**Power Requirements**	Recharging unit: Input voltage- single/3-phase.
4.2	**Battery Operated**	No
4.3	**Tolerance (To Variations, Shutdowns)**	±10%
4.4	**Pressure Gauge**	NA
4.5	**Operating Temperature**	Analyzer: 4-50 ˚C (39-122 ˚F). Capillary samples from inger stick:18-25 ˚C (67-77 ˚F).
4.6	**Protection**	N/A
4.7	**Power Consumption**	Upto 500VA.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		

5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	1. 2D-Barcode Scanner. 2. Reagents: All the reagents required for 1000 tests should be supplied with the equipment along with one set of tri level control. 3. Closed System rates to be closed for all test. 4. Online UPS System for 30 minutes back up.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's Care, Cleaning, Disinfection & Sterility Issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US(FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, 61010-2- 101 for safety.
7.2	**Local And / Or International**	Manufacturer/supplier should have ISO certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years, including all spares and calibration.
10. Documentation		
10.1	**Operating Manuals, Service Manuals, Other Manuals**	Should provide 2 sets(hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in english/hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;

11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 9

BINOCULAR MICROSCOPE

GENERAL		
1. USE		
1.1	Clinical purpose	Binocular microscope is simply a microscope that lets the viewer use both eyes. The microscope has 2 eye lenses. The development of the double eye piece microscope was adapted to reduce the eyestrain and muscular strain that typically results from traditional microscopes.
1.2	Used by clinical department/ ward	Clinical labs.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical Characteristics (Specific To This Type Of Device)**	1. Body-Single mould sturdy stand, inclined Binocular body 30 ˚, 360º rotatable head. 2. Eyepieces-Highest quality 10 X/20mm wide angle anti fungus field eyepiece. One with pointer. Diopter adjustment must be present on both eye pieces. 3. Objectives-Parfocal, antifungus coated 4x, 10x, 40x and 100x (oil immersion) with semi planner achromatic correction. Objective should be well centred even if their position on turret is changed. 4. Optical system-Infinity corrected. 5. Stage - Double plate rackless horizontal mechanical stage preferably 100 x 140 mm with fine vernier graduations designed with convenient coaxial adjustment for slide manipulation preferably through 30 x 70 mm double slide holder. 6. Sub stage-Abbe condenser focusable, continuously variable iris diaphragm 7. Illuminator-Built-in LED light source with white light with intensity control and LED life of more than 10, 000 Hrs. 8. Finish-A durable textured acid resistant finish. 9. Battery backup : minimum 1 Hour. 10. Nose piece: Backward tilted revolving nose piece suitable to acomodate four objectives with click stop and rubber grip. 11. Focussing: Coaxial coarse and fine focussing knob, capable of smooth, fine focussing movement sensitivity; minimum: 300 micron; focussing stop for slide safety.
2.2	**User's Interface**	Manual
2.3	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA

3.2	**Weight (lbs, kg)**	NA
3.3	**Capacity**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, upS, solar, gas, water, Co2 ....)		
4.1	**Power requirements**	Input voltage- single/3-phase.
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Pressure gauge**	NA
4.5	**Operating pressure**	NA
4.6	**Sterilizing pressure**	NA
4.7	**Protection**	Should have over-charging cut-off with visual symbol.
4.8	**Power consumption**	Less than 2 W.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	Should provide with wooden storage box, dust cover, immersion oil.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's Care, Cleaning, Disinfection & Sterility Issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 Certificates for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- GENERAL requirements (or equivalent BIS Standard) 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**Local And / Or International**	Manufacturer/supplier should have ISO Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		

9.1	**Warranty**	3 years
9.2	**Maintenance Tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
	10. DOCUMENTATION	
10.1	**Operating Manuals, Service Manuals, Other Manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other Accompanying Documents**	List of important spares and accessories, with their part numbers and cost;
	11. NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations Or Warnings**	Any warning signs would be adequately displayed

Item Sl. No. 10

CAPILLARY BILIRUBINOMETER

	GENERAL	
	1. USE	
1.1	**Clinical purpose**	The capillary bilirubinometer is used for a quick check of bilirubin, as to promptly act with appropriate therapy. It is used to analyse the bilirubin, on centrifuged whole blood drawn in a micro capillary tube. Sample is analyzed through a double beam photometric system.
1.2	**Used by clinical department/ ward**	Analytical laboratories
	TECHNICAL	
	2. TECHNICAL CHARACTERISTICS	

2.1	**Technical Characteristics (Specific To This Type Of Device)**	1) Sample centrifuged whole blood. 2) Sample volume less than 70µl. 3) Reading cuvette haeparinized haematocrit capillary. 4) Unit of measure mg/dl. 5) Measurement range 0/30 mg/dl. 6) Measure system Photometric double beam. 7) Reading time approx. 5s even with samples with high interference value. 8) Reading inaccuracy < 7%. 9) Bichromatic as per standard Filters. 10) Programming by built-in keypad. 11) Results on LCD/LED display and printer.
2.2	**User's Interface**	Manual
2.3	**Software and/or standard of communication (where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Up to 3 kg.
3.4	**Noise (in dBA)**	<65dB
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**Battery operated**	Yes
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Should have over-charging cut-off with visual symbol.
4.5	**Power consumption**	Less than 100 W.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	1. Lancettes. 2. Sealing plasticine. 3. Glass capillaries (100mm). 4. Thermal paper.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		

7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US(FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, IEC 61010- 101 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No.11

Centrifuge	
GENERAL	
1. USE	

1.1	**Clinical purpose**	Used in Biochemical and Analytical labs for Hematocrit, blood Corpusule percentage, Serum Analysis, Precipitate Seperartion and Blood Group matching.
1.2	**Used by clinical department/ ward**	Analytical Laboratories.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Speed: Maximum Range 4000 to 6000 RPM. 2. Receprocating Centrifugal force (RCF): 3000 to 3500. 3. Minimum Capacity: 240 ml. 4. Digital Timer range: 0 to 59 minutes. 5. Auto Lid interlock to prevent opening while running centrifuge with emergency lidlock release. 6. Motor imbalance detector feature - desirable. 7. Microprocessor with digital display. 8. Dynamic break for quick deacleration. 9. Stainless steel Chamber easy to clean. 10. Hinges to prevent door falling. 11. Rotor Sizes: 16 x 15ml. 12. Rotors should be autoclavable.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication (where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Capacity**	120 ml or above
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Portable
4.ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	220-240 V/50Hz.
4.2	**Battery operated**	No
4.3	**Protection**	NA
4.4	**Power consumption**	400 to 500 Watts
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	Rubber adapter should be provider for the use of vacutainer for 3ml and 5ml.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust …)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	**User's care, Cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 Certificates for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- GENERAL requirements (or equivalent BIS Standard). 5. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No.12

COLORIMETER		
GENERAL		
1. USE		
1.1	**Clinical purpose**	It is used to determine the concentration of colored compounds in solution. A colorimeter is a device used to test the concentration of a solution by measuring its absorbance of a specific wavelength of light.
1.2	**Used by clinical department/ ward**	Clinical Laboratory
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Should have 5 no of filters for standard wave length from 400 nm to 700 nm. 2. Should have up to 3 decimal calibrated directly in optical density. 3. Detector should be encased spill proof photocell. 4. Should have facilities for concentration, calculation, percentage transmission and optical density. 5. Should have DetectorSilicone photo-diode. 6. Filter : Optical filter(420nm, 460nm, 510nm, 540nm, 600nm). 7. Light source : Bright Intensity LED/Halogen. 8. Display: LCD/LED display. 9. 3 Red LEDs for selected function (T%/ABS/CONC). 10. Photometric Range0-2.0. 11. Maximum reaction volume required 1 ml.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication (where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Less than 3 kg.
3.3	**Capacity**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism.
3.6	**Mobility, portability**	Fixed Lab installation.
4. ENERGY SOURCE (electricity, ups, solar, gas, water, Co2 ....)		
4.1	**Power Requirements**	230V, 50Hz AC
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		

5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	1) Filter case : 1 pc 2) Filter (420nm, 460nm, 510nm, 540, 600nm) : 5 pcs; Lamp/Light source 3) Square cuvette : 4 pcs (glass) 4) Round cuvette : 4 pcs (glass) 5) Cuvette adaptor : 1 pc 6) Analog output cable : 1 pc 7) Open System
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US (FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, IEC 61010- 101 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-Installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. Documentation		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 13

# Fully Automated Biochemistry Analyzer		
GENERAL		
1.USE		
1.1	**Clinical purpose**	The Fully-automated Biochemistry Analyzer measures biochemical indexes by analyzing blood and other body fluid, then combines with other clinical information, to help diagnose disease, evaluate organs function, identify disease gene and determine the norm for future therapy.
1.2	**Used by clinical department/ ward**	Diagnostic laboratory
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		

2.1	**Technical characteristics (specific to this type of device)**	1. Fully automated, random access chemistry analyzer; The equipment should be capable all Routine STAT and special Biochemical tests including specific protein, threrapeutic grugs, drugs of abuse and user defined applications. 2. Throughput: 400 tests/hour, up to 200t/hour with ISE. 3. Must have direct ISE Unit for Na, K and Cl Measurement. 4. ISE Electrode should last for 6 month. 5. Must be open Ended system with bare code reading (optional). 6. System should have 12 Wavelenths 340 to 700 nm. 7. System should be supplied with PC, windows based interface and Bi- directional Connection. 8. Minimumreaction volume of 150 µl built in/stand alone. 9. Must have built in Cooled reagent Compartment with minimum 350 ml with sample volume 2- 70 ml. 10 Auto diagnosis of machine errors with message and correction steps. 11. Must have on board capacity for permanent and numbered cuvettes. 12. Separate reagent probe for R1 and R2 and sample. 13. Laundry System with minimum 5 step washing. 14. Sample dead volume maximum100 µl in sample cup and maximum 50 µl in pediatric cups. 15. Should have external and internal probe cleaning facility. 16. Calibration should be Linear factor, 2 point/point to point/multi point and Exponential with maximum 8 calibrators per test. 17. Sample type should include Serum, plasma, Urine, CSF, body fluids and Supernatant with at least 70 sample positions for routine and STAT Test.
		18. Should have Light Source with minimum 1000 hrs life cycle with bar code facility with option for bar code on/off. 19. Should have 10, 000 Patient Result Storage 20. Online QC Tracking with Levy and Jennings Chart for up to 30 different points. 21. The Equipment should be FDA/European CE/BIS Certified.
2.2	**User's interface**	Built - in/Automatic
2.3	**Software and/or standard of communication(where ever required)**	Built - in/Automatic/compatible, window based with data processing management system with complete back up of data base for calibration, control, and patient sample results on daily basis.
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Stationary lab Installation.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz.
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	±10%
4.4	**Protection**	Should have over-charging cut-of with visual symbol.

4.5	**Power consumption**	
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	1. Suitable Water plant/Purification System on RO or any latest technology. 2. External printer. 3. UPS on line pure sine wave for back up of system with PC and IT peripherals for half hour. 4. Open System. 5. One light source.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and supplier should have ISO 13485/US (FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 Certificate for quality standard.
8. Training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover. 3) AC to be provided
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
	11. NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/ad-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No.14

PORTABLE COMPACT MOBILE LAB WITH ACCU KINE

	GENERAL	
	1. USE	
1.1	**Clinical purpose**	It measures biochemical indexes by analyzing blood and other body fluid, then combines with other clinical information, to help diagnose disease, evaluate organs function.
1.2	**Used by clinical department/ ward**	Biochemistry & Diagnostic.
	TECHNICAL	
	2.TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	PORTABLE COMPACT MOBILE LAB WITH BATTERY and SOLAR POWER BACK UP: LABORATORY IN SUITCASE ENCLOSING following items considered as 1 unit. ACCU-KIN - Blood Analyzer Parameters (37 investigations - LFT, KFT, Lipid, Electrolytes, Glucose, Hematology): Egfr, Glucose, Hb, Urea, Uric acid, SGOT, SGPT, Creatinine, Cholesterol, Total Bilirubin, Direc Bilirubin, Tota Protein, Calcium, Chloride, Sodium, Potassium, LDL, HDL, ALP, Albumin, Triglyceride, Magnesium, Phosphorus, BUN UREA/RATIO, BUN, LDL Calculative, VLDL, HDL/LDL Ratio, Indirect Bilirubin, Globulin, Albumin/Globulin Ratio, RBC, PCV, MCV, MCH, MCHC, CK-MB. a) Wave Length Range: 340 - 650 nm. b) Calibration: Multi Point Calibration. c) Measuring Modes: %Transmission, Absorbance. d) Photometric Accurac: Up to 3 decimal places. e) Optical System (Photo Detector) : Silicon Photodiode. f) Display: Bright Green LCD display. g) Keyboard: Soft push-membrane type. h) Have measurement range from 0.001 to 2.300 Abs. i) Light Source : Patented Solid State Chip based LED which has long life, no Lamps are used thus reduced running expenses and maintenance. Very low power consumption. Requires less calibration Light source is much more stable against the lamp because fluctuation in voltage will not affect performance of the equipment. j) Filters: No Filters are used.

		k) It is microprocessor based and above all based on virtual filter technology which makes it more reliable and maintenance free for future. l) Sample System:10mm path length Cuvette based m) Sample Volume Required:5 µL n) Printer Output Device: In built thermal printer available o) Power Supply:12V DC ±10%, 50Hz. p) USB Port: Connectivity to Laptop q) Weight:< 1.5 kg r) Dimensions (in mm):< 280 X 130 X 100 s) No pump system required for low cell which reduces complexity and delicacy in sample reading and sample analysis. t) ISO Certified, CE marked u) US FDA Registered v) Internal Memory of test storage: 3000 tests **1) Centrifugation unit** a) Fixed Angle Rotors:6 x 1.5 ml b) Adapter :Adapter for 0.2 ml & 0.5 ml tubes c) Speed :6000 RPM d) Safety Provision: Lid interlocking e) Slots to keep centrifuge tubes :8+ adapter of 16 f) Operation :Quick acceleration to full speed. g) Power Supply:230V AC ±10%, 50Hz. h) Dimension (in mm) :Diameter- 131.5, Height -128 **2) Incubation unit** a) Temperature Selection: Between 25˚C (ambient temperature)to 45˚C b) Heating Material: Mica. c) Heating Control: PID Controller d) Sensor Calibration: Simple at the user end. e) Power supply:230V AC ±10%, 50Hz. f) Dimensions:Diameter-155.5, Height -80 mm g) Capacity:25 samples incubation at one time **3) Cuvettes** Sample Capacity :2.5ml Quantity:100 **4) Cuvette Stand** Carrying Capacity :25 X 4 cuvettes:4, made of plastic Quantity:4 **5) Micropipettes** a) Measuring Volume Range :5-50ul b) Measuring Volume Range :100-1000ul **6) Micro Tips** Microtips (sample capacity) :5-50ul Quantity:1000 Macrotips (sample capacity) :100-1000ul Quantity:500 **7) micro tip Box :2** a) Micro Box :100 insertions b) Macro Box :100 insertions
		8) reagents Containers Carrying capacity :10 Units **9) Blood Centrifuge tube**Sample capacity :1.5 ml Quantity:500 **10)Centrifuge tubes Stand fixed in the platform:15**
2.2	**User's interface**	

2.3	**Software and/or standard of communication(where ever required)**	PATIENT MANAGEMENT SOFTWARE Version II - Accurate All 10.0.1 Prerequisites USB Drive: Proliic USB Driver (PL-2303 USB-to-serial) Microsoft Office: XP, 2007 or above (licensed) Database :MS-Access 2007 Java Runtime Environment :1.6 or 1.7 Drop box For syncing purpose. Processor: Intel Core, Dual Core, Core2Duo, Atom, i3, i5. Internet Connection: At the time of Installation and syncing.
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Dimensions (in mm) : 685 X 470 X 285.
3.2	**Weight (lbs, kg)**	< 20 kg
3.4	**Noise (in dBA)**	
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	portable suitcase with omni directional wheels.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Power supply: 230V AC ±10%, 50Hz. Solar Panel : Photonex/Tata BP/Power Tech/Equivalent brand Suitcase backside has 3 ports for AC, external battery(12 volt DC) and Solar. Panel connection Power circuit is powered by AC supply-230/110 volt, DC/ battery supply - 12 volt and Solar panel (40-100 watt) as well. g) All the equipments (analyzer, centrifuge, incubator) working on different power sources are distinctively placed on single unbreakable platform in coordination with each other inside the suitcase.
4.2	**Battery operated**	Battery POWER BACK-UP of 4 hours provided via one inbuilt battery and one. External battery pack. External battery can be charged through any external dc power source like vehicle etc.
4.7	**Protection**	
4.8	**Power consumption**	Power to run all components: 40 - 100 watt.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Open System List of deliverables Model: PCML-KIN Particulars QTY. Accuster Mobile Lab Portable Compact Mobile Lab comprising the following1. 1. Accukine Analyzer-USB port :1. 2. Centrifuge: 1. 3. Power Backup (Designed for at least 4 hrs. backup): 1. 4. Incubator: 1. 5. Case/Mobile Carrying Platform: 1. 6. Cover Bag/Rucksack bag:1. 7. Cuvettes: 100 pcs. 8. Centrifuge Tubes: 500pcs.

		9. Cuvette Holder:4pcs. 10. Micropippette (5-50uL):1pc. 11. Micropippette (100-000uL):1pc. 12. Microtips: 1500pcs 13. Micro tip Holder:2pcs. 14. Patient Management Software :1. 15. USB port for data connectivity, data cable, charging cable :1. 16. Reagents Pack consisting of the following : a) KFT (Kidney Function Test) includes Urea/Uric Acid/Creatinine:1. b) LFT (Liver Function Test) includes Albumin/Total Bilirubin :1. c) Lipid Proile includes Cholesterol, HDL/Triglyceride :1. d) Diabetes includes Glucose: 1. e) Anemia includes Hemoglobin :1. 17. Mini Laptop/Data Recorder loaded with PMS Version II window based: 1. 18. Solar Panel:1.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of4 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	ISO - 9001, ISO -13485:2003 CE Marked USFDA Registered.
7.2	**Local and/or international**	Manufacturer should have ISO 13485 Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	As per DGS&D standard clause.
9.2	**Maintenance tasks**	
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
	11. NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 15

	Semi Automated Biochemistry Analyzer	
	GENERAL	
	1. USE	
1.1	**Clinical purpose**	The Semi -automated Biochemistry Analyzer measures biochemical indexes by analyzing blood and other body luid, then combines with other clinical information, to help diagnose disease, evaluate organs function.
1.2	**Used by clinical department/ ward**	Pathology and diagnostic laboratory
	TECHNICAL	
	2. TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	1. Analyzer should use wet chemistry reagent. 2. Analyzer should have ability to use external cuvettes and integrated low cell. 3. Analyzer should have more than 200 programmable channels. 4. Key board should be touch/mechanical. 5. Analyzer should have 5 assay types: End point, Fixed time, Kinetic, absorbance and 1-point calibration with option for extended keyboard. 6. Analyzer must have calibration types: Linear factor, multi point, pint to point and Log-Logit. 7. In kinetic essay measurement interval should be 1 second. 8. 3 levels control with day to day levey jennings chart stored and displayed. 9. Flow cell mut be quartz. 10. Flow cell must have optical path of 10mm. 11. Flow cell volumeshould be less than 20 µL. 12. Measurement range should be 25, 30, 37 degree celsius with 1 degree increment. 13. Standard wavelengths in the range of 340-700. 14. Analyzer must store 1000 results. 15. Analyzer resolution must be 0.0001 absorbance unit and absorption range from 0.00-3.00 unit.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**Mobility, portability**	Stationary lab Installation
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**Battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	±10%
4.4	**protection**	NA
4.5	**power consumption**	
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	1. UPS for back up of system for half hour. 2. Light source/Lamp-1 no. 3. Open System 4. Micro pipettes(5 No.) - 2 variable(5-50), (100-1000) 5. Tips 500 - small and 500- big.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		

6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
	7. STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and supplier should have ISO 13485/US (FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 Certificate for quality standard.
	8. TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
	10. DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
	11. NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 16

Semi-Automated Elisa Washer & Reader

GENERAL		
1. USE		
1.1	**Clinical purpose**	The enzyme-linked immunosorbent assay (ELISA) is a test that uses antibodies and color change to identify a substance. ELISA is a popular format of "wet-lab" type analytic biochemistry assay that uses a solid- phase enzyme immunoassay (EIA) to detect the presence of a substance, usually an antigen, in a liquid sample or wet sample. ELISA evaluates either the presence of antigen or the presence of antibody in a sample; it is a useful tool for determining serum antibody concentrations.
1.2	**Used by clinical department/ ward**	Analytical Laboratories
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	**Washer:** 1. The device should be fully automated and easy to operate with 8 and 12 channel manifold. 2. It should be capable to wash lat, round and V bottom plates and strips. 3. It should have large display along with more than 40- 50 program storage facility. 4. System should have calibration facility. 5. System should have warning/alarm for waste container full; wash bottle empty. 6. Residual volume after washing should be < 2ul. 7. It should have specially designed peristaltic pump to dispense 50 - 400 ul. 8. It should be supplied with waste bottle, wash bottle and rinse bottle of capacity 2 liters with tubing's. 9. It should have option of washing cycles. 10. Cross wise aspiration, over low washing, bottom washing. Automatic manifold detection. 11. Equipment should be un-pressurized, capable of using any bottle or container for washing. It should be suitable for UV & lat bottom micro plate.
		Microplate reader: 1. Bichromatic/Optics with six wavelenths. 2. Trichromatic Light source.
		3. Internal Printer with port for external printer. 4. Should read ELISA Plate Horizontally A to Hand and verically 1 to 12. 5. Photometric Accuracy should be ±3%. 6. Print Out of whole plate in Matrix Format. 7. Linear measurement range 0 to 4 Absorbance unit. 8. Interference, ilters. 9. Filters of 405, 450, 492, 630 nm with two extra positions.

2.3	**Software and/or standard of communication(where ever required)**	Compatibility with external Printer.
	3. PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Stationary lab Installation.
	4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power requirements**	Operable at- Input voltage- 220V-240V AC, 50Hz.
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	±10%
4.4	**Protection**	
4.5	**Power consumption**	
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	1) External dot matrix printer. 2) Light/Lamp source. 3) Multichannel pipette with variable dispensing volume 50-200 ul. 4) Paper rolls for internal printer- 10 nos.
	BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
	7. STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ...); performance and safety standards (specific to the device type); local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US(FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic. Compatibility (EMC) for electromedical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, IEC 61010- 101, IEC 61010-2-40 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO Certificate for quality standard.
	8. TRAINING AND INSTALLATION	
8.1	**Pre-Installation requirements: nature, values, quality, tolerance**	1) Should be operable at 220 -240 volts (50 - 60 Hz). 2) Safety and operation check before handover.
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance. 2) Advanced maintenance tasks required shall be documented.

9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 17

Semi-Automated Urine Strip Analyzer		
GENERAL		
1. USE		
1.1	**Clinical purpose**	Used in biochemical labs for identification of specific bio-chemical marker in urine like Glucose, Ketones proteins pH etc. in clinical conditions like Diabetes, Renal failure Acidosis etc.
1.2	**Used by clinical department/ ward**	Biochemistry Laboratories
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Type: reflectance photometer Throughput of min 50 strips/hour at two. Levels - normal and abnormal. Memory: patient test results: 1000 and QC test results: 50. Display: touch-screen LCD Should have lagging facility Should be Able to analyze 10 Parameters: Leucocytes, Nitrite, Urobilinogen, Protein, pH, Blood Specific: gravity, Ketones, Bilirubin, Glucose.
2.2	**User's interface**	Manual: with USB interface/Rs 232.
2.3	**Software and/or standard of communication(where ever required)**	Inbuilt

3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz.
4.2	**Battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	Less than 50 W
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	1) Thermal Paper 10 rolls. 2) Test Strips price to be declared and 1000 test strips to be provided. 3) Calibration strip 2.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485/US(FDA)/EU(CE) Certificates for quality standards. 3. Shall meet internationally recognized for Electromagnetic Compatibility (EMC) for electromedical equipment: 61326-1. 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-281, 61010-2- 101 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
9. DOCUMENTATION		

9.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection;
9.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
10. NOTES		
10.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
10.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 18

Non Invasive Hemoglobinometer- Conjunctiva based		
GENERAL		
1	USE	
1.1	**Clinical purpose**	screening, diagnosis and monitoring of Anaemia
1.2	**Used by clinical department/ward**	Can Be used by trained health workers/volunteers, paramedical person, clincians
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	1. It Should display results in grams per decilitre with a minimum resolution of 0.5 gm/dl. 2. Minimum operating range should be 5 to 15 gm/dl. 3. Total time taken by a trained person to complete one test should not be more than a minute.
2.2	**User's interface**	Soft Keys or Touchscreen
2.3	**Software and/or standard of communication(where ever required)**	*It should communicate through mini-USB connector with a computer/laptop.*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	150mm X 75mm X 50 mm (maximum)
3.2	**Weight (lbs, kg)**	less than 500 grams
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	<65dBA
3.5	**Heat dissipation**	Minimum
3.6	**Mobility, portability**	Yes

4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	Non-rechargable alkaline battery and/or Rechargable-Lithium Ion battery
4.2	**Battery operated**	YES
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	In-built Voltage-Current regulation
4.5	**Power consumption**	Low powered
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	[TO BE MENTIONED BY THE SUPPLIER]
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**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.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	European CE or US FDA Certified
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-off**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	Trained company professional should assisting staff on training on using device.
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	maintainance manual detailing complete maintaining schedule
9.3	**Service contract clauses, including prices**	[TO BE MENTIONED BY THE SUPPLIER]

10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	[TO BE MENTIONED BY THE SUPPLIER]
10.2	**Recommendations for maintenance**	[TO BE MENTIONED BY THE SUPPLIER]
11	NOTES	
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/landline number)**	[TO BE MENTIONED BY THE SUPPLIER]
11.2	**Recommendations or warnings**	[TO BE MENTIONED BY THE SUPPLIER]

Item Sl. No. 19

Non Invasive hemoglobinometer- Probe based		
GENERAL		
1	USE	
1.1	**Clinical purpose**	To measure Total Haemoglobin (SpHb) Non-invasively
1.2	**Used by clinical department/ward**	Haemotologist, Emergency, Mother and Child
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	1. Should measure hemoglobin non invasively 2. Should display results instantaneously (spot check) 3. Should have enough memory to display previous results 4. It should have a reusable probe of adult and pediatric size. 5. It should have minimum resolution of 0.1g/dL with accuracy of +/- 1.0g/dL 6. It may have additional diagnostic features of sPO2, Pulse rate and etc.(non invasive only)
2.2	**User's interface**	Probe based
2.3	**Software and/or standard of communication(where ever required)**	*in built*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	20cm * 10cm * 5cm (maximum)
3.2	**Weight (lbs, kg)**	500 Grams (maximum)
3.3	**Configuration**	
3.4	**Noise (in dBA)**	<65dBA
3.5	**Heat dissipation**	
3.6	**Mobility, portability**	Yes

4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	AA Alkaline Batteries
4.2	**Battery operated**	Yes. Alkaline Batteries
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Type of Protection (battery Power : Internally Powered, Type BF-applied part
4.5	**Power consumption**	
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Sensor preloaded with definite number of tests. Alkaline battery, Boot Protection Cover
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**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.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	EMC Complience: EN 60601-1-2, Class B, IEC 60601-1
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	--
8.2	**Requirements for sign-off**	--
8.3	**Training of staff (medical, paramedical, technicians)**	user training manual required
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	One year of device, Six Months of sensor
9.2	**Maintenance tasks**	maintainance manual detailing complete maintaining schedule
9.3	**Service contract clauses, including prices**	warranty of one year with free servicing (min. 3) during warranty

10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	[TO BE MENTIONED BY THE SUPPLIER]
10.2	**Recommendations for maintenance**	[TO BE MENTIONED BY THE SUPPLIER]
11	2	
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/landline number)**	[TO BE MENTIONED BY THE SUPPLIER]
11.2	**Recommendations or warnings**	[TO BE MENTIONED BY THE SUPPLIER]

Item Sl. No. 20

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
	SMS based Multi-parameter Patient Monitoring System	
GENERAL		
1	USE	
1.1	**Clinical purpose**	Recording and SMS (GSM based) transmission of key patient parameters and demographic information
1.2	**Used by clinical department/ward**	Outpatient Department of Public Health facilities (sub-centres in rural areas) where there is no or limited internet connetivity
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	1. Multiparameter monitoring systems for OPDs - NIBP, SpO2, Respiration Rate, temperature, Heart Rate, ECG a) SpO2 - Measurement range of 0 -100%. Maximum permisble error of +/-2% in the range of 70-100%, maximum permissible error of +/-3% in the range of 40-69% b) NIBP - Oscillometric, with appropriate measurement ranges for adult, Pediatric and Neonatal patientd Adult patients: Systolic: 40 - 220 mmHg, diastolic 10 - 220 mmHg, mean 20- 240mmHG Pediatric Patient: Systolic: 20-220 mmHg, diastolic: 10-160 mmHg, Mean; 20-170 mmHg Neonatal patients: Systolic: 40-135 mmHg, diastolic; 10-100 mmHg, Mean: 20- 110mmHg c) Temperature- 1 channel, measurement range of 50-50 deg C d) ECG- Differential diagnosis to be sent as part of single SMS for all patient parameters (waveforms not necessary) 2. Data transfer should not be dependant on internet connevtivity 3. Provision for feeding in additional information including a. Patient Name: b: Age c. Gender d. Malaria test result e. HIV test result f Hb measurement g. Body weight h. Any other symtoms upto 50 characteristic
2.2	**User's interface**	1. Integrated display (minimum 3" screen size) to show patient's demographics and key diagnostic parameters 2. Alphanumeric keyboard to be used for entering information mentioned in 2.1 (3)
2.3	**Software and/or standard of communication(where ever required)**	*Built in USB port to facilitate ugradation of software code*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	Overall dimensions(length+width+height) should not exceed more than 1000mm
3.2	**Weight (lbs, kg)**	2kg maximum
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	<50bB
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	yes
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	Input voltage 240VAC, 50Hz
4.2	**Battery operated**	Yes. Minimum 4 hours battery backup under normal operating conditions
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Appropriate measures to be provided
4.5	**Power consumption**	<50 Watts
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	

5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	NIBP cuff (neonatal, pediatric and adult size), spO2 probe (neonatal, pediatric and adult size), temperature probe, ECG cable, 2 pairs each

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1. Operating Condition: Capable of operating continously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuosly in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable using alcohol
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	IEC-6061-Part 1 & 2 covering relevant electrical and elctro magnetic saftey
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation safety and operation checks before handover
8.2	**Requirements for sign-off**	Supplier to perform installation safety and operation checks before handover Local clinical staff to affirm completion of installation
8.3	**Training of staff (medical, paramedical, technicians)**	1. Training of users in operation and basic maintainance should be provided 2. Advanced maintainance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	1. Maintainance and manual detailing 2. Complete maintainance schedule
9.3	**Service contract clauses, including prices**	1. The spare, accessories & consumables price list required for maintainance and repairs in future after guarentee/ warranty period should be attached 2. Free servicing during warranty period
10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy) of: 1. User, technical, maintainance and service manuals to be supplied along with machine diagrams 2. List of equipment and procedures required for routine maintainance

		3. Certifiate of caliberation from the manufacturer
11	NOTES	
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/landline number)**	1. contact details of manufacturer, supplier and local service agent to be provided 2. Any contract (AMC/CMC/add hoc) to be declared by the manufacturer
11.2	**Recommendations or warnings**	All precautions to be adequately dosplayed

Item Sl. No. 21

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
GENERAL		
1	USE	
1.1	**Clinical purpose**	Urine Strip Analysis
1.2	**Used by clinical department/ward**	General, Gynaecology, Diabetology, Internal Medicine, Nephrology
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	(1) Semi-Automated urine strip analysis system with dual function of 10 parameter urine strip and ACR strip analysis (2) Semi-quantitative urine analysis system based on reflectance spectrometry using a CMOS image sensor (3) Should have cloud based real time data functionality (4) should provide monthly reports of testing for prevalence and epidemiology
2.2	**User's interface**	Atleast 3 inch screen, software Should be available in Hindi and English languages
2.3	**Software and/or standard of communication(where ever required)**	*Communicates via SMS, WiFi/GPRS*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	should not weigh more than 2 Kg
3.3	**Configuration**	Standalone, at least 30 tests/hour
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	Should be portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	Should work without electricity for minimum 4 hours, Should work on elctricity as well

4.2	**Battery operated**	Yes
4.3	**Tolerance (to variations, shutdowns)**	1% to variations.
4.4	**Protection**	Yes
4.5	**Power consumption**	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	**As per supplier**

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Can be used in field, Closed device can be operated in village settings as well,
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Cleaning of the strip tray required before first use of the day, As a standard practice use gloves for operating and while testing urine samples.
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	Should have manufacturer's Assurance certificate of quality, Should have calibration and internal testing certification with Standard Urine control samples.
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1 hour of training should be sufficient
8.2	**Requirements for sign-off**	Registration of the device to backend server
8.3	**Training of staff (medical, paramedical, technicians)**	should be easy to use, Manual and Standard operating procedure documents provided, Can be used by semi-skilled health worker, ANM, GNM, Lab Technician and others after 60 Minutes of training
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	One Year
9.2	**Maintenance tasks**	Cleaning of the strip tray required before first use of the day. Keep adequate charging (20% or above)
9.3	**Service contract clauses, including prices**	NA
10	DOCUMENTATION	

10.1	**Operating manuals, service manuals, other manuals**	Operating Manual along with the safety and support information and Troubleshooting Guide, all material should be available in english and Hindi
10.2	**Recommendations for maintenance**	Periodic cleaning should be enough; Should be easily maintenable by health worker
11	NOTES	
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/landline number)**	Should have dedicated customer support person and telephone lines
11.2	**Recommendations or warnings**	Standard care guidelines handling and transport

Group: Radiology

Item Sl. No. 22

300 mA HF X-RAY MACHINE		
GENERAL		
1. USE		
1.1	**Clinical purpose**	Radiography of the bones and fractures and other arthropathies. X-Ray Chest for the supportive diagnosis of the Pulmonary Tuberculosis X-Ray Pelvis (KUB) for renal disorders and stones. Sinusitis, Fractures of the Skull Cardiac diseases and cardiac enlargement Silicosis and other respiratory conditions, like Pleual effusion, hydrothorax, Pneumothorax Peritonitis by X-Ray abdomen.
1.2	**Used by clinical department/ ward**	
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		

2.1	**Technical characteristics (specific to this type of device)**	High Frequency X-Ray machine suitable for GENERAL Radiography. **X-ray generator** • High Frequency X-Ray generator having Frequency of 40 KHz more suitable for Radiography should be provided. •Power output of generator should be 25 KW or more. • Radiography KV range should be 40 to 110 KV or more. • mA range (Rad.) : 300mA or more • Exposure time (Rad.): 1 ms to 2 sec. with maximum numbers of steps. **Control:** • A very compact, Soft Touch Control Panel having following functions & indications should be provided. The panel can be supplied in floor or wall mount with Spill Proof design Following features should be available on the control panel. • Machine ON/OFF switch • Digital Display of KV& mAs.• K V & mAs increase and decrease switches. • Tube focal spot selection switch.• Ready and x-ray on switch ith indicators. • Bucky Selection switch. •Self diagnostic Programme with Indicators for Earth fault error, KV error, filament error & Tube's Thermal Overload. **X-ray tube** • One No Dual focus Rotating Anode BEL/Toshiba/Imported X-ray tube thermally protected having focal spot: •1mm or less small Focus, 2mm or less large Focus.
		• Anode heat storage capacity of tube should be more than 140 KHU. • One no manual collimator with aluminum filter & for adjustment of exposure area. **Column Stand:** • It should have floor to ceiling stand with vertical counter balanced travel. • It should have 360 deg. Rotation. • It should be provided one vertical Bucky stand with machine. •Table. • Five position manual tilt table having Bucky grid ration of 8:1 with 85 lines per inches should be provided. •The Bucky tray should accept cassette of 8"x10", 10"x12" and 14"x17" size.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication (where ever required)**	
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dba)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**Mobility, portability**	Certified Room Installation
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Power unit: Input voltage- 400V-440V AC, 50Hz ;3 -phase
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Stabilizer of appropriate capacity to be installed.
4.5	**Power consumption**	25 to 30 KW.

5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	Machine should be supplied with following transducers: I. 2 No. BARC Approved whole body lead aprons with all attachments. II. One Pair of 8 meter H. V. Cable.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1. Should be FDA/European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 Certificates for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- GENERAL requirements(or equivalent BIS Standard)
		4. Shall meet internationally recognized for Electromagnetic Compatibility (EMI/EMC) for electromedical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety. 6. AERB type approved
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 Certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of three phase uniform power supply. 2) Safety and operation check before handover. 3) To be installed in a separate room. 4) Facility for dark room should be available.
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer.
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. Documentation		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection. 6) Satisfactory Certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
	11. Notes	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 23

COLOR DOPPLER FLOW ULTRASOUND

	GENERAL	
	1. USE	
1.1	**Clinical purpose**	Doppler ultrasonography is a non-invasive diagnostic procedure that changes sound waves into an image that can be viewed on a monitor. an ultrasonic technique for detecting anatomic details by color coding of velocity shifts. In cardiography blood flowing in one direction appears red, and blood flowing in the opposite direction appears blue. The technique can also indicate the velocity of red blood corpuscles moving through the circulatory system, which makes it possible to quantify the low, measure the pressures within the heart chambers, and calculate the stroke volume. In laparoscopy, Doppler color low allows for rapid identification and differentiation of ducts and valves in the viscera, particularly in detection and diagnosis of pancreatic and liver tumors and colorectal liver metastases.
1.2	**Used by clinical department/ ward**	Radiology diagnostic laboratories.
	Technical	
	2. TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	The system should be state art with full Digital Technology & should be capable of whole body sonography & other application for adult & pediatrics (Infants & Neonates) which includes abdominal, Obs/Gyn, Endovascular, Peripheral vascular, transcranial, transvaginal, transrectal & small parts. 1) The system should incorporate facility for high resolution 2D, 3D, M mode, PW color imaging, Power Doppler Angio Imaging Modes. 2) The system should have more than 20000 Digital Channels & on the site to higher number of channels (preferable). 3) The system should have 256 Grey shade or more. 4) The system should have capability of triplex display in real time with all probes. 5) The system should have a very high frame rate of 700 frames per second or more Please specify frame rate in triplex mode. 6) The system should have Harmonic imaging for hard to image patients. The system shall support Tissue Harmonic Imaging capability on phased, linear, 3D and curved array transducers. 7) The system should have advance image processing algorithms to analyze between targets & artifacts so as to sharpen target anatomy, reduce the sparkle & artifacts to improve image quality.
		8) The system shall offer Harmonic Imaging in Power Doppler Imaging mode for improved sensitivity and specificity in differentiating blood/ agent from tissue. 9) The system should have facility for Zoom (Real-time and Frozen-image) & manipulation of image through pre-processing and post-processing with cine loop viewing image of all modes. 10) System should have disc of at least 500 GB or more. 11) The system should have facility of digital storage & retrieval of B/W & color image data(Both frozen & cine loops) on built in as well as ramble media(CD, DVD)USB port. 12) The system should have automatic real time quantification of Doppler parameter like velocity, frequency, time heart rate stop, low volume, plasticity index, resistivity index, peak velocity, average value, point value, area & diameter low volume etc. 13) The system should have high dynamic range of 170 dB with scanning depth of 30 cm or more. 14) All transducers (minimum 3) should be broadband width, Frequency range 2 to 12 MHz or more with universal ports for transducer interchange. Two active ports and one parking probe is required. 15) System should have 19" HD display with tilt and swivel Facility along with alphanumeric keyboard with illuminating keys and status function. 16) Dicom 3.0 compatible. 17) Review of stored images is desirable.
2.2	**USER'S interface**	Software, Automatic (stages to be displayed or recordable for printing).
2.3	**Software and/or standard of communication (where ever required)**	
3. PHYSICAL CHARACTERISTICS		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system.

3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism.
3.6	**Mobility, portability**	Certified Room Installation.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	Power unit: Input voltage- 220V-240V AC, 50Hz Single-phase.
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**POWER consumption**	-
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Machine should be supplied with following transducers: I. Broad band convex array transducer with multi-frequency range of 2 to 5 MHz or wider range-1 No. II. Broad band transvaginal/transrectal probe with multi-frequency range between 5 to 8 MHz or wider range-1 No. III. Linear probe Transducer 5 to 12 MHz or more.
		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. & 5 rim of Glossy paper sheet. d) Online UPS for power back up of minimum 30 minutes e) 50 nos. of CDs to be supplied
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- GENERAL requirements (or equivalent BIS Standard) 5. Shall meet internationally recognized for Electromagnetic Compatibility (EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 certificate for quality standard.
8. TRAINING AND INSTALLATION		

8.1	**Pre-installation requirements: ature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover; 3) To be installed in a separate room.
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1)Training of users on operation and basic maintenance for 2 weeks; 2)Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**MAINTENANCE tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance;
		3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certiicate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 24

ULTRASOUND MACHINE

GENERAL		
1. USE		
1.1	**Clinical purpose**	Diagnostic sonography (ultrasonography) is an ultrasound-based diagnostic imaging technique used for visualizing internal body structures including tendons, muscles, joints, vessels and internal organs for possible pathology orlesions. The practice of examining pregnant women using ultrasound is called obstetric sonography, and is widely used.
1.2	**Used by clinical department/ ward**	Radiology laboratories
Technical		
2. TECHNICAL CHARACTERISTICS		

2.1		**Ultrasound scanner with integrated trolley with probe, soft touch alphanumeric key board with track ball:** 1. With panel switches & control's easily operable. 2. Integrated high resolution Monitor(17"). 3. Probes & Gel holder-conveniently placed (2 each). **following transducers are to be supplied:** 1. A-2.0-5.0 MHz Multi frequency Convex Transducer-One. 2. B-5.0-12.0 MHz Multi frequency Linear transducer-One. 3. C-5.0-8.0 MHz or more Endo Cavitory probe-One. **(+/- 1 mHz to be allowed for each):** a. All probes should be electronic transducers and multi-frequency preferably three frequencies and should give aperture & depths of scanning. b. Controls for Depth, gain compensation, body markers with transducers position. c. Real-time continuous dynamic focus. d. Auto annotation facility anywhere on image. e. Image display in B, B/M&M Model(2B&2D). f. Zoom facility minimum ive times or more. g. Shades of grey 256 h.Inbuilt cine memory.
		h. Unite should be capable of measuring BPD, CRL, FL & AC and other GA parameters. i. Facility for image magnification, inversion, changing, scan, direction, freeze facility. j. 8 step STC/GTC should be available. k. Frame rate minimum 50 FPS, hard disk capacity of 200GB or more. l. Caliper with trackball for the measurement of distances circumferences, area volume etc. should be possible to make different measurement on single image. m. Alphanumeric key board, p.Panel Switches & Foot Controls. n. Patient reports for Obs/Gynae including fetal growth trend, including Histogram facility for Tissue texture & Trend graph for IUGR cases, Urology and orthopedics. o. Give the gain adjustable/Range & its steps. p. Calculations needed, Velocity, Heart rate, Volume addl. modes. q. Dicom 3.0 compatible. r. Review of stored images is desirable. s. Channels: 1000 or more. t. Depth: 25 to 30 cm. u. Dynamic range: 170dB & above. v. Cine loop preview for minimum 60 secs or more. w. Minimum 2 active ports should be there.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Max: 400mm (L) x 300mm (W) 160mm (H)
3.2	**Weight (lbs, kg)**	Max:17 lbs
3.3	**Configuration**	NA

3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism.
3.6	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz.
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Should have over-charging cut-of with visual symbol.
4.5	**Power consumption**	-
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	The system should be supplied with the following accessories: 1. B & W thermal printer with 50 rolls. 2. Two KVA online suitable UPS.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- GENERAL requirements (or equivalent BIS Standard). 4. Shall meet internationally recognized for Electromagnetic Compatibility(EMI/EMC) for electromedical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**Local and/or international**	Manufacturer/supplier should have ISO 13485 certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket. 2) Safety and operation check before hand over. 3) Machine to be installed only when PNDT registration is obtained by health care facility.
8.2	**Requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance atleast for two weeks. 2) Advanced maintenance tasks required shall be documented.

9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of: 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation;
		5) Certificate of calibration and inspection. 6) Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 25

500 mA X-RAY MACHINE(HF)

GENERAL		
1. use		
1.1	**Clinical purpose**	Radiography of the bones and fractures and other arthropathies. X- Ray Chest for the supportive diagnosis of the Pulmonary Tuberculosis. X - Ray Pelvis (KUB) for renal disorders and stones. Sinusitis, Fractures of the Skull. Cardiac diseases and cardiac enlargement. Silicosis and other respiratory conditions, like Pleual efusion,, hydrothorax, Pneumothorax. Peritonitis by X-Ray abdomen.
1.2	**Used by clinical department/ ward**	Radiology Department
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		

2.1	**Technical characteristics (specific to this type of device)**	High frequency X-Ray machine suitable for GENERAL radiography. **X-RAY GENERATOR:** - High Frequency X-Ray Generator having frequency of 50KHz or more should be provided. - Power output of generator should be 50KW. - Radiographic KV Range should be 40 to 125KV. - mA Range (Rad.): 500mA or more. - Exposure time (Rad.): 1ms to 3Sec. - mAs Range (Rad.): 1 to 200mAs. **Control:** A very compact, Soft Touch Control Panel having following functions & indications should be provided. The panel can be supplied in Floor or Wall mount with Spill Proof design. Following features should be available on the control panel. • Machine ON/OFF Switch. • Digital Display of KV & mAs. • KV & mAs increase and decrease switches. • Tube focal spot selection Switch.
		• Ready and X-Ray on switch with Indicators • Bucky Selection Switch. • Self diagnostic Programme with Indicators for Earth fault error, KV error, Filament error & Tube's Thermal Overload. • Anatomical Programming Radiography (i.e. APR) should havePreprogrammed parameters of human Anatomy Up to 216 programs which helps the user to select exposure parameters based on bodypart, examination view and size of the patient.
2.1	**Technical characteristics (specific to this type of device)**	A dual action hand switch with retractable cord should be provided for Radiation Protection of Operator. There should be provision for a cordless Exposure switch also. There should be provision of auto shut of Control if no key is pressed for 10Min. **X-RAY TUBE:** - Two Nos. Dual focus Rotating Anode X-Ray tube thermally protected - Anode heat storage capacity of tube should be more than 140KHU. - Two Pair of 8 meter H.V. Cable. - Two Nos. Collimator with auto shut of facility should be provided. **HV TANK:** A very compact H.V. Tank Filled with high dielectric transformer oil should be provided. The H.V. Tank should contain H.V. transformer, Filament Transformers, H.V. Rectifiers & H.V. Cable receptacles. **TUBE STAND:** - Floor to Ceiling Stand with Counter Balanced Tube Head (Rotatable ± 180 Degree), 360 Degree Rotatable; mounted on Floor Ceiling Rails for convenient movements should be provided.

2.1	**Technical characteristics (specific to this type of device)**	TABLE: - Motorized table should have motorized Bucky consisting of Bucky grid of size 17 ¼" x 18 7/8" ratio 8:1, 85 lines/inch. Spot Film Device (semi automatic) capable of doing all routine spot filming (4 on 1, 2 on 1, 1 on 1) for use with 8" x 10", 10" x 12", 14" x 14" cassettes. Grid size 15" x 15", 6:1 ratio, 103 lines per inch. Compression movement of spot Film device is motorized. The Fluoroscopic parameters (Fluoro KV, Fluoro mA and Fluoro time) should be digitally displayed on the SFD. Control of Fluoro KV should be available on SFD. VERTICAL BUCKY STAND: • Vertical Bucky Stand with oscillating Grid of Ratio 8:1, 85 lines/inch is provided. • The Bucky moves up & down & is equipped with a stainless steel cassette tray. • The stand is Floor-mounted type & can accommodate cassettes up to 14" X 17". The Bucky is tilted in 6 steps of 15 degree Angle each for various Radiographs.
2.2	**User's interface**	manual
2.3	**Software and/or standard of communication(where ever required)**	In built
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	Stationary Installation
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Power supply: 230V, AC, 50Hz. 15 Amps ,three phase, Line resistance < 0.4 ohms
4.2	**Battery operated**	no
4.3	**Tolerance (to variations, shutdowns)**	line regulation of ±10%.
4.4	**Protection**	NA
4.5	**Power consumption**	
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 2 No. BARC Approved whole body lead aprons with all attachments.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements (or equivalent BIS Standard) 5. Shall meet internationally recognized standard for Electromagnetic Compatibility(EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 and IEC 62304 7. AERB type approved
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Three phase stable power supply
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;

11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 26

C-Arm SYSTEM(HF)

GENERAL		
1. use		
1.1	**Clinical purpose**	C-arm machine is a device used by a physician/surgeon to guide surgical instruments while watching the instrument being driven on a live x-ray machine
1.2	**Used by clinical department/ ward**	OT and Screening labs
teCHniCAl		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	High End C-Arm with large LCD display. 1K X 1K High resolution imaging chain with progressive scan CCD camera, 9" Image Intensifier and dedicated computer based acquisition system. The movements should be smooth having very simple positioning mechanism. X-RAY GENERATOR: High Frequency 50 KHz X-Ray Generator with power output 5KW or more should be provided. Following modes should be provided: • Radiography • Fluoroscopy selection of continuous, single pulse, multi pulse should be there. • KV Range (Rad./Fluoro): 40 to 120KVP in 1KV/Step. • Radiographic mA Range: more than 100mA • Fluoroscopy mA output: Up to 5mA (Normal Fluoroscopy) • Up to 20mA (Boosted Fluoroscopy)mAs output: 0.1 - 200mAs or more X-RAY TUBE: • Dual focus Rotating Anode X-Ray Tube of focal spot 0.3mm (small) & 0.6mm (large) to be provided. • Anode heat storage capacity should be more than 250KHU. • Iris Collimator should be provided.

2.1	**Technical characteristics (specific to this type of device)**	CONTROL PANEL: A very compact, soft touch control panel(A.P.R) with 20 X 3 (column x rows) L.C.D display on which KV, mAs, Fluoro time, FmA, I.I ZOOM, Error inter lock for KV, Filament, thermal are displayed on wide angle LCD. Console panel has following functions & indications.: • Anatomical programming for radiography of 4 body parts (up to 8 programmes). • selection of Continuous/multi pulse/single pulse Fluoroscopy. o Machine ON/OFF switch. • Collimator‘s position adjustment. • I.I magnification(I.I ield) selection switch • “Emergency Flouro”. • Flouro and Radio mode selection. • In built radio timer that enables to select mAS from 0.1 to 300 in 25steps for radiography. • Fluoroscopy timer (Five minute cumulative timer with buzzer that activates after the completion of 300seconds of exposure and to reinitiate the exposure reset switch is provided.) • ABS (Automatic brightness Stabilization) selection for hands free operation. • KV and mAs increase and decrease switches. • X-Ray on switch with indicators. • Switches for up/down movement of “C”. • Emergency OFF Switch on the control panel
2.1	**Technical characteristics (specific to this type of device)**	STAND: Up/Down movement (Noise free Actuator movement): At least 430mm o Horizontal Movement: At least 210 mm. Arc Orbital: 90º + 30º (120º) • Wig wag: ± 12.5º (25º) • Rotation: ± 360º (with I.I. Safety lock) • Focus Screen Distance: 950mm or more • C Depth: 600mm or more • Locks: Locks for all the movements. • Foot lock: Control Stand foot lock. Steering wheel for easy steering & movement should be available. High resolution Imaging Chain: • 9 Inches, Triple Field Image Intensiier should be provided. • CCD Camera with a progressive scan sensor of 2/3” of 1K x1K Medical Grade • The acquisition should be made at 14 bits. MEMORY SYSTEM: PC based memory system with the following features should be provided:- • Image processing software with Real time image capturing, storage, and display in 1kX1k format • Boosted Fluoroscopy (CINE) up to 30 FPS with real time recording on Hard Disk Drive. • More than 1000 image storage capacity in 1kX1K format • Dicom 3.0 Ready • Dicom CD/DVD

2.1	**Technical characteristics (specific to this type of device)**	• Connectivity with PACS and HIS • Length and angle Measurements with Annotation • Pre Programming for Image setting for different operating Modes. • Image Flipping and Image rotation • WW/WL adjustments • Recursive Filters for image smoothening • Programmable Motion Detection facility • Gamma Curve adjustments for optimum image quality. • Image Zoom with Pan • Image Inversion MONITORS: 2Nos. Medical Grade Monochrome high brightness, High contrast 19" LCD Monitors should be provided. High-end monitor trolley with foldable monitors, actuator assisted height adjustable movement of monitors to facilitate viewing of images at most convenient eye level position, specially designed integrated keyboard having feather touch keys and touch pad should be provided instead of double unit keyboard and mouse, 5" wheels for better mobility
2.2	**User's interface**	manual
2.3	**Software and/or standard of communication(where ever required)**	In built
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	Mobile
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Power supply: 230V, AC, 50Hz. 15 Amps ,single phase, Line resistance < 0.4 ohms
4.2	**Battery operated**	no
4.3	**Tolerance (to variations, shutdowns)**	line regulation of ±10%.
4.4	**Protection**	NA
4.5	**Power consumption**	??????
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 5 No. BARC Approved whole body lead aprons with all attachments.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	**User's care, Cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements (or equivalent BIS Standard) 5. Shall meet internationally recognised standard for Electromagnetic Compatibility (EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 and IEC 62304 7. AERB type approved
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation Requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English / Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 27

CRSystem		
GENERAL		
1. uSe		
1.1	**Clinical purpose**	Used for Digitization of the already existing Analog X-ray Systems giving advantage of image processing and increased speed Ideal for Medium workload facilities and Secondary care facilities.
1.2	**Used by clinical department/ ward**	Radiology Department
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Digitizer (CR) system should have capacity to process more than 70 or more cassette/ilms per hour of 14 X 17" size. 2. Standard work station (Console) coupled with CR image storage capacity – at least 2000 images specify the numbers. It should have a resolution of 5 pixels/mm (Minimum) for standard resolution cassette & up to 20 pixels/mm or more. 3. Separate DICOM workstation in ultra modality with all processing facilities in a centralized reporting. 4. Other feature of CR system. • Image post processing. • Window leveling • Annotation • Area of interest Zoom • Magnification • Flipping & panning • Automatic exposure correction • Pre view software • Edge enhancement stepwise • Contrast/Brightness adjustment • Shuttering / ROI Finder • Application related software like Pediatric should be available – Thesystem should have software & hardware to perform full leg/Full spine/ Long Body imaging/imaging stitching. • DICOM Print • DICOM image output to network workstation. • Grid Pattern removal software & noise compression processing. • Gray Scale reversal • Rotation • Image preview time 25 to 60 Sec. (For large image)

2.1	**Technical characteristics (specific to this type of device)**	System should be fully compliant with DICOM 3. • Automatic cassette identification through bar code reader. 5. Laser camera with at-least three film size on line 14"X 17", 11"X 14"/ 10" X 14", 10" X 12", & 8" X 10" 6. · Contrast spatial / Reading resolution 10 pixel/ mm or more constanthigh resolution in all sizes. True size printing should be possible from reader console. Automatic exposure correction & facility for maneuvering reading sensitivity manually. Gamma curves for multiple object intensity processing. Registration & cassette identification should b e possible to be done before & after the exposure (Pre/Post registration) 7. Specification for Laser Camera • Mention Spatial resolution higher level preferable minimum 500 DPI/PPI. • Mention Gray Scale resolution: more than 12 bits preferable • Mention Processing capacity/hour for (14" X 17") films, It should be more than 70 films /Hour 8. Acceptable film size: 14"X 17", 11"X 14"/ 10" X 14", 10" X 12", & 8" X 10". • Online film size : at least three film size • DICOM compatible
2.1	**Technical characteristics (specific to this type of device)**	9. CR workstation should have following feature • Multiple image printing with multiple format • Measurement of image, insert scale • Preloaded annotation • DICOM CD writing & reading • Image inverse, image flipping, image magnification, zooming • Reporting format • Image preview • Image cropping • Printing multiple patient on one film • CD writing for multiple patient on one CD • Should have a hard disk of 80 GB or more for storing image.
2.2	**User's interface**	manual
2.3	**Software and/or standard of communication(where ever required)**	In built
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	Stationary installation
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Power supply: 230V, AC, 50Hz.
4.2	**Battery operated**	no
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	??????

5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 2 No. BARC Approved whole body lead aprons with all attachments. II. Please provide cassette for CR with PSP Plate (IP) 14" X 17" -2 No. 11" X 14" /10"X14"-2 No. 10"X12"-2 No. III. Suitable online pure sine wave UPs for 30 minute backup IV Closed System??? V Compatible computer System with 2 medical grade monitors
Bidding / procurementterms / donationrequirements		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certiication for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements(or equivalent BIS Standard) 5. Shall meet internationally recognized standard for Electromagnetic Compatibility (EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 and IEC 62304
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Three phase stable power supply
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2)Advanced maintenance tasks required shall be documented
9. Warranty And maintenance		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years. 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. documentation		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 28

Digital Radiography System(HF)

GENERAL		
1. use		
1.1	**Clinical purpose**	Used for Radiographic Images in a digital format (DICOM) greatly reducing the time for image capture and processing. Ideal for heavy workload facilities and tertiary care facilities.
1.2	**Used by clinical department/ ward**	Radiology Department
technical		
2. technical Characteristics		

2.1	**Technical characteristics (specific to this type of device)**	Unit should be High frequency Digital Radiography system with rotating anode X-Ray tube. 3D ceiling suspended stand with Auto tracking. 2 separate detectors be provided. One in table and one in the vertical Bucky each. System should have following features. A. HIGH FREQUENCY GENERATOR: Generator should be of latest technology with high frequency 40KHz or more X-Ray generator. Constant Power output of 65KW. KV range should be 40 to 150KV in 1KV/step. mA output: 800 mA mAs range should be 1 to 600mAs or more. It should have solid state automatic exposure control device. B. TUBE: A Dual focus Rotating anode X-ray tube. Large Anode Heat storage capacity for high patient throughput (250KHU or more). Multi leaf collimator having halogen lamp / bright light source and auto shut provision of the light. HV Cable: 1 Pair of 12 meter HV cable. C. Fully Integrated x-ray generator console control: • System should be fully integrated. All the exposure factors should becontrolled from the image acquisition computer and exposure parameters information should be attached to acquired image in DICOM format. • System should have unlimited Anatomical Programs (APR). • Anatomical Programs should be flexible and should be editable by user according to his/her convenience. • Exposure interlocks and self diagnostic messages should be available on Image acquisitions computer for easy troubleshooting of the system.
2.1	**Technical characteristics (specific to this type of device)**	D. Stand: 3D- Ceiling Suspended tube stand should be a new generation stand providing the user three-dimensional movements of the tube head covering a huge area. Noiseless and swift up/down movement of the tube head should be provided. • Stand should have Auto tracking facility with table & vertical Bucky stand. • Stand should have motorized Longitudinal, Transverse and verticalmovement with automatic stop. It should have Tube Head Rotation along its axis. • Movements of stand should be: – Longitudinal movement motorized: 2500mm or more – Transverse movement motorized: 1500mm or more – Vertical up/down movement motorized: 1000mm or more – Tube head Rotation (along with Vertical Column axis): ±90˚ – Tube head rotation along Horizontal axis - ±90˚ • Smart collision avoidance system should be provided. • Manual override facility for x and y axis. • Electromagnetic locks should be available for comfortable operations. Digital touch based display should be available on the X-ray tube/Collimator Assembly at least with following features: • Display and control of Exposure parameters like KV and MAS • Display and control of Mechanical parameters like SID and tube Inclination • Display of APR and patient position guide image • Display of Acquired x-ray image

2.1	**Technical characteristics (specific to this type of device)**	The auto tracking system should also be capable of doing motorized oblique tracking with Vertical Bucky Stand during special cases. E. Table: Horizontal table with floating tabletop and adjustable height should be provided. Tabletop should have three-dimensional movement, for ease of operation and use by patients. • Table should be provided with Inbuilt FPD (FLAT PANEL DETECTOR)beneath the tabletop having manual movement. It should have electromagnetic locking facility and should be unlocked by the foot switch for its movement. • Transverse and longitudinal movements of the tabletop should be locked by electromagnetic locks. • Table should have up/ down motorized movement and it should be controlled by two up & down foot switches. • Movements of table top should be: Transverse movement: 18cm or more, Longitudinal movement: 45cm or more. Height adjustment facility should be available. • Maximum weight carrying capacity for the table during up/down movement should be 150Kg or more. F. Vertical Bucky (VB) Stand: Floor mounted Motorized Vertical Bucky stand should have inbuilt FPD (FLAT PANEL DETECTOR) for lung and skeleton x-ray examinations. It should have user friendly design and handling. VB stand should have provision to do chest radiography with and without grid. Motorized Tilting should be -30 degree to + 90 degree. Vertical Up Down Movement Speed should be 60mm/sec or more G. Flat panel Detector (Each for Table bucky and vertical bucky) : A complete imaging solution with cutting edge of performance integrated with X-ray systems.
2.1	**Technical characteristics (specific to this type of device)**	Specifications: The detector should be lat panel type with A-Si (amorphous silicon) and CsI for scintillation. Size of detector must be 43cm x 43cm. Active Image matrix 3K x 3K. Image depth should be 14bit. Pixel size should be less than 150um (Smaller pixel size is proffered) Detector resolution should be more than 3.3 lp/mm. DQE (Detector Quantum Deficiency) should be more than 65%. H. IMAGE ACQUISITION SOFTWARE: SOFTWARE provides complete control of all image capture functions within the examination room, enhancing the entire workflow by delivering diagnostic images instantly, and allowing users to move X-ray images electronically to remote workstations, image archives, and printers, also has the super excellent performance on image quality control such as:

2.1	**Technical characteristics (specific to this type of device)**	i. Image Acquisition and Processing: • Digital image processing technology • Preview image should be available in less than 5 seconds. • Processed image should appear in less than 8 seconds. • Exam Specific Algorithms image processing for consistent image quality of all body parts. • Automatic image optimization • Image harmonization algorithms for uniform images. • Preset image processing tools for different anatomy • Preset GAMMA correction table with manual override • Image cropping • Image mirror, rotate. • Image annotation with circle, square, rectangle, Arrow markers • Add image accept/reject comments • Rejected images archival with provision of converting them to Accepted images. • Separate log for Rejected, Accepted and Printed images. • True size for printing • User defined printing formats. • Should have high image storage capacity with 1TB HDD. ii. Dose Reduction: • Advanced noise reduction and image enhancement technology for best image quality at minimum dose.
2.1	**Technical characteristics (specific to this type of device)**	iii. Excellent Maintainability • Remote online system diagnosis • Remote online software upgrade • Image quality control tools • Easy and quick Offset and gain calibration with bad pixel removal algorithm. • Automatic programmed offset calibration for best image quality. iv. Full DICOM 3.0 Compatibility • Get DICOM work list from HIS/RIS • Store Images through PACS network system • Support user defined format DICOM image print • Support DICOM MPPS v. Image Management: • Resend/ Reprint image
		• Send/print queue management • Re-preview image • Protect patient record • Rejected image management Image Stitching: Image stitching software should be provided for long limb imaging. At least 4 images should be stitched together.

2.1	**Technical characteristics (specific to this type of device)**	H. MONITORS: 1 No. 19" High Brightness Monochrome LCD Medical grade monitor should be provided. additional Work station: Additional workstation should be provided. It should have following features: • DICOM connectivity • Image review • Image processing • Patient Reporting • Image SEND, RECEIVE, PRINT facility • Should have DIOCM connectivity for existing PACS, RIS system. • Should have large image archival capacity (at least 1TB HDD).
2.2	**User's interface**	manual
2.3	**Software and/or standard of communication(where ever required)**	In built
3. physical Characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	Stationary Installation
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	Power Requirements	Power supply: 230V, AC, 50Hz. 15 Amps ,three phase, Line resistance < 0.4 ohms.
4.2	Battery operated	no
4.3	Tolerance (to variations, shutdowns)	line regulation of ±10%.
4.4	Protection	NA
4.5	Power consumption	??????
5. Accessories, Spare parts, Consumables		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 2 No. BARC Approved whole body lead aprons with all attachments.
Bidding / procurement terms / donation requirements		
6. environmental And departmental Considerations		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. Standards And Safety		

7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements(or equivalent BIS Standard) 5. Shall meet internationally recognized standard for Electromagnetic Compatibility(EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 and IEC 62304 7. AERB type approved
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Three phase stable power supply
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. Warranty And maintenance		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. documentation		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 29

Mobile X-ray machine(HF)

GENERAL		
1. use		
1.1	**Clinical purpose**	Used to get the radiographic images where patient mobility to stationary installation is compromised such as use of other life support equipment. Finds great utility in intensive care units.
1.2	**Used by clinical department/ ward**	Intensive care units and radiology department
technical		
2. technical Characteristics		
2.1	**Technical characteristics (specific to this type of device)**	Mobile X-Ray machine: – High Frequency generator of 40KHz or more. – Radiographic KV: 40 to 110KV. – Red mA: 150mA or more – Output power: 6.0 KW. – mAs range: 1 to 200mAs X-Ray tube head: – Monoblock version X-Ray Tube Head with Stationary Anode Single focus X-Ray Tube. The monoblock consists of Tube, H.V. transformer, filament transformer, H.V. Rectifiers & Capacitors, all immersed in High Grade, High dielectric oil. – One No. Manual Collimator should be provided, with auto of facility. Tube Stand: Mobile Stand with 4-wheel design, which ensures easy mobility and steering. The Spring Balance Stand should be very light in weight with tube arm. It should be very easy to maneuver & allows smooth movements of Tube Head in vertical Plane. Lead lined cassette storage box. Large wheels for easy mobility should be provided. The stand is designed for maximum maneuverability of the unit and is able to achieve tube focus to floor distance of minimum 75 inch and tube focus to tabletop distance of minimum 46 inches (Standard Radiography Table). The equipment should occupy minimum floor area & is capable to be taken through elevators with ease.
2.1	**Technical characteristics (specific to this type of device)**	Control Panel: • KV Increase & Decrease Switches. • mAs Increase & Decrease Switches • Machine ON/OFF Switch.

		• Collimator Lamp 'ON' Switch. • Standby & Exposure Switch. • Self diagnostic Programmed with indicators for:- o Earth fault Error o KV Error o Filament Error o Tube head Thermal Error • Stand by (Ready) & X-Ray On Indicator. • Incoming Voltage Indicator. There should be provision for the machine to work from 190Volts Input supply to 250V input supply. • Anatomical Programming Radiography (i.e. APR) should be providedin which KV and mAs are automatically selected depending upon the physique of the patient and part of the body to be X-Rayed. Anatomical Programming up to 200 programmers or more There should be a provision that the control should get of, if no key is pressed for 10Min. A Hand Switch with Dual action for exposure Release with Retractable Cord is provided for Radiation Protection to the Operator. There should be cordless remote for exposure along with corded exposure switch.
2.2	**User's interface**	manual
2.3	**Software and/or standard of communication(where ever required)**	
3. physical Characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	mobile
4. energy Source (electricity, upS, solar, gas, water, Co2 ....)		
4.1	**Power requirements**	Power supply: 230V, AC, 50Hz. 15 Amps ,single phase, Line resistance < 0.4 ohms
4.2	**Battery operated**	no
4.3	**Tolerance (to variations, shutdowns)**	line regulation of ±10%.
4.4	**Protection**	NA
4.5	**Power consumption**	??????
5. Accessories, Spare parts, Consumables		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 2 No. BARC Approved whole body lead aprons with all attachments.
Bidding / procurement terms / donation requirements		
6. environmental And departmental Considerations		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of

		15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. Standards And Safety		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements(or equivalent BIS Standard) 5. Shall meet internationally recognized standard for Electromagnetic Compatibility(EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 7. AERB type approved
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9. Warranty And maintenance		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. documentation		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other Accompanying Documents**	List of essential spares and accessories, with their part numbers and cost;
11. notes		

11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations Or Warnings**	Any warning signs would be adequately displayed

Item Sl. No. 30

Mammography		
GENERAL		
1. use		
1.1	**Clinical purpose**	A mammography is a screening tool used to detect and diagnose breast cancer
1.2	**Used by clinical department/ ward**	Radiology/Oncology Department
technical		
2. technical Characteristics		
2.1	**Technical characteristics (specific to this type of device)**	A) X-RAY GENERATOR - High Frequency 40KHz or more X-Ray Generator should be provided. - Power of generator should be more than 5KW. - Maximum mA output should be more than 190mA - KV Range should be 22 to 35KV in steps of increment of 0.5 KV each. - mAs Range for large filament should be from 1 mAs to 700 mAs or more. - 1 No. High Voltage Cable should be provided. B) X-RAY TUBE - Rotating Anode X-Ray Tube having dual focus, dual angle should be provided. - Focal Spots: Small Focus = 0.1 mm² Large Focus = 0.3 mm² - Anode Heat Storage Capacity 300KHU - Tube Assembly Heat capacity should be at least 1.5MHU C) CONTROL PANEL - Micro Processor controlled Feather Touch Control Panel with LCD display should be provided. - KV Range should be 22 to 35 KV in steps of increment of 0.5 KV each. - mAs Range should be from 1 mAs to 700 mAs or more. - Technique selection: Manual Two Point Technique (i.e. KV, mAs) should be possible. - Anatomic Program (APR) for small, medium & Large breasts should be provided. - More than 2 Film Screen Combinations should be provided.

2.1	**Technical characteristics (specific to this type of device)**	More than 2 Step Film Density Control should be provided – Multi chamber solid state Automatic Exposure Control (AEC) device should be provided – Automatic selection of filter as per the KV selected (Molybdenum Filter and Aluminum Filter) should be provided. – Following Digital display should be provided: • LCD Display on Control Panel • KV • mAs • Focus • AEC/APR mode • Diagnostic Interlocks of the equipment • Filter Selected • Large format LCD display on the stand • Compression force in Kg • Compressed breast thickness • Gantry angle – Following Switches and indicators should be provided: • Focal Spot Selection Switch • Machine ON/OFF Switch • Ready and X-Ray Switch. • AEC/APR selection switch • Film density and Film screen selection switch • Ready and x-ray exposure indicator. Breast Release mechanism in case of power failure:
2.1	**Technical characteristics (specific to this type of device)**	Push to OFF type emergency switches should be available on both sides of gantry to release breast in case of power failure. This mechanism should operate from a battery inside the equipment. Below Safety features should be provided: • Microcontroller based embedded platform to ensure accurate delivery of exposure parameters. • Automatic compression locking after maximum compression of compression paddle. • Earthling interlock is provided in the machine for safety of user and machine. (Without proper earthling machine would show error). • Fast Compression release mechanism in case if patient is uncomfortable with compression. • Automatic breast release after x-ray exposure is completed. D) STAND ASSEMBLY – A compact Stand having Iso-Centric movement on which C-Arm containing X-Ray Tube & Bucky Assembly is mounted should be provided. – Vertical Movement (Motor operated) should be 650mm or more. – Motorized rotation: +180degree – 165 degree – Source to image distance (SID) should be 600mm or more

		– Breast Compression: Automatic compression with digital display of compression force should be provided. (Provision should be given for the release of compression paddle on power failure) the Switch for activation & release. Adjustable compression force should be available. Automatic Compression release after Exposure completion should be available. – Compression Paddles for Normal & Magnification Mode (Spot Compression) should be provided – Magnification Device: 1.5X and 1.8 X should be provided.
2.1	**Technical characteristics (specific to this type of device)**	18 x 24 cm Bucky, Motor operated Oscillating Grid of Size 18 X 26 cm, 5:1, 30 lines/cm focal distance 60 to 70 cm should be provided. – Molybdenum Filter & Aluminum Filter Changer. – Light Beam collimator with Halogen Lamp with Auto shut of facility after 1 minute should be provided. – 18 X 24cm collimation plate should be provided. – Cone for Localization & Radiation protection should be provided. – Switches for up/down movement of gantry, placed conveniently on both sides of gantry should be provided. Separate foot control for gantry movements should also be available for hands free operation. – Hand Switch with Retractable cord for initiation of exposure should be provided.
2.2	**User's interface**	Manual
2.3	**Software and/or standard of communication(where ever required)**	In built
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**Mobility, portability**	Stationary Installation
4. ENERGY SOURCE (electricity, upS, solar, gas, water, Co2 ...)		
4.1	**Power requirements**	Power supply: 230V, AC, 50Hz. 15 Amps ,single phase, Line resistance < 0.4 ohms
4.2	**Battery operated**	no
4.3	**Tolerance (to variations, shutdowns)**	line regulation of ±10%.
4.4	**Protection**	NA
4.5	**Power consumption**	??????
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	Machine should be supplied with following transducers:- I. 2 No. BARC Approved whole body lead aprons with all attachments. II. Free standing fully Transparent Lead Glass Screen for operator protection should be provided. III. - Film marking device & Alpha Numeric identification system should be provided.

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/ European CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601- 1-GENERAL requirements (or equivalent BIS Standard) 5. Shall meet internationally recognized standard for Electromagnetic Compatibility (EMI/EMC) for electromedical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1-3,IEC 61010-1-2,IEC 61010-2- 54,IEC 61010-1-6 and IEC 62304 7. AERB type approved
7.2	**Local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Earthling
8.2	**Requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**Training of staff (medical, paramedical, technicians)**	1)Training of users on operation and basic maintenance; 2)Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration.
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11. notes		
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed

Group- Emergency Response System

Item Sl. No. 31

# SUCTION PUMP, FOOT OPERATED		
Emergency suction systems		A portable assembly of devices primarily intended to be used by emergency medical services (EMS) to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction. It typically consists of a manually- powered (hand or foot-operated) mechanism to drive the suction pump, tubing, a collection container, a vacuum gauge and control knob, and a microbial ilter. The pump creates a vacuum in the suction tubing, which is used for the removal of materials into the collection container. This system is typically used during patient transport or for emergency situations.
GENERAL		
1. USE		
1.1	**Clinical purpose**	To aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	0-600 mm Hg ± 10 mm regulable, flutter free vacuum control knob.
2.2	**Settings**	Manual
2.3	**User's interface**	Manual
2.4	**Software and/ or standard of communication (where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Max spec: 32 x 17 x 30 cms

3.2	**Weight (LbS, kg)**	2.5kg max
3.3	**Coniguration**	NA
3.4	**Noise (in dbA)**	50 dB A ± 3
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMAbLES		
5.1	**Accessories & spare parts**	Collection bottles, a vacuum gauge.
5.2	**Consumables / reagents (open, closed system)**	microbial ilter, tubing.
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certifications**	FDA/CE 1023, ISO 13485:2003; ISO 10079-2-1999.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians) OPTIONAL (Depending upon scope of work order)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Local clinical staff / authorized officer on behalf of purchaser to affirm completion of installation.
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in english language along with machine diagrams. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certiicate of calibration and inspection to be provided.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 32

Flow meter With Humidifier Bottle

GENERAL		
1.USE		
1.1	Clinical purpose	Flow meter unit is used for regulation and accurate measuring of low of gasses
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Flow meter: chromium plated brass body, metering tube and cover made of polycarbonate body, low adjustment by needle valve equipped with inlet litter -100 um, low rate 0-15 litters per minute, lush low 60 litres per minute, low read by the centre of the ball, inlet pressure 60psi; Humidifier bottle: lid made of ABS plastic, Jar made of unbreakable Poly carbonate, valve pressure brass chromium plated, it should be steam autoclaved/ gas sterilised
2.3	**Settings**	To manage low of oxygen through the knob from 0 to 15 LPM
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	For 200ml
3.2	**Weight (lbs, kg)**	As per standard
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA

4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	Stainless steel or brass chromium needle valve and outlet low control valve
5.3	**Consumables / reagents (open, closed system)**	Crack resistant transparent tube of 1.5 MT. length
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certifications**	Complies with NFPA standard ; CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Availability of oxygen outlet points
8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	NA
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	One year
9.2	**Maintenance tasks**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11. NOTES		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 33

OXYGEN CYLINDER "B" TYPE

OXYGEN CYLINDER "B" TYPE		A container designed as a refillable cylinder used to hold compressed medical oxygen (O2) under safe conditions at high pressure (e.g., 50 - 200 Bar). It is typically filled with O2 when delivered from the gas supplier and includes a valve stem, an opening/closing valve, and will be graded according to size (capacity) and colour-coded to denote O2 content. The cylinder may be made of steel, aluminium (Al) or other ferrous or non-ferrous materials and must be used together with a pressure regulator in order to release the O2 at the correct working pressure. O2 is used as an essential life support gas, for anaesthesia, and for therapeutic purposes.
GENERAL		
1. USE		
1.1	**Clinical purpose**	A container designed as a refillable cylinder used to hold compressed medical oxygen (O2) under safe conditions at high pressure; O2 is used as an essential life support gas, for anaesthesia, and for therapeutic purposes.
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (speciic to this type of device)**	1. Color coded, light weight. Aluminium alloy oxygen cylinder for providing oxygen therapy of total capacity of 4 cu M. 2. Mounted with pressure reducer and low-meter provision of capacity upto 15 Litters per minutes and outlet for secretion aspiration. 4. Should have membrane pressure reducer with manometer complete with low meter (0-15 liters /minute) and humidiier bottle. 5. should be seamless cylinder of water capacity 10 liters.
2.2	**Settings**	Flowmeter for controlling unlow of oxygen.
2.3	**User's interface**	Manual
2.4	**Software and/ or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	To contain capacity of 4 cu M.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA), heat dissipation**	NA
3.5	**Mobility, portability**	yes; on its trolley; for Ambulances - to be supplied bare without trolley.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA

4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	humidifier, key and low meter
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. CERTIFICATES (pre-market, sanitary, ..)		
7.1	**Certifications**	Cylinder should have ISI mark and ISO certificate for quality standard or BIS equivalent; IS 3224. Cylinder should have explosive safety certificate and should be provided along with each cylinder during installation.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	Certificate of Calibration,PESO Certificate and inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	10 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA

11.2	**Recommendations or warnings**	Color Codes to be displayed on the cylinders.

Item Sl. No. 34

OXYGEN CYLINDER “D” TYPE

OxYGEN CYLINDER “D” TYPE		A container designed as a refillable cylinder used to hold compressed medical oxygen (O2) under safe conditions at high pressure (e.g., 50 - 200 Bar). It is typically filled with O2 when delivered from the gas supplier and includes a valve stem, an opening/closing valve, and will be graded according to size (capacity) and colour-coded to denote O2 content. The cylinder may be made of steel, aluminium (Al) or other ferrous or non-ferrous materials and must be used together with a pressure regulator in order to release the O2 at the correct working pressure. O2 is used as an essential life support gas, for anaesthesia, and for therapeutic purposes
GENERAL		
1. USE		
1.1	**Clinical purpose**	A container designed as a refillable cylinder used to hold compressed medical oxygen (O2) under safe conditions at high pressure; O2 is used as an essential life support gas, for anaesthesia, and for therapeutic purposes.
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. It should be a standard ‘D' type molybdenum steel cylinder. 2. The capacity should be of approx 7 cu mt. at pressure of 1800 - 2000ibs/square inch. 3. A pressure regulator/low meter capable of reducing the pressure to appropriate level to run either a ventilator or provide oxygen therapy. 4. should be seamless.
2.2	**Settings**	Flowmeter for controlling low of oxygen.
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	The capacity should be of 5000 to 6000 Litters at pressure of 1800 - 2000ibs/ square inch.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes; on its trolley; for Ambulances - to be supplied bare without trolley.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA

4.4	**Protection**	NA
4.5	**Power consumption**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	Humidifier, key and low meter.
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. CERTIFICATES (pre-market, sanitary, ..)		
7.1	**Certifications**	Cylinder should have ISI mark and ISO certificate for quality standard or BIS equivalent; IS 3224. Cylinder should have explosive safety certificate and should be provided along with each cylinder during installation
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	Certificate of Calibration, PESO certificate and inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	10 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	Color Codes to be displayed on the cylinders.

Item Sl. No. 35

ARTIFICIAL MANUAL BREATHING UNIT (ADULT)

Resuscitators	A hand-operated device designed to provide or assist ventilation in patients who are apnoeic or exhibit inadequate respiration. It typically employs entrained ambient air and includes a large flexible chamber that is hand-ventilated, a gas reservoir, tubing, and a connector for attachment to a mask or endotracheal (ET) tube; oxygen (O2) from an O2 source may also be connected when necessary. It is used by emergency medical services (EMS) in ambulances, intensive care units (ICU), during internal patient transfer, accident and emergency (A&E), mass casualty incidents (MCI), and is generally placed strategically throughout a hospital. This is a reusable device.

GENERAL		
1. USE		
1.1	**Clinical purpose**	to provide or assist ventilation in a patient who is apnoeic or exhibits inadequate respiration through manual pulmonary-driven pressure cycle functions.
1.2	**Used by clinical department/ward**	It is used in ambulances, intensive care units (ICU), during internal patient transfer, accident and emergency (A&E), and mass casualty incidents (MCI).
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics**	1. Easy Grip manual resuscitator with transparent face-mask; 2. Adult models (1500 to 2000ml bag capacity); 3. Standard 15-22 mm Swivel connector allows connections to all common masks End tracheal Tubes; 4. Provision to give supplemented oxygen-by-oxygen reservoir providing 100% oxygen; 5. Non-re breathing valve enabling the patient to inspire oxygen from the reservoir bag.
2.2	**Settings**	Manual
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Hanheld
3.2	**Weight (lbs, kg)**	light enough to be operated by hand/palm for long duration.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	Handheld
3.6	**Others**	
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA

4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	Silicon bellow, Non Rebreathing Valve,
5.2	**Consumables / reagents (open, closed system)**	Adult Mask, 1 meter oxygen tube, Guedel Airway, Oxygen Reservoir bag.
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certifications**	ISO 13485; CE Certified product.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11. NOTES		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 36

ARTIFICIAL MANUAL Breathing UNIT (CHILD & NEONATAL)

Definition		A hand-operated device designed to provide or assist ventilation in patients who are apnoeic or exhibit inadequate respiration. It typically employs entrained ambient air and includes a large flexible chamber that is hand-ventilated, a gas reservoir, tubing, and a connector for attachment to a mask or endotracheal (ET) tube; oxygen (O2) from an O2 source may also be connected when necessary. It is used by emergency medical services (EMS) in ambulances, intensive care units (ICU), during internal patient transfer, accident and emergency (A&E), mass casualty incidents (MCI), and is generally placed strategically throughout a hospital. This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	To provide or assist ventilation in a patient who is apnoeic or exhibits inadequate respiration through manual pulmonary -driven pressure cycle functions.
1.2	**Used by clinical department/ward**	It is used in ambulances, intensive care units (ICU), during internal patient transfer, accident and emergency (A&E), and mass casualty incidents (MCI).
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics**	1. Easy Grip manual resuscitator with transparent face-mask; 2. Child models (500 to 250ml bag capacity); 3. Standard 15-22 mm Swivel connector allows connections to all common masks Endotracheal Tubes; 4. Provision to give supplemented oxygen-by-oxygen reservoir providing 100% oxygen; 5. Non-re breathing valve enabling the patient to inspire oxygen from the reservoir bag.
2.2	**Settings**	Manual
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Handheld
3.2	**Weight (lbs, kg)**	Light enough to be operated by hand/palm for long duration.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	Handheld
3.6	**Others**	
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		

4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	Silicon bellow, Non Rebreathing Valve.
5.2	**Consumables / reagents (open, closed system)**	Adult Mask, Oxygen Reservoir bag, 1 meter oxygen tube, Guedel Airway.
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certifications**	ISO 13485; CE Certified product.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 37

Trolley Stretcher- With Back Tilt Facility And Collapsible Wheels For Uploading Into The Trolley

Definition		A manually-operated device consisting of a platform mounted on a wheeled frame designed for use by emergency medical services (EMS) primarily to facilitate easy transport of a recumbent patient to and from ambulance vehicles (e.g., automobiles, aero planes, helicopters, boats). It is typically constructed of lightweight materials and has an undercarriage that opens and folds when it is removed from or pushed into the ambulance; it also usually includes locking devices that match with the locking/docking devices in the ambulance.
GENERAL		
1. USE		
1.1	**Clinical purpose**	It is designed for use by emergency medical services (EMS) primarily to facilitate easy transport of a recumbent patient to and from ambulance vehicles.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Automatic loading stretcher with capability to convert into wheelchair. 2. Built with anodized aluminum lightweight / stainless steel. 3. Adjustable back rest 0 dg -90 dg which allows to ix the back rest safety in any position. 4. Side protections completely overturn able with easy locking safety belts lap type. 5. Safety lever for the legs positioned near the unlocking device allowing thus the release operation for the loading, keeping the hands on the stretcher. 6. Vertical legs protected by nylon wedges. 7. Automatic centering device mounted on rotating wheels. This system automatically blocks the back wheels in the central position during the loading of the stretcher on the ambulance without having turn the wheels manually. 8. Stand for automatic loading stretcher with locking facility for quick fixing system with handle to mount the stand in very position on the stretcher. 9. One number of IV pole of adjustable height should be provided.
2.2	**Settings**	NA
2.3	**User's interface**	NA
2.4	**Software and/or standard of communication(where ever required)**	NA

3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length; 190-210 cm; Width: 50-60cm; Height: 80-85cm.
3.2	**Weight (lbs, kg)**	Weight 35-45 kg; Load bearing Capacity: up to 200 kgs.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes on castors
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	Stand for loading stretcher
5.2	**Spare parts (main ones)**	Castors, Safety lever
5.3	**Consumables / reagents (open, closed system)**	NA
5.4	**Others**	
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..)Performance and safety standards (specific to the device type);Local and/or international**	ISO 13485, CE; Manufacturer / supplier should have ISO certificate for quality standard or BIS equivalent. CE certified product. The stretcher shall not fail or release when subjected to a force of 2200 pounds applied in longitudinal. Lateral or vertical direction. The fixation system shall hold the device to withstand accelerations or decelerations of 10 g longitudinal (forward, backward), 10 g, transverse (left, right) and 10 g vertical. Rails if used should comply with ISO 19054.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years + 3 years CAMC
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Required- along with diagrammatic maintenance manual.
11. NOTES		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Should provide complete contact details of sales and service departments.
11.2	**Recommendations or warnings**	Any warning should be displayed.

Item Sl. No. 38

CANVAS STRETCHER FOLDING

Definition		NA
	GENERAL	
1. USE		
1.1	**Clinical purpose**	It is designed for use by emergency medical services (EMS) primarily to facilitate easy transport of a recumbent patient to and from ambulance vehicles.
1.2	**Used by clinical department/ward**	All
1.4	**Overview of functional requirements**	
	TECHNICAL	
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Should be lightweight and made up of tubular aluminium alloy. 2. Should be easy to carry. 3. Should be rugged. 4. Should be compact & foldable. 5. Should have automatic locking, which does not fold in automatically.
2.2	**Settings**	NA
2.3	**User's interface**	NA
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length: 190-210 cm; Width: 50-60cm; Height: 13-20cm from the base level.
3.2	**Weight (lbs, kg)**	5 kg. to 6 kg.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	None
5.2	**Spare parts (main ones)**	None

5.3	**Consumables / reagents (open, closed system)**	None
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 13485; CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User, technical and maintenance manuals to be supplied in English language along with machine diagrams. List to be provided for procedures required for routine maintenance.
10.2	**Other accompanying documents**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 39

STRETCHER SCOOP		
Definition	NA	
GENERAL		
1. USE		
1.1	**Clinical purpose**	It is most frequently used to lift supine patients from the ground, either due to unconsciousness or in order to maintain stability in the case of trauma, especially spinal injury, where it is used as an intermediate step between the ground and a restraining device such as a long spine board or vacuum mattress.

1.2	**Used by clinical department/ward**	Emergency.
	TECHNICAL	
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. The equipment shall be lightweight aluminium/Polymer stretcher, which folds into two and separates for application and removal, locking adjustable length with latches-with nylon-straps 2. Narrow foot end frame for handling in confined areas. 3. Should be X-ray and MRI Compatible.
2.3	**Settings**	NA
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length: 160 to 200 cms; Width: 42 cm (Minimum);
3.2	**Weight (lbs, kg)**	Weight: < 11 kg; Load bearing capacity - upto 150 kg.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certifications**	ISO 13485; FDA/CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of inspection from the factory.

8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	5 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User, technical and maintenance manuals to be supplied in English language along with machine diagrams. List to be provided for procedures required for routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No.40

# BP INSTRUMENT ANEROID	
Definition	A device designed to measure blood pressure consisting of an inflatable cuff that its around a limb (arm or thigh), an inflation bulb for controlling the air pressure within the cuff, an aneroid manometer, and tubing. The aneroid manometer consists of a metal bellows, which expands as the pressure in the cuff increases, and a mechanical amplifier that transmits this expansion through a lever to an indicator needle, which rotates around a circular, calibrated scale. The manometer may be mounted to a wall, placed on a table, or hand held (portable); blood pressure measurement is taken in conjunction with a stethoscope.
GENERAL	
1. USE	
1.1 **Clinical purpose**	To measure non invasive blood pressure.
1.2 **Used by clinical department/ward**	All
1.4 **Overview of functional requirements**	
TECHNICAL	
2. TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	Scale 0-300 mm hg. Air release at closed lap with maximum 4mmHg/Minute. Manual setting of deletion possible upto 2/3mm Hg/sec. From 260mmHg. To 15mm Hg in a maximum deletions time of 10 seconds. Gauge's background in white colour. Graduated scale for ever/ 2mmhg, every 10 units and every 20 units. Nylon straps cuff with pouch, latex bulb with completely chromium plated valve with regulation of vent-hole air by screw valve.
2.2	**Settings**	The cuff is inflated just to it in the limb for which an inflation bulb is used to control the air pressure within the cuff.
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	The rubber tubes used should have an internal diameter of 3 ± 0.5mm and the external diameter should not be less than 8mm; The dial manometer with minimum diameter of 160 mm.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	Adult arm cufs of size medium & large and pediatrics size, inflation bulb, tubing.
5.2	**Spare parts (main ones)**	Dial manometer.
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 13485;

8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in english language along with machine diagrams. List to be provided for procedures required for routine maintenance.
10.2	**Other accompanying documents**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	Any recommendations for best use and supplimentary warning for safety should be declared.

Item Sl. No. 41

STETHOSCOPE		
Definition		A mechanical listening device designed for listening to sounds from the heart, lungs, and/or gastrointestinal tract. It typically comprises a membrane at the listening head connected by a split "y" tube to the headgear with ear olives that are placed into the users ears. Mechanical stethoscopes are typically found in two variants 1) a general-purpose stethoscope used for clinical/ward activities; or 2) a reinforced stethoscope used by cardiologists.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Listening to sounds from the heart, lungs, and/or gastrointestinal tract.
1.2	**Used by clinical department/ward**	All
1.3	**Overview of functional requirements**	
2. TECHNICAL CHARACTERISTICS		

2.1	**Technical characteristics (specific to this type of device)**	Stethoscope of standard size, chromium plated metal binaural, V rubber tube in one piece. Rotating piper fitting for both lip functions.
2.2	**Settings**	NA
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
2.5	**Others**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Diaphragm approx: 20 mm.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories& Spares**	1 x spare set of earpiece, 1 x spare diaphragm.
5.2	**Consumables / reagents (open, closed system)**	NA
5.3	**Others**	NA
PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
6.3	**Others**	NA
7. STANDARDS AND SAFETY		
7.1	**Certifications**	By ISO 9001 certiied manufacturer.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA

8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	NA
8.4	**Others**	NA
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	NA
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 42

PNEUMATIC SPLINTS		
GMDN definition		A non-sterile sleeve intended to be placed around an arm or leg and inlated to immobilize and protect the limb. It is typically used by Emergency Medical Services (EMS) as a temporary measure in emergencies, e.g., accidents and motor vehicle crashes, to stabilize the limb for transport to a hospital. This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	To Immobilize the limb for transport to a hospital.
1.2	**Used by clinical department/ward**	Emergency Services.
1.3	**Overview of functional requirements**	
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		

2.1	**Technical characteristics (specific to this type of device)**	1. X-ray should be possible through the splints (Radio-tranparency); 2. Inflator tubes' extension with dosing damp makes dosing easy and quick after inflation; 3. Fixing of splint is by zipper or belt; 4. Distal end left open to expose toes; 5. Should be washable and reusable;
2.3	**Settings**	Fixing of splint is by zipper or belt.
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Set of 6 adult sizes with carrying case: 1. Hand & Wrist. 2. Half arm. 3. Full arm. 4. Foot and ankle. 5. Half leg. 6. Full leg.
3.2	**Weight (lbs, kg)**	Light
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	Inflatory tubes' extension.
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
5.4	**Others**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Should be washable and reusable
6.3	**Others**	Should be washable and reusable.
7. STANDARDS AND SAFETY		

7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	NA
8.4	**Others**	NA
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	NA
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	NA
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 43

GAUZE CUTTER	
Definition	NA
GENERAL	
1. USE	

1.1	**Clinical purpose**	To cut gauze lengths for preparing bandages.
1.2	**Used by clinical department/ward**	All
1.4	**Overview of functional requirements**	
	TECHNICAL	
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Scissors with thermoplastic handle and steel blade to cut clothes like materials; should be corrosion free.
2.3	**Settings**	NA
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length: 18cm.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		

7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 44

ARTERY FORCEPS		
Definition		NA
GENERAL		
1. USE		
1.1	**Clinical purpose**	These are a handheld, hinged instrument used for grasping and holding objects.

1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Standard instrument in stainless steel length 14 cm; corrosion free.
2.2	**Settings**	NA
2.3	**User's interface**	NA
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length 14 cm.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		

7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 45

MAGILL'S FORCEP	

Definition		A hand-held instrument used for grasping a tube [e.g., a catheter or an endotracheal (ET) tube] for its insertion and/or extraction into/from the airways, or for grasping obstructive objects for their removal from the airways. Commonly known as a Magill's forceps, it typically has a scissors-like design with ring handles and is made of high-grade stainless steel. It is available in various sizes and the working end will typically have grasping blades that have small ringed loops or S-shaped distal working ends. The blades are serrated to provide extra grip. It is typically used by emergency medical services (EMS). This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Angled forceps used to guide a tracheal tube into the larynx or a nasogastric tube into the esophagus under direct vision. It is also used to place pharyngeal packs and remove foreign bodies.
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Standard instrument in stainless steel; corrosion free.
2.2	**Settings**	NA
2.3	**User's interface**	NA
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**Battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA

6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 46

CERVICAL COLLAR

Definition		A padded device that is worn around the neck and used to support or immobilize the cervical spine to treat deformities, fractures, sprains, or strains (often to treat whiplash resulting from an automobile accident). This device will provide support to the head while limiting movement of the cervical vertebrae. It is available in a variety of sizes. This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Used to support or immobilize the cervical spine to treat deformities, fractures, sprains, or strains
1.2	**Used by clinical department/ward**	Trauma care; musculo-skeletal support
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Should be adjustable to 4 different sizes. Should be be rigid and not padded. 2. Should be pre-melded chin support, locking dips and rear ventilation panel, enlarged trachea opening. 3. Should be high-density polyethylene and foam padding with one piece design enables efficient storage where space is limited. 4. Should be X-ray lucent and easy to clean and disinfect.
2.3	**Settings**	Size adjustment.
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	As light as possible.
3.3	**Coniguration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	NA
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		

5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. NOTES		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 47

FIRST AID BAG		
definition		A portable, strong, hand-held container of plastic, fabric, or leather designed for transportation of small medical devices, instruments, and/or supplies. It typically includes attachments for easy handling and mechanisms for closure and/or locking; it may have the internal space appropriately configured according to the intended contents (e.g., stethoscopes, sphygmomanometers, drugs). It may be dedicated for a variety of purposes and/or users, including specialization for physicians, nurses, first aid providers, or paramedics. This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Used for transportation of small medical devices, instruments, and/or supplies.
1.2	**Used by clinical department/ward**	Emergency / First Aid.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Bag with partitions for vials transport. Indispensable implement to protect and identify any kind of vials. Made with nylon, it should be provided with 2 compartments, of which one sub-divided in to 3 partitions and one divided in 2. Inside elastic band to ix the vials and accommodation for identification labels. Dimensions: 30x18 x 15 cm or Pre-packed kits as convenient as long as it contains the specified first aid items.
2.3	**Settings**	NA
2.4	**User's interface**	NA
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Dimensions: 30x18 x 15 cm or Pre-packed kits as convenient as long as it contains the specified first aid items.
3.2	**Weight (lbs, kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		

4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001:2008 supplier.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	NA
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA

11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 48

SPINAL BOARD		
definition		A lat, stiff device intended to be placed under a patient (the patient is usually strapped to this device) to ensure spinal immobilization when a spinal injury is suspected. This device is often used in combination with a head/neck immobilizing device that is also typically fixed or strapped to it. It is typically used after serious accidents and for transport of the patient on a stretcher. It is typically made of x-ray translucent/non-ferromagnetically active materials that allow x-ray and magnetic resonance imaging (MRI) and comes in various sizes. This is a reusable device.
GENERAL		
1. USE		
1.1	**Clinical purpose**	It is placed under a patient to ensure spinal immobilization when a spinal injury is suspected.
1.2	**Used by clinical department/ward**	Emergency/Trauma Care
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Should be in plastic material of high strength and waterproof. 2. It should be supplied with 3 belts with rapid unhooking buckle in all three belts. 3. Should have radio transparency to make radiologic examinations/x-rays without removing the patient from the board.
2.3	**Settings**	NA
2.4	**User's interface**	Manual
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Length: 180 - 190cm; Breadth: 40 - 48cm ; Height: 5 to 7cm.
3.2	**Weight (lbs, kg)**	Weight: <6 kg; load bearing capacity: upto 150 kgs.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA

4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001; FDA/CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
10.4	**Others**	
11. NOTES		

11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 49

# DOUBLE HEAD IMMOBILIZERS		
Definition		A rigid or non-rigid device, usually made of fabric and/or plastic materials, used to temporarily render the head/neck of a patient immovable to ensure immobilization when a head and/or spinal injury is suspected. It is used in conjunction with serious accidents and for transport of the patient on a stretcher and possibly in conjunction with a spinal board to which this device and the patient are strapped. It is typically made of x-ray translucent/non- ferromagnetic ally active materials that allow x-ray and magnetic resonance imaging (MRI) and comes in various sizes. This is a reusable device after appropriate cleaning.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Used to temporarily render the head/neck of a patient immovable to ensure immobilization when a head and/or spinal injury is suspected.
1.2	**Used by clinical department/ward**	Emergency
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Head Immobilizer should be mountable and separable from the scoop stretcher. 2. Should be of standard side. 3. Should be with padded belts for the fixing. 4. It should be covered by a liquid proof and bacterial proof material.
2.2	**Settings**	NA
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Standard
3.2	**Weight (lbs, kg)**	Standard
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	NA
4.2	**battery operated**	NA

4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	ISO 9001; FDA/CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform safety and operation checks before handover.
8.2	**Requirements for sign-of**	
8.3	**Training of staff (medical, paramedical, technicians)**	
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA

10.4	**Others**	
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	NA
11.2	**Recommendations or warnings**	NA

Item Sl. No. 50

FEOTAL DOPPLER		
definition		A portable, hand-held, battery-powered device assembly consisting of a measuring and display unit and an attached probe or interchangeable probes designed to noninvasively detect foetal heart beats using ultrasound/Doppler technology. The heart beats are typically conveyed audibly via the measuring/ display unit and attached probe which is applied to the surface of the pregnant woman's abdomen. The device aids in determining foetal viability.
GENERAL		
1. USE		
1.1	**Clinical purpose**	To noninvasively detect foetal heart beats from the surface of the pregnant women's abdomen.
1.2	**Used by clinical department/ward**	Emergency/gynae deptt.
1.3	**Overview of functional requirements**	
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Water proof probes of 2MHz, 3MHz and 5 MHz frequency, Ultra sound Intensity ‹10mw/cm2, Auto Shut Of Facility to save Battery Power, Built-in Speaker, Volume Control Facility and Audio Output for Ear Phone, Heart Rate Range should be from 50 to 120 bpm with accuracy of + /-2%, Should be Water Proof Body, Should have Facility for FHR Data transfer to PC.
2.2	**Settings**	Setting of ultrasound intensity.
2.3	**User's interface**	LCD display
2.4	**Software and/or standard of communication(where ever required)**	Inbuilt
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Handheld
3.2	**Weight (lbs, kg)**	500 gm
3.3	**Configuration**	
3.4	**Noise (in dbA),**	Noise: <60dBA
3.5	**heat dissipation**	
3.6	**Mobility, portability**	yes

4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	AA batteries
4.2	**battery operated**	AA battery type; Minimum Battery Time of 300 minutes.
4.3	**Tolerance (to variations, shutdowns)**	± 10% of input AC.
4.4	**Protection**	Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.
4.5	**Power consumption**	
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories (mandatory, standard, optional)**	Doppler probe, battery charger.
5.2	**Spare parts (main ones)**	
5.3	**Consumables / reagents (open, closed system)**	AA battery,
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ..)**	FDA or CE or UL approved product. Type B or BF,
7.2	**Performance and safety standards (specific to the device type)**	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).
7.3	**Local and/or international**	Manufacturer should be ISO 13485 certified
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	Three years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Local clinical staff to affirm completion of installation.
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User, technical and maintenance manuals to be supplied in english language. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	AMC/CAMC Details to be provided
11.2	**Recommendations or warnings**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

Item Sl. No. 51

# PORTABLE HAND HELD GLUCOMETER		
Definition		A collection of devices including a portable, battery-powered, semi-automated or automated instrument (self-testing meter), reagents, test strips and/or other associated materials and accessories [e.g., control solutions, lancets] intended to be used together for testing, either at the point-of-care or in self-testing by a layperson, for the quantitative measurement of glucose and/or ketones in a whole blood clinical specimen. Measured glucose values are used to manage blood glucose levels, primarily by persons with diabetes mellitus.
GENERAL		
1. USE		
1.1	**Clinical purpose**	It intended to be used together for testing, either at the point-of-care or in self-testing by a layperson, for the quantitative measurement of glucose and/or ketones in a whole blood clinical specimen.
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Should have reading range/linearity from 20 to 600 mg/dl; Should have a maximum reading time of less than 10 seconds; Should use a minimum blood sample less than 1.5µl; Should have a minimum memory of 50 tests;
2.2	**Settings**	Should have easy code entry technique and display of sugar in Mg/dl and NOT in mili moles.
2.3	**User's interface**	LCD display
2.4	**Software and/or standard of communication(where ever required)**	Inbuilt; .Should have facility to ensure accuracy of measurements.
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Handheld device.
3.2	**Weight (lbs, kg)**	Handheld device.
3.3	**Configuration**	Should use electrochemical technology.

3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	Handheld.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	Battery powered.
4.2	**battery operated**	3-volt lithium coin cell battery or 2 x (AAA) Alkaline Batteries.
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spare parts**	1 year
5.2	**Consumables / reagents (open, closed system)**	Glucose strips(able to use capillary blood samples) with availabilty in local market.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	**ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS**	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**	FDA/CE
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-of**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	Required.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	Should require no routine maintenance.
9.3	**Service contract clauses, including prices**	Should have life time replacement ofer.
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Required
10.3	**Recommendations for maintenance**	to be provided during installation.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Should provide complete contact details of sales and service departments.
11.2	**Recommendations or warnings**	

Item Sl. No. 52

# NEBULIZER (ELECTRIC)		
definition		An assembly of devices designed to generate warmed aerosolized medication/ fluids (finely dispersed airborne droplets in a liquid phase) intended to be inhaled by a patient with a respiratory disorder [e.g., chronic obstructive pulmonary disease (COPD), cystic fibrosis (CF)]. It will typically consist of an electrically-powered generator, a reservoir, a heating element, and a hand-held nebulizing chamber where the nebulization of the medicine usually takes place.
GENERAL		
1. USE		
1.1	**Clinical purpose**	Designed to generate warmed aerosolized medication/fluids (finely dispersed airborne droplets in a liquid phase) intended to be inhaled by a patient with a respiratory disorder.
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Medicine cup capacity of minimum 5 ml.
2.2	**Settings**	Manual
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Should be compact.
3.2	**Weight (lbs, kg)**	<2kg.
3.3	**Configuration**	
3.4	**Noise (in dbA), heat dissipation**	<60dBA
3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	220 V AC + 10%, 50Hz power supply.

4.2	**battery operated**	Rechargeable battery (4.8 V nominal output).
4.3	**Tolerance (to variations, shutdowns)**	± 10% of input AC.
4.4	**Protection**	Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines
4.5	**Power consumption**	2Watt (nebulizing); 6.5 Watt (charging)
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories & Spares**	With necessary accessories- nebulization mask, tubing for nebulizer; cable cord
5.3	**Consumables / reagents (open, closed system)**	Aerosol/medicinal solutions
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. STANDARDS AND SAFETY		
7.1	**Certificates (pre-market, sanitary,)**	FDA/ CE ; ISO 27427-2010; IEC-60601-1-SER--Ed 1.0 - 2011
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule
9.3	**Service contract clauses, including prices**	Local clinical staff to affirm completion of installation
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided.

11.2	**Recommendations or warnings**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

Item Sl. No. 53

BABY HYPOTHERMIA WRAP KIT		
GENERAL		
1. USE		
1.1	**Clinical purpose**	Low-birth-weight (LBW) premature infants are born without the adaptive mechanisms needed for survival outside of the womb. These fragile infants require thermoprotective interventions which is usually provided by hypothermia wrap kit.
1.2	**Used by clinical department/ward**	NICU/SNCU/Emergency
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	Light weight, AC/DC power driven heat generating kit with straps for holding the baby in position. Includes necessary protection in design for avoiding overheating. Should have temperature regulator.
2.3	**Settings**	Temperature range: from 35 to 38°C, accuracy +/- 0.5°C
2.4	**User's interface**	Safety alarms for high and low temperature DESIRABLE non-mandatory.
2.5	**Software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Just as to wrap the baby.
3.2	**Weight (lbs, kg)**	Minimum possible.
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	NA
3.5	**Mobility, portability**	yes
3.6	**Others**	
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	220 to 240V, 50 Hz.
4.2	**battery operated**	1 set of batteries (9 V type 6SR61) if DC compatible.
4.3	**Tolerance (to variations, shutdowns)**	± 10% of input AC.
4.4	**Protection**	Electrical protection by resettable overcurrent breakers or replaceable fuses fitted in both live and neutral lines.
4.5	**Power consumption**	50 W
4.6	**Other energy supplies**	Can run on 12 - 24 volt battery or 110 - 240 volt AC.
5. ACCESSORIES, SPARE PARTS, Consumables		
5.1	**Accessories & Spares**	1 heating pad; 1 power cord main supply of length approximately 1m.
5.3	**Consumables / reagents (open, closed system)**	NA
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		

6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Washable; could be cleaned using alcohol based disinfectant.
6.3	**Others**	
7. STANDARDS AND SAFETY		
7.1	**Certifications**	FDA/CE/IEC 60601-1-2-2011 Part 1-2: General requirements for basic safety and essential performance.
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**Requirements for sign-of**	Certificate of inspection from the factory.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	1 years
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Local clinical staff to affirm completion of installation.
9.4	**Others**	
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided.
11.2	**Recommendations or warnings**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

Item Sl. No. 54

# TRANSPORT VENTILATOR	
Definition	An electrically-powered device designed to provide automated, alveolar ventilatory support for patients during inter hospital or intrahospital transport, and in emergency situations. It is typically a compact,

		lightweight, rugged device with internal batteries to power it during patient transport. It typically provides mandatory breaths at pre-set intervals (control mode), not allowing the patient to breathe spontaneously; operation in assist/control and/or synchronized intermittent mandatory ventilation (SIMV) modes is available in some types. It usually includes an airway pressure monitor and low and high pressure alarms; it may be used in ambulances, and in field hospitals.
GENERAL		
1. USE		
1.1	**Clinical purpose**	To provide automated, alveolar ventilatory support for patients during interhospital or intrahospital transport, and in emergency situations. It is typically a compact, lightweight, rugged device with internal batteries to power it during patient transport.
1.2	**Used by clinical department/ward**	Emergency /Critical Care.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Modes of ventilation: a) Volume controlled. b) Pressure controlled. c) Pressure support. d) Synchronized intermittent mandatory ventilation (SIMV). e) Assist/control mode. f) PEEP. 2. Alarms required: FiO2, minute volume, pressure, PEEP, apnoea, occlusion, high respiration rate, disconnection. 3. System alarms required: power failure, gas disconnection, low battery, vent inoperative, self diagnostics. 4. If alarm silencing feature is incorporated, it must be temporary and clearly displayed when activated. 5. Air and externally supplied oxygen mixture ratios fully controllable. 6. Inlet gas supply (O2) pressure range at least 35 to 65 psi. 7. Medical air compressor integral to unit, with inlet filter.
		8. Visual and audible alarms Accessories and tubing should be supplied for adult, pediatric & neo-natal size requirements.
2.3	**Settings**	1. The following variables should be controllable by the operator: a) Tidal volume up to 100 ml. b) Pressure (inspiratory) up to 80 cm H2O. c) Volume (inspiratory) up to 120 l/min. d) Respiratory rate: up to 60 breaths per minute. e) SIMV Respiratory Rate: up to 40 breaths per minute. f) PEEP up to 20 cm H2O. g) Pressure support up to 45 cm H2O. h) FiO2 between 21 to 100 %. i) Inspiratory and expiratory times up to at least 2 sec and 8 sec respectively.
2.4	**User's interface**	Manual and Automatic.
2.5	**Software and/or standard of communication(where ever required)**	Inbuilt
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	<5kgs
3.3	**Configuration**	NA
3.4	**Noise (in dbA), heat dissipation**	<60dB; Alarm > 65dB

3.5	**Mobility, portability**	yes
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power Requirements**	220 to 240V, 50 Hz.
4.2	**battery operated**	With at least 6 hours battery backup.
4.3	**Tolerance (to variations, shutdowns)**	± 10% of input.
4.4	**Protection**	OVP, earth leakage protection.
4.5	**Power consumption**	<140Watt
4.6	**Other energy supplies**	Gas/battery driven.
5	**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
5.1	**Accessories & Spares**	Full face mask, breathing circuit, carry bag, filters.
5.3	**Consumables / reagents (open, closed system)**	Battery, leakage adapter.
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Cleanable with alcohol or chlorine wipes.
7. STANDARDS AND SAFETY		
7.1	**Certifications**	FDA / CE ; 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 15001-2010 (Anesthetic & respiratory equipment- compatibility with oxygen).
8. TRAINING AND INSTALLATION		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Electrical sockets; Oxygen supply.
8.2	**Requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years.
9.2	**Maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**Service contract clauses, including prices**	Warranty of three year with free servicing (min. 3) during warranty.
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached.
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	User and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance. List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English.
11. NOTES		
11.1	**Service Support Contact details (Hierchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided.
11.2	**Recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 55

Drug Vending Machine		
GENERAL		
1	USE	
1.1	**Clinical purpose**	Drug Vending Machine is drug storage and dispensing cabinet installed at the point of care
1.2	**Used by clinical department/ward**	Outpatient Department of Public Health facilities (sub-centres in rural areas) where there is no or limited internet connetivity
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	

2.1	**Technical characteristics (specific to this type of device)**	1. energy saving setting 2. Intelligent device based on internet/GPRS for vending drugs from a remote location 3. MDB protocol compliant 4. Powder coated steel body 5. double pane glass door 6. Compatible with external IT based command system 7. Dispensing coil width suitable for dispensing drug strips/plasti syrup bottles 8. Capacity adequate for a minimum of 30 strips per coil for tablets and minimum of 10 plastic bottles per coil tablets and minimum of 10 plastic bottles per coil for syrups 9. Minimum 6 coils per tray for tablets x 7 tray minimum 10. Minimum 5 coils per tray for 10 - 20 ml plastic syrup bottles x 1 tray 11. vend sensor 12. Interlock door construction 13. Motor tested for error free performance 14. Steel tray for solidity and strength 15. Sliding and tilting trays for easy refiling of products (Medicine) 16. Multiple size helix coils 17 compatible with GSM based external command to machine with bluetooth based command transmission for vending medicines 18. Non-dependent on internet
2.2	**User's interface**	Automatic
2.3	**Software and/or standard of communication(where ever required)**	*In built software*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Maximum 200cms
3.3	**Configuration**	Maximum 100cms
3.4	**Noise (in dBA)**	Maximum 100cms
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	NA
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	Input voltage 220VAC, 50Hz
4.2	**Battery operated**	Opperational on battery 12V (Inverter)
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	Voltage corrector/stabliser to allow operation at 10%
4.5	**Power consumption**	Maximum 2 amp, 250 Watts
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	NA

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	1. Operating Condition: Capable of operating continously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuosly in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable using alcohol and chlorine wipes
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	Manufacturers/ suppliers should have experience of supplying and installing vending machine for atleast 3 years with more than 100 machines/years
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	Availability of 5amp/15amp electrical sockets
8.2	**Requirements for sign-off**	Supplier to perform installation safety and operation checks before handover
8.3	**Training of staff (medical, paramedical, technicians)**	1. Training of users in operation and basic maintainance should be provided 2. Advanced maintainance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	NA
9.2	**Maintenance tasks**	1. Maintainance and manual detailing 2. Complete maintainance schedule
9.3	**Service contract clauses, including prices**	1. The spare, accessories & consumables price list required for maintainance and repairs in future after guarentee/ warranty period should be attached 2. Free servicing during warranty period
10	DOCUMENTATION	

10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy) of: 1. User, technical, maintainance and service manuals to be supplied along with machine diagrams 2. List of equipment and procedures required for routine maintainance 3. Certifiate of caliberation from the manufacturer
11	NOTES	
11	**Service Support Contact details (Hierchy Wise; including a toll free/landline number)**	1. contact details of manufacturer, supplier and local service agent to be provided 2. Any contract (AMC/CMC/add hoc) to be declared by the manufacturer
11	**Recommendations or warnings**	All precautions to be adequately dosplayed

Group: Neonatal and Paediatric Care ICUs

Item Sl. No. 56

DIRECT OPHTHALMOSCOPE		
GENERAL		
1. Use		
1.1	**clinical purpose**	Direct ophthalmoscope is a hand-held and battery powered device containing illumination and viewing optics to examine the cornea, aqueous, lens, vitreous, and the retina of the eye.
1.2	**Used by clinical department/ ward**	NICU & PICU
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) Should have on/of button for illumination and battery operated; 2) Should have rotating knob to control the intensity of the ophthalmoscope and should be used with filters that eliminate UV radiation (<400nm) and, whenever possible, filters that eliminate short-wavelength blue light (<420nm); 3) Should have the range of +20 to -20 in single deportee steps to ensure easy examination of all ocular structures; 4) Should have apertures shape: Large spot, small spot, slit, central net, and red free;
2.2	**User's interface**	Manual
2.3	**software and/or standard of communication (where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Max: 50mm x 50mm x 250mm.
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	NA
3.5	**heat dissipation**	NA

3.6	**mobility, portability**	Handheld device
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**power requirements**	NA
4.2	**Battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
Technical Specification NEONATAL & PEDIARIC CARE ICUs 1		
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional); spare parts (main ones); consumables/reagents (open, closed system)**	1) Replacement bulb/illumination source -2 Nos. 2) Storage case (rigid and steady).
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	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.
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1) Should have IEC 60601-1/IEC 60601-1-2/CE (EU) certificate; 2) Optical radiation hazards with ophthalmoscopes: ISO 10942 or ISO 15004; 3) Manufacturer/supplier should have ISO 13485 certificate for quality standard;
8. Training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer.
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years including bulb.
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**service contract clauses, including prices**	1) The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached; 2) Free servicing (min. 2/year) during warranty period;
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy) of: 1) User, technical, maintenance and service manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11.1	**service support contact details (hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed .

Item Sl. No. 57

MOBILE X-RAY		
GENERAL		
1 USE		
1.1	**clinical purpose**	General-purpose mobile diagnostic x-ray system used in a variety of routine x-ray imaging applications.
1.2	**Used by clinical department/ ward**	Radiology services in NICU & PICU
TECHNICAL		
2 TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) High Frequency generator of 40KHz or more compatible with conventional and computerized radiography. 2) Must have a digital display of mAs and kV, and an electronic timer. 3) Ergonomically designed unit with total soft touch switches for various operations. 4) Self Diagnostic Program with indicators for earthing fault error, KV error or filament error. 5) kV range at least 40kV to 125kV, digitally displayed mAs range at least 0.5 to 200 mAs or more. 6) Exposure time range at least 1 ms to 5s. 7) Automatic exposure control facility required. 8) Tube power rating at least 20 kW. 9) Adjustable multileaf collimator, rotatable ±90 deg with patient centering light. 10) Must be supplied with protective dust cover at least for control panel. 11) Should be compatible with various basinet size in NICU & PICU. 12) The generator should have microprocessor/micro-controller based electric overload system.

2.2	**settings**	1) KV increase & decrease switches. 2) mAs increase & decrease switches. 3) Machine On/Off Switch. 4) Collimator lamp On/Off switch. 5) X-rays ON indicator should available. 6) Foot switch should available for trigger X-rays.
2.3	**User's interface**	The exposure release switch should be detachable, with a cord of at least 5 meters long.
Technical Specification NEONATAL & PEDIARIC CARE ICUs 3		
2.4	**software and/or standard of communication**	in built;
3 PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Unit should have max. 7 foot in height, 2 foot in width and 5 foot in length.
3.2	**Weight (lbs, kg)**	Maximum 500 Kg.
3.3	**configuration**	1) The unit must have an effective braking system for parking, transport and emergency braking. 2) The tube stand must be fully counterbalanced for rotation in all directions. 3) It must have an articulated arm for imaging with any patient position. 4) All cables should be concealed in the arm system.
3.4	**Noise (in Dba)**	<60dB;
3.5	**heat dissipation**	Should maintain normal temp and the heat disbursed through a exhaust fan.
3.6	**mobility, portability**	1) When motor or battery is non-functional, free movement by pushing must be possible with 360 degree rotation and manual locking for various movements. 2) The unit must have cassette storage facility. 3) Motorized movement capable of ascending slope of up to 7 deg from horizontal. 4) Unit base wheels must be easily accessible for cleaning. 5) Whole unit moved by battery powered motor or pushed by operator to required department.
4 ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	Input: 220VAC ± 10%, 50 Hz.
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	Resettable over-current breaker to be fitted on both live and neutral supply lines.
4.4	**protection**	NA
4.5	**power consumption**	Voltage corrector / stabilizer to allow operation at ± 10% of local rated voltage.
4.6	**Other energy supplies**	NA
5 ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional)**	To be supplied with 2 Nos. adult size protective lead apron and 1 No. child/ neonate size protective lead shield.
5.2	**spare parts (main ones)**	Control cable, transformer, exposure switch.
5.3	**consumables / reagents (open, closed system)**	X-ray films dealt in different tender.

5.4	**Others**	Radiation hazard warning signs to be supplied with unit.
6 ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	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.
7 STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1) Electrical safety conforms to standards for electrical safety IEC-60601, Class I. 2) Radiation safety to be certified to IAEA standards and AERB type approval (national standards). 3) Shall meet IEC 60601-1, IEC 60601-1-2, IEC 60601-1-3 and IEC 60601-2-28 (X-ray Tube) standard requirement. 4) Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Dosemeter should be available with the operator. 2) Lead gown to be supplier for the operator.
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover. 2) Local clinical staff to affirm completion of installation
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users in operation and basic maintenance shall be provided. 2) Training of users in radiation safety shall be provided.
8.4	**Others**	Advanced maintenance tasks required shall be documented.
9 WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years;
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Free servicing (min. 3/year) during warranty period.
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached.
10 DOCUMENTATION		
10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical, maintenance and service manuals along with machine diagrams. 2) Advanced maintenance tasks documentation.
10	**Other accompanying documents**	1) Certificate of calibration and inspection to be provided. 2) List to be provided of important spares and accessories, with their part numbers and cost.
10	**recommendations for maintenance**	List to be provided of equipment and procedures required for local calibration and routine maintenance.
10	**Others**	Contact details of manufacturer, supplier and local service agent to be provided.
11 NOTES		
11	**Other information**	Any Contract (AMC/CMC/add-hoc) to be declared by the

		manufacturer.
11	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 58

BILIRUBINOMETER		
GENERAL		
1 USE		
1.1	**clinical purpose**	Determining the concentration of bilirubin in the blood or other clinical specimen, most commonly to rapidly assess hyperbilirubinemia in neonates.
1.2	**Used by clinical department/ ward**	NICU/PICU
TECHNICAL		
2 TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) Sample volume of < 100 µL required, automatic calibration facility. 2) Total bilirubin concentration measurable (at least) in range of 0 to 30 mg/dl. 3) Time for total concentration measurement: ≤ 5 seconds. 4) Should have filters: 455 and 575 nm (± 2%). 5) Should have error rate less than 5%. 6) Should have resolution- 0.1 mg/dl. 7) Automatic correction for Hemoglobin. 8) Measuring cell: Direct Hematocrit capillary readings. 9) heparinized hematocrit glass capillary.
2.2	**settings**	Method to recalibrate / save current calibration, set sample size.
2.3	**User's interface**	Manual interface. Backlit display with easy viewing in all ambient light levels.
2.4	**software and/or standard of communication(where ever required)**	Inbuilt software. Convenient and quick USB interface.
3 PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Approx. 110 x 150 x 200 mm.
3.2	**Weight (lbs, kg)**	5 kg - 15 kgs
3.3	**configuration**	(Ex : Compact, modular, to be fixed to walls, ceiling, etc).
3.4	**Noise (in dBa)**	<60dB
3.5	**heat dissipation**	Heat Dissipation: Should maintain nominal temp and the heat should be disbursed through an cooling mechanism.
3.6	**mobility, portability**	Easy and safe transport to be possible by hand, stable when tabletop mounted;
4 ENERGY SOURCE (electricity, UPS, solar, Gas, Water, CO2 ....)		
4.1	**power requirements**	220VAC ± 10%, 50 Hz;
4.2	**Battery operated**	Yes (optional)
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 10% of local rated voltage.
4.4	**protection**	NA
4.5	**power consumption**	NA
4.6	**Other energy supplies**	Length of mains power cable should be at least 3 meters.

5 ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional)**	Hard and splash-proof case to be supplied.
5.2	**spare parts (main ones)**	1) Spare/replaceable fuses - 2 sets. 2) Reagents and capillary tubes sufficient for minimum 100 tests. 3) Reagents and consumables per test should be declared.
5.3	**consumables / reagents (open, closed system)**	1) Capillary tubes, haemoluorometric reagents (e.g., aqueous cyanide salt with stabilizers, if applicable). 2) Price of all Consumables to be mentioned.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6 ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	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.
7 STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1) Should be CE (EU)/FDA (US) approved product. 2) Manufacturer / supplier should have ISO 13485 certificate for quality standard. 3) Should have IEC 61010 certificate.
8 TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Availability of 5Amps electrical socket.
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover. 2) Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance. 2) Advanced maintenance tasks required shall be documented.
9 WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing. 2) Complete maintenance schedule.
9.3	**service contract clauses, including prices**	1) The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached. 2) Free servicing (min. 2/year) during warranty period.
10 DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Certificate of calibration and inspection.

10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost.
11 NOTES		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided. Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer.

Item Sl. No. 59

ECG UNIT		
GENERAL		
1. USE		
1.1	**clinical purpose**	Continuously detect, measure, and display a patient's electrocardiogram (ECG) through leads and sensors attached to the patient.
1.2	**Used by clinical department/ ward**	All
1.3	**Overview of functional requirements**	Continuous display of patient ECG and heart rate on screen. Allows display of single, 5 lead ECG or simultaneous display of at least 5 waves selected from up to 12 points. Operator can set audiovisual alarm levels for low or high heart rate. Operates from mains voltage or from internal rechargeable battery. Patient connectors that are sterilisable and reusable are preferred, though reusable cables that attach to disposable connection patches are also acceptable. Hard copy printout of traces will be required.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1. Heart rate measurement range to be at least 30 to 250 bpm, with accuracy better than ± 5 bpm. 2. Heart rate trend display of at least previous 24 hours. 3. Arrhythmia detection facility required; minimum gradation of 1 bpm. 4. Heart rate measurement range to be at least 30 to 250 bpm, with accuracy better than ± 5 bpm.
2.2	**settings**	Audiovisual alarms required: high and low heart rate (operator variable settings), cardiac arrhythmia, sensor/wire disconnected, low battery.
2.3	**User's interface**	Manual
2.4	**software and/or standard of communication**	In built
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	less than 5 kgs

3.3	**configuration**	Case is to be hard and splash proof. Display must allow easy viewing in all ambient light levels. Supplied in protective case for clean storage and safe transport.
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3.4	**Noise (in dBa)**	<50 dB
3.5	**heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a exhaust cooling fan.
3.6	**mobility, portability**	Supplied in protective case for clean storage and safe transport.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220 to 240V, 50 Hz
4.2	**Battery operated**	Battery powered, silence able alarm for power failure. Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit. Internal, replaceable, rechargeable battery allows operation for at least one hour in the event of power failure.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/stabilizer to allow operation at ± 30% of local rated voltage.
4.4	**protection**	Electrical protection provided by fuses in both live and neutral supply lines.
4.5	**power consumption**	
4.6	**Other energy supplies**	Mains cable to be at least 3m length.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional)**	12 lead ECG cable. 5 lead ECG cable (if option offered). 100 sets of ECG connection electrodes (if disposable type). 5 sets of ECG connection electrodes (if reusable type).
5.2	**spare parts (main ones)**	Two sets of spare fuses (if non-resettable fuses used)
5.3	**consumables/reagents (open, closed system)**	5 tubes electrode gel (if required)
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	The case is to be cleanable with alcohol or chlorine wipes.
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	Should be FDA/CE approved product; Manufacturer/supplier should have ISO 13485 certificate for quality standard. Electrical safety conforms to standards for electrical safety IEC-60601-1. Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility) and IEC 60601-2-25 (essential performance of electrocardiographs).
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Availability of 5 amp/15 amp. Electrical socket.
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.

8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 year
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Warranty of one year with free servicing (min. 3) during warranty.
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached.
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance. List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided.
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English.
11. NOTES		
11.1	**Other information**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer.
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 60

LOW COST GLUCOMETER		
GENERAL		
1. USE		
1.1	**clinical purpose**	It intended to be used together for testing, either at the point-of-care or in self-testing by a layperson, for the quantitative measurement of glucose and/ or ketones in a whole blood clinical specimen.
1.2	**Used by clinical department/ ward**	All
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	Should have reading range/linearity from 30 to 600 mg/dl; Should have a maximum reading time of less than 10 seconds; Should use a minimum blood sample less than 1.5µl; Should have a minimum memory of 50 tests; accuracy +/-10% and reproducibility +/-5%; Packing of strips should be such that there are not more than 50 strips/pack. The strips should be readily available throughout the country;
2.2	**settings**	Should have automatic code detection facility , display of sugar in Mg/dl and NOT in mili moles.
2.3	**User's interface**	LCD display

2.4	**software and/or standard of communication (where ever required)**	Inbuilt; .Should have facility to ensure accuracy of measurements.
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	Handheld device
3.2	**Weight (lbs, kg)**	Handheld device
3.3	**configuration**	Electrochemical/colorimetric/color sensing technology.
3.4	**Noise (in dBa), heat dissipation**	NA
3.5	**mobility, portability**	Handheld
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**power requirements**	Battery powered
4.2	**Battery operated**	3-volt lithium coin cell battery or 2 x (AAA) Alkaline Batteries.
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
4.6	**Other energy supplies**	NA
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories & spare parts**	NA
5.2	**consumables/reagents (open, closed system)**	Glucose strips(able to use capillary blood samples) with availability in local market, shelf life of strips should be 12 months, the cost of strips for the next five years should be declared (for cost comparison)- with use of two strips/ day.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	The unit should be cleanable with alcohol.
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	US FDA or CE (EU) and BIS or ISO 13485 certified.
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	Required
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	2 years; shelf life of minimum 12 months for strips from the date of manufacture; strips should work minimum 3 months from opening of pack.
9.2	**maintenance tasks**	Should require no routine maintenance.

9.3	**service contract clauses, including prices**	Should have life time replacement offer.
10. DOCUMENTATION		
10.1	**Operating manuals, service manuals, other manuals**	Required
10.3	**recommendations for maintenance**	To Be provided during installation
11. NOTES		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Should provide complete contact details of sales and service departments.
11.2	**recommendations or warnings**	

Item Sl. No. 61

BLOOD GAS ANALYZER		
GENERAL		
1. USE		
1.1	**clinical purpose**	Determining the concentration of bilirubin in the blood or other clinical specimen, most commonly to rapidly assess hyperbilirubinemia in neonates.
1.2	**clinical department/ward**	NICU/PICU
TECHNICAL		
2. Technical characteristics		
2.1	**technical characteristics**	1) Should measure analyze pH and minimum measuring range 6.8 - 7.8 pH Units with resolution of 0.01; 2) Should measure analyze PO2 and minimum measuring range 0-760mmHg; 3) Should measure analyze pCO2 and minimum measuring range 5-100 mm Hg; 4) Should measure analyze Na+ and minimum measuring range 100-180mmol/L; 5) Should measure analyze K+ and minimum measuring range 1-10mmol/l; 6) Should measure analyze Ca++ and minimum measuring range 0.25-5.00mmol/l; 7) Should measure analyze Hct and minimum measuring range 15-70%; 8) Should calculate analyze tHb and minimum measuring range 3.0 -23g/dL; 9) Should have feature of data storage for minimum 50 samples results 10) Software includes printouts of Levey-Jenning charts for quality control requirements; 11) Should have disposable cartridges for 300 a minimum of 300 samples; no membrane maintenance or replacement is required; 14) External source of gas not required (not mandatory); 15) Analyzing time should have <120 seconds; 16) Should provide automatic error detection;
2.3	**settings**	Method to recalibrate/save current calibration, set sample size.
2.4	**User's interface**	Backlit display with easy viewing in all ambient light levels.

2.5	**software and/or standard of communication**	Electronic
3. PHYSICAL characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Max. 10 kgs excluding the cartridges
3.3	**configuration**	Should have compact size;
3.4	**Noise (in dBa)**	<60dB
3.5	**heat dissipation**	heat disbursed through a exhaust fan (if applicable).
3.6	**mobility, portability**	Easy and safe transport to be possible by hand, stable when tabletop mounted.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220VAC ± 10%, 50 Hz
4.2	**Battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/SMPS, stabilizer to allow operation at ± 10% of rated voltage, Electrical protection by resettable over-current breakers or replaceable fuses fitted in both live and neutral lines.
4.4	**protection**	Resettable over-current mains fuse to be incorporated;
4.5	**power consumption**	NA
4.6	**Other energy supplies**	Power cable to be at least 3mtr in length;
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional)**	Hard and splash-proof case to be supplied;
5.2	**spare parts (main ones)**	Two sets of spare/replaceable fuses, reagents and capillary tubes sufficient for 100 tests;
5.3	**consumables/reagents (open, closed system)**	1) Cartridges-combination of various tests; 2) External source of gas (if applicable);
5.4	**Others**	
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust ...)**	1) 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; 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%;
6.2	**User's care, cleaning, Disinfection & sterility issues**	The case is to be cleanable with alcohol or chlorine wipes
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1) FDA (US)/CE (EU) from authorized third party and BIS/ISO 13485 2) Should be IEC 61010 certificate from a notified agency
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 Amps/15Amps. electrical socket;
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover; 2) Local clinical staff to affirm completion of installation;

8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years;
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**service contract clauses, including prices**	1) The spare, accessories & consumables price list required for maintenance and repairs in future after guarantee/warranty period should be attached; 2) Warranty of three years with free servicing (min. 6) during warranty;
10. DOCUMENTATION		
10	**manuals**	Should provide 2 sets (hardcopy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11	**Other information**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11	**recommendations or Warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 62

TRANSILLUMINATOR COLD LIGHT SOURCE		
General		
1. Use		
1.1	**clinical purpose**	Clod light source is used for accessing tiny arteries and veins of the babies.
1.2	**Used by clinical department/ ward**	NICU and PICU
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) Should have light intensity controlled with smooth rotary potentiometer/ pressing button. 2) Should have output power 250 Watts (24 Volts)/ 150Watts (12 Volts). 3) Should have minimum dual control having 2 halogen/xenon/led lamps. 4) Should have SMPS based design ensures smooth working of light source within the voltage variation. 5) Should have fibre optic light cable 4.5mm - 10mm in diameter, 250cm- 300cm in length.
2.2	**User's interface**	NA

2.3	**software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	30cm H x 30cm W x 50cm ± 20 %
3.2	**Weight (lbs, kg)**	Upto 5kg
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	<60db
3.5	**heat dissipation**	Heat disbursed through a exhaust fan (if applicable).
3.6	**mobility, portability**	Hand held device
4. ENERGY SOURCE (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	220VAC ± 10%, 50Hz
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 10% of local rated voltage, Electrical protection by resettable over-current breakers or replaceable fuses fitted in both live and neutral lines.
4.4	**protection**	Resettable over-current mains fuse to be incorporated.
4.5	**power consumption**	Max. 250W
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional); spare parts (main ones); consumables / reagents (open, closed system)**	1) Mains 3m power cord 1 No. 2) Illumination spare lamp 2nos. 3) Consumables if any (proprietary/open) should be mentioned along with rates
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	The case is to be cleanable with alcohol or chlorine wipes.
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1) Should be CE approved product. 2) Manufacturer/supplier should have ISO 13485 certificate for quality standard. 3) Electrical safety conforms to standards for electrical safety IEC-60601-1, IEC 60601-1-2 and IEC 60601-2-18.
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Availability of 15 Amps. Electrical socket.
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover. 2) Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance. 2) Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years;
9.2	**maintenance tasks**	1) Maintenance manual detailing. 2) Complete maintenance schedule.

9.3	**service contract clauses, including prices**	1) The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached. 2) Free servicing (min. 2/year) during warranty period.
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Certificate of calibration and inspection.
10	**recommendations for maintenance**	List of important spares and accessories, with their part numbers and cost.
11. NOTES		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided. Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer.
11	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 63

CPAP		
GENERAL		
1. Use		
1.1	**clinical purpose**	Non invasive resp. support (CPAP) for Newborn infant
1.2	**Used by clinical department/ ward**	NICU and PICU
technical		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) Device should able to deliver CPAP of 1 to 10 cmH2O increments of 1cm, using a underwater bubble system. 2) The device should have a in-built air oxygen blender to deliver FiO2 21% to 100% (+/- 2 %) with an adjustable low in the range of 0 -15 L/min (+/- 0.5 L/min); 3) Should have a heated wire servo controlled humidifier with display temp. near patient end of the circuit; to be supplied with 2 reusable infant water chamber; 4) Should be supplied with 2 reusable heated wire silicone tubing circuit for infant/Newborn; 5) Should be able to deliver CPAP using available patient interfaces nasal prongs/nasopharyngeal prongs; 6) For devices based on underwater bubble systems the water chamber should be reusable; to be supplied with 2 reusable water chamber;

		7) Should be provided pressure release valve at 15cmH2O to 17cmH2O;
2.2	**User's interface**	For a low driving system a pressure display is required Audio visual alarm for low pressure, high pressure, power failure, low O2,
2.3	**software and/or standard of communication(where ever required)**	NA
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	<8kgs
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	<60dB; Alarm > 65dB
3.5	**heat dissipation**	Yes
3.6	**mobility, portability**	Portable
4. ENERGY SOURCE (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	220VAC, 50 Hz
4.2	**Battery operated**	with at-least 6 hours battery backup
4.3	**tolerance (to variations, shutdowns)**	± 10% of input
4.4	**protection**	OVP, earth leakage protection
4.5	**power consumption**	<140Watt
4.6	**Other energy supplies**	electric/battery driven
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**accessories (mandatory, standard, optional); spare parts (main ones); consumables / reagents (open, closed system)**	1) Each device should be provided with 30 nasal prongs (At least three sizes suitable for neonates weighing <1000grms, 1000-1500grms & >1500grms) 2) Air and O2 hose of 3m length each along with the appropriate socket;
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	1) 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.

7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1) CE(EU) and BIS/ISO 13485:2003; 2) 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 15001-2010 (Anestheric & respiratory equipment- compatibility with oxygen)
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	electrical sockets; Oxygen supply
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover Local clinical staff to affirm completion of installation
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided Advanced maintenance tasks required shall be documented
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years;
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**service contract clauses, including prices**	1) The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached; 2) warranty of three years with free servicing (min. 6) during warranty;
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical, maintenance and service manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10	**recommendations for maintenance**	List of important spares and accessories, with their part numbers and cost;
11. NOTES		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 64

Intensive Care Ventilator (Neonatal & Paediatrics)		
GENERAL		
1. USE		
1.1	**clinical purpose**	To provide automated, alveolar ventilator support for patients in emergency situations.

1.2	**Used by clinical department/ ward**	Emergency /Critical Care (NICU/PICU)
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**technical characteristics (specific to this type of device)**	1) Should have facility for Invasive and Non-Invasive ventilation; 2) Microprocessor Control suitable for Neonatal and Pediatric ventilation; 3) Should have modes of ventilation equipped with newer modes of ventilation: 3.1) Assist/ Control 3.2) Volume control 3.3) Pressure control 3.4) Pressure support 3.5) SIMV with pressure support (Pressure and volume control) 3.6) PEEP 3.7) Inverse ratio Ventilation 3.8) Non invasive ventilation-BIPAP, CPAP 3.9) Apnea ventilation, user selectable, volume & pressure control; 4) Should have built in color screen TFT/LCD display of minimum 8" 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: 6.1) Airway Pressure (Peak & Mean) 6.2) Tidal volume (Inspired & Expired) 6.3) Minute volume (Inspired & Expired) 6.4) Respiratory mechanics 6.5) Spontaneous Minute Volume 6.6) Total Frequency 6.7) FiO2 dynamic 6.8) Intrinsic PEEP 6.9) Plateau Pressure 6.10)Resistance & Compliance
		6.11)Use selector Alarms for all measured & monitored parameters 6.12)Occlusion Pressure 6.13)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; 9.1) Tidal volume (Minimum 2ml, Maximum up to 2000ml); pre-set range for both neo-natal & pediatric modes to be provided 9.2) Inspiratory pressure (upto 60cm of H2O); 9.3) Respiratory rate 1 to 80 bpm; 9.4) Apnea back up rate; 9.5) CPAP/PEEP; 9.6) Pressure support; 9.7) FiO2 setting range between 21% and 100%; 9.8) Pause time; 9.9) Pressure/low Trigger; 9.10)Inspiratory low up to 120 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
2.3	**User's interface**	Manual and Automatic
2.4	**software and/or standard of communication(where ever required)**	1) Inbuilt software; 2) Convenient and quick USB interface;
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	<50kg including trolley
3.3	**configuration**	1) Compatible hunged arm for holding the circuit; 2) Should have caster with braking system;

3.4	**Noise (in dBa), heat dissipation**	1) Noise of device operation max- 50dbA; 2) Should have audio visual alarm for battery low, source gas low and high/ low pressure in the breathing circuit or source gas inlet; 3) Should maintain nominal Temp of the control unit and the heat should be disbursed through an cooling mechanism; 4) Alarm volume - min. 65dB
3.5	**mobility, portability**	Yes
4. Energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	Input voltage 220 VAC, 50Hz;
4.2	**Battery operated**	1)Battery powered, silence able alarm for power failure. 2)Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit. 3)Internal, replaceable, rechargeable battery allows operation for at least four hour in the event of power failure
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 10% of 220V AC. Use of SMPS to correct voltage
4.4	**protection**	1) Electrical protection, resettable over current breakers or replaceable fuses (fitted in both live and neutral lines); 2) Leakage
4.5	**power consumption**	TO be declared by the supplier
Technical Specification NEONATAL & PEDIARIC CARE ICUs 23		
5. accessories, spare parts, consumables		
5.1	**accessories & spares**	1) Full face mask- 5 Nos each of 0,1 and 3 2) Nasal cannulae for neonates- 5 nos 3) Reusable breathing circuit of silicone material (5Nos) 4) Air & oxygen hose- 1 each
5.3	**consumables / reagents (open, closed system)**	NA
6. environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using alcohol and other chemical agents.
7. standards and safety		
7.1	**certifications**	1) FDA (US) /CE (EU) from authorized third party and BIS/ISO 13485 2) Relevant IEC-60601-Part 1 & 2, certificates by a notified agency
7.2	**local and/or international**	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp/15 Amp. electrical sockets; 2) Oxygen supply; 3) Medical air supply;
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover; 2) Local clinical staff to affirm completion of installation
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users in operation and basic maintenance shall be provided; 2) Advanced maintenance tasks required shall be documented

9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**service contract clauses, including prices**	1) The spare, accessories & consumables price list required for maintenance and repairs in future after guarantee / warranty period should be attached; 2) Free servicing during warranty period;
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical, maintenance and service manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for routine calibration and routine maintenance; 3) Certificate of calibration to be provided by the manufacture;
10	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost.
11. Notes		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	1)Contact details of manufacturer, supplier and local service agent to be provided; 2)Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 65

Transport Ventilator (Neonatal & paediatrics)		
General		
1. Use		
1.1	**clinical purpose**	To provide automated, alveolar ventilator support for patients during interhospital or intrahospital transport, and in emergency situations.
1.2	**Used by clinical department/ ward**	Emergency /Critical Care
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Mountable transport ventilator (Neonate/Pediatric). 2. Invasive Modes (CMV and SIMV) and Non-invasive Mode (CPAP). 3. Pressure controlled - Pressure upto 15mmHg. 4. Respiration Rate upto 40. 5. There should be two FiO2 setting range between 21% and 100%. Setting 100% FiO2 should be mandatory. 6. PEEP 0-20 cm of water. 7. Trigger sensitivity - Pressure. 8. The associated cylinder(to be supplied along with the machines) should be such that it could be locally filled. 9. Oxygen Cylinder connector (to be supplied along with the machines) should be compatible with ventilator. 10. Audio and visual alarm for disconnection and high pressure. 11. The device should be capable of operation in various environments such as Emergency, Ambulance, Aircraft, Hospital and MRI. 12. The device should be MRI conditioned up to 3 Tesla, 430 G/cm.

2.3	**User's interface**	Automatic
2.4	**software and/or standard of communication(where ever required)**	inbuilt
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	<8kgs
3.3	**configuration**	NA
3.4	**Noise (in dBa), heat dissipation**	Should have audio visual alarm for disconnection and high pressure.
3.5	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	220 to 240V, 50 Hz; electricity and battery driven; should be compatible with ambulance power supply system with other life saving equipments running parallel in the ambulance.
4.2	**Battery operated**	with at least 6 hours battery backup
4.3	**tolerance (to variations, shutdowns)**	± 10% of input
4.4	**protection**	OVP, earth leakage protection.
4.5	**power consumption**	<140Watt
5. accessories, spare parts, consumables		
5.1	**accessories & spares**	full face mask, 4 reusable breathing circuit of silicone material(2 for pediatric and 2 for neonates), carry bag, ventilator connecting tubes.
5.3	**consumables / reagents (open, closed system)**	battery, leakage adapter.
6. environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	The unit should be cleanable with alcohol and/or other chemical agents.
7. standards and safety		
7.1	**certifications**	FDA (US) /CE (EU) and BIS/ISO 13485:2003; IEC-60601-1-2; ISO 15001-2010 (Anestheric & respiratory equipment- compatibility with oxygen). Certificate of approval for transport ventilator.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Electrical sockets; Oxygen supply.
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Warranty of three year with free servicing (min. 3) during warranty.

9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	User and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance.
		List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided.
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English.
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided.
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 66

Defibrillator		
General		
1. Use		
1.1	**clinical purpose**	Defibrillation is a common treatment for life-threatening cardiac dysrhythmias, ventricular fibrillation and pulse less ventricular tachycardia. Defibrillation consists of delivering a therapeutic dose of electrical energy to the heart with a device.
1.2	**Used by clinical department/ ward**	NICU and PICU
technical		
2. technical characteristics		

2.1	**technical characteristics (specific to this type of device)**	1) The Defibrillator should have biphasic technology having energy selection of 1-200 Joules. 2) The machine should have facility for ECG monitoring,defibrillationn, transcutaneous pacing, defibrillation and synchronized cardioversion with CPR feedback to measure chest compression rate and depth in real time and visual on screen feedback. 3) Machine must be with sweep rate 25mm/sec, 50mm/sec. 4) It should be capable of monitoring ECG though ECG cables, electrodes & paddles. 5) Machine should have 24 hour trend storage facility. 6) The machine should have defibrillator facility for neonatal and pediatric patients. 7) The machine should have ECG waveform display with provision for synchronization. 8) The machine should be compact, portable with built in rechargeable battery & light weight. 9) The machine should have inbuilt auto & manual recorder for printing ECG trace & stored information. 10) The machine should have user selectable alarms setting. 11) The machine should work on mains (without battery) and on battery as well. 12) The machine should have AED feature as inbuilt with manual override for manual operations.
2.2	**User's interface**	Manual/Automatic
Technical Specification		
28 NEONATAL & PEDIARIC CARE ICUs		
2.3	**software and/or standard of communication(where ever required)**	1)Inbuilt software. 2)Convenient and quick USB interface.
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Max 10kg
3.3	**configuration**	Should have audio visual alarm for battery low.
3.4	**Noise (in dBa)**	<60db
3.5	**heat dissipation**	1) Should maintain nominal Temp of the control unit and the heat should be disbursed through an cooling mechanism.
3.6	**mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**power requirements**	Input voltage 220 VAC +_10%, 50Hz;
4.2	**Battery operated**	1) Battery powered, silence able alarm for power failure. 2) Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit. 3) Internal, replaceable, rechargeable battery allows operation for a minimum of two hour in the event of power failure.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 15% of local rated voltage. Use of SMPS to correct voltage.
4.4	**protection**	1) Electrical protection, resettable over current breakers or replaceable fuses (fitted in both live and neutral lines). 2) Leakage
4.5	**power consumption**	NA
5. accessories, spare parts, consumables		

5.1	**accessories (mandatory, standard, optional); spare parts (main ones); consumables / reagents (open, closed system)**	1) Machine must be supplied with ECG cable, Battery, Paddle (Adult integrated with pediatric). 2) 3 No. Reusable CPR feedback sensor. 3) 300 gel sheet or pads for monitoring and defibrillation.
Bidding / procurement terms / Donation requirements		
6. environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	1) 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.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	1) FDA (US) /CE (EU) from authorized third party and BIS/ISO 13485. 2) Relevant IEC-60601-Part 1 & 2, certificates by a notified agency.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp/15amp socket. 2) Safety and operation check before handover.
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover. 2) Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance. 2) Advanced maintenance tasks required shall be documented.
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing. 2) Complete maintenance schedule.
9.3	**service contract clauses, including prices**	1) The spare, accessories & consumables price list required for maintenance and repairs in future after guarantee / warranty period should be attached. 2) Free servicing during warranty period.
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical, maintenance and service manuals to be supplied along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Certificate of calibration from the manufacturer.
10	**recommendations for maintenance**	List of important spares and accessories, with their part numbers and cost.
11. Notes		
11	**service support contact details (hierarchy Wise; including a toll free/landline number)**	1) Contact details of manufacturer, supplier and local service agent to be provided. 2) Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer.

11	**recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 67

Syringe pump		
General		
1. Use		
1.1	**clinical purpose**	Designed to precisely drive the plunger of a syringe down its barrel to infuse a solution when it must be administered with a high degree of volume accuracy and rate consistency.
1.2	**Used by clinical department/ ward**	NICU/PICU
technical		
2. technical characteristics		
2.1	**clinical performances**	Should accept all internationally produced/marketed syringes and should be able to detect it automatically, Should support the Bolus supply of drug on press of single button, as per need and should be able to preset different range of Bolus supply. Preferably the unit should be of Bottom / side loaded to avoid accidental spilling of drugs and damage to the machine.
2.2	**technical characteristics (specific to this type of device)**	1. Flow rate programmable range at least from 0.1 to 200 ml/hr, in steps of 0.1 ml/hr; and at least from 100 to 1200 ml/hr in steps of 1 ml/hr. 2. Saves last infusion rate even when the AC power is switched off. 3. Bolus rate should be programmable to approx 500 ml, with infused volume display. 4. Selectable occlusion pressure trigger levels selectable from 300, 500 and 900 mmHg. 5. Must work on commonly available 20, 30 and 50 ml syringes 6. Accuracy of ±2% or better. 7. Maximum pressure generated ≤ 20 psi. 8. Automatic detection of syringe size and proper fixing. 9. Anti-bolus system to reduce pressure on sudden release of occlusion. 10. Pause infusion facility required. 11. Self-check carried out on powering on. 12. Comprehensive alarm package required including: occlusion alarm, near end of infusion pre-alarm and alarm, volume limit pre-alarm and alarm, low battery pre-alarm and alarm, AC power failure, drive disengaged, syringe loading error, maintenance required. 13. Should include KVO (Keep vein open) enabling feature. 14. It should be an open system compliant.
2.3	**settings**	Single loadable with one syringe of minimum 20ml.
2.4	**User's interface**	Automatic
2.5	**software and/or standard of communication**	Inbuilt
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	Tamper-resistant case made of impact resistant material. Securely mountable on tabletop, IV stand or bed fitting.
3.4	**Noise (in dBa)**	Noise free

3.5	**heat dissipation**	
3.6	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220 to 240V, 50 Hz
4.2	**Battery operated**	Internal rechargeable battery having at 4 to 6 hours backup for 10ml/hr low rate with 50ml syringe.
4.3	**tolerance (to variations, shutdowns)**	10%
4.4	**protection**	Battery powered alarm for power failure or disconnection.
4.5	**power consumption**	25W
4.6	**Other energy supplies**	Na
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Clamp for mounting pump on IV stand.
5.2	**spare parts (main ones)**	
5.3	**consumables / reagents (open, closed system)**	Battery, syringe holder, PMO lines
5.4	**Others**	
Bidding / procurement terms / Donation requirements		
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Capable of cleaning with alcohol or chlorine wipes.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type)**	CE or FDA certified. Manufacturer / supplier should have ISO 13485 certificate for quality standard. Electrical safety conforms to standards for electrical safety IEC-60601-1, class II. Shall meet IEC 60601-1-2 EMC standard requirements. Certified to IEC-60601-2-24: Particular requirements for the safety of infusion pumps and controllers.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	As per requirement
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	3 year
9.2	**maintenance tasks**	Advanced maintenance and calibration tasks required shall be documented.
9.3	**service contract clauses, including prices**	Local clinical staff to affirm completion of installation.
9.4	**Others**	
10. Documentation		

10.1	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**Other information**	Contact details of manufacturer, supplier and local service agent to be provided.
11.2	**recommendations or warnings**	

Item Sl. No. 68

Infusion Pump (Volumetric)		
General		
1. Use		
1.1	**clinical purpose**	An infusion pump infuses fluids, medication or nutrients into a patient's circulatory system. It is generally used intravenously, although subcutaneous, arterial and epidural infusions are occasionally used.
1.2	**Used by clinical department/ ward**	NICU and PICU
1.3	**Overview of functional requirements**	Alarms indicate if any error situations occur. The drive arm infuses the medication at a steady, programmed rate.
technical		
2. technical characteristics		
2.1	**clinical performances**	Should accept all internationally produced/marketed bottle and should be able to detect it automatically, Should support the Bolus supply of drug on press of single button, as per need and should be able to preset different range of Bolus supply. Preferably the unit should be of Bottom/side loaded to avoid accidental spilling of drugs and damage to the machine.
2.2	**technical characteristics (specific to this type of device)**	1. Flow rate programmable range at least from 0.1 to 200 ml/hr, in steps of 0.1 ml/hr; and at least from 100 to 1200 ml/hr in steps of 1 ml/hr. 2. Saves last infusion rate even when the AC power is switched off. 3. Bolus rate should be programmable to approx. 500 ml, with infused volume display. 4. Selectable occlusion pressure trigger levels selectable from 300, 500 and 900 mmHg. 5. Accuracy of ±2% or better for set parameters. 6. Maximum pressure generated 20 psi. 7. Pause infusion facility required. 8. Self-check carried out on powering on. 9. Comprehensive alarm package required including: occlusion alarm, near end of infusion pre-alarm and alarm, volume limit pre-alarm and alarm, low battery pre-alarm and alarm, AC power failure, drive disengaged. 10. It should be open system.
2.3	**settings**	Single loadable
2.4	**User's interface**	Automatic
2.5	**software and/or standard of communication**	Inbuilt

3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	Tamper-resistant case made of impact resistant material. Securely mountable on tabletop, IV stand or bed fitting.
3.4	**Noise (in dBa)**	Noise free
3.5	**heat dissipation**	
3.6	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220V ± 10%, 50 Hz
4.2	**Battery operated**	Internal rechargeable battery having a minimum of 2 hours backup
4.3	**tolerance (to variations, shutdowns)**	± 10%
4.4	**protection**	Battery powered alarm for power failure or disconnection
4.5	**power consumption**	NA
4.6	**Other energy supplies**	NA
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Clamp for mounting pump on IV stand
5.2	**spare parts (main ones)**	NA
5.3	**consumables/reagents (open, closed system)**	NA
5.4	**Others**	
Bidding/procurement terms/Donation requirements		
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Capable of cleaning with alcohol or chlorine wipes
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type)**	1) FDA (US)/CE (EU) from authorized third party and BIS/ISO 13485. 2) Relevant IEC-60601-Part 1 & 2, certificates by a notified agency.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	As per requirement
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Advanced maintenance and calibration tasks required shall be documented

9.3	**service contract clauses, including prices**	1) The spare, accessories & consumables price list required for maintenance and repairs in future after guarantee/warranty period should be attached; 2) Free servicing during warranty period;
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy) of:- 1) User, technical, maintenance and service manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration to be provided by the manufacture;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	1) Contact details of manufacturer, supplier and local service agent to be provided; 2) Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 69

Suction pump, foot operated		
General		
1. Use		
1.1	**clinical purpose**	To aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction.
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	Giving vacuum more than 550 mm Hg, with 200 ml/stroke; oil free diaphragm pump.
2.2	**settings**	Manual
2.3	**User's interface**	Manual
2.4	**software and/or standard of communication (where ever required)**	NA
3. physical characteristics		
3.1	**Dimensions (metric)**	Max spec: 32 x 17 x 30 cms
3.2	**Weight (lbs, kg)**	2.5kg max
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		

4.1	**power requirements**	NA
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
4.6	**Other energy supplies**	NA
5. accessories, spare parts, consumables		
5.1	**accessories & spare parts**	Collection bottles, clear unbreakable jar (one set extra)
5.2	**consumables/reagents (open, closed system)**	Microbial filter, silicon tubing (one set extra)
6. environmental and Departmental considerations		
6.1	**Atmosphere/ambiance (air conditioning, humidity, dust...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chemical agents.
7. standards and safety		
7.1	**certifications**	FDA/CE and BIS/ISO 13485:2003; ISO 10079-2-1999
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians) Optional (Depending upon scope of work order)**	Training of users in operation and basic maintenance shall be provided
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 70

Self Inflating Reservoir Bag

General		
1. Use		
1.1	**clinical purpose**	To provide or assist ventilation in a patient who is apnoeic or exhibits inadequate respiration through manual pulmonar-driven pressure cycle functions.
1.2	**Used by clinical department/ ward**	It is used in ambulances, intensive care units (ICU), during internal patient transfer, accident and emergency (A&E), and mass casualty incidents (MCI).
technical		
2. technical characteristics		
2.1	**technical characteristics**	1. Manual resuscitator with transparent face-mask. 2. Child models (750ml, 500ml and 260ml bag capacity). 3. Standard 15/22 mm Swivel connector allows connections to all common masks Endotracheal Tubes both for adults and infants. 4. Provision to give supplemented oxygen-by-oxygen reservoir providing 100% oxygen. 5. Non-re breathing valve enabling the patient to inspire oxygen from the reservoir bag. 6. Should be suitable for single hand operate. 7. Should be easy to dissemble for cleaning and disinfection. 8. Should have pressure release valve at 40cm H2O. 9. Should have silicone oxygen tube 2m length. 10 It should be up-to 40 times autoclavable including bag and washers. 11. The bag should be of silicone material. 12. Self Inflating Resuscitator bag should be of medical grade silicone rubber. 13. The reservoir should be a PVC bag of 600ml capacity for 260ml & 500ml bag capacity and 1000ml for 750ml bag capacity.
2.2	**settings**	NA
2.3	**User's interface**	manual
2.4	**software and/or standard of communication(where ever required)**	NA
3. physical characteristics		
3.1	**Dimensions (metric)**	handheld
3.2	**Weight (lbs, kg)**	light enough to be operated by hand/palm for long duration.
3.3	**configuration**	NA
3.4	**Noise (in dBa), heat dissipation**	NA
3.5	**mobility, portability**	handheld
3.6	**Others**	
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	NA
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
4.6	**Other energy supplies**	NA

5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Silicon bellow, Non Rebreathing Valve, 2 meter oxygen tube, Guedel Airway,
5.2	**spare parts (main ones)**	Oxygen Reservoir bag
5.3	**consumables / reagents (open, closed system)**	Neonatal Mask of 3 sizes viz 0, 1 and 2
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	ISO 13485;Manufacturer / supplier should have ISO certificate for quality standard. Should be FDA (US) / CE (EU) approved product or BIS certified Should meet ISO 10651-4 standard requirement
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided
9. Warranty and maintenance		
9.1	**Warranty**	1 year.
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule
9.3	**service contract clauses, including prices**	
9.4	**Others**	
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Required
10.2	**Other accompanying documents**	Demonstration CDs
10.3	**recommendations for maintenance**	NA
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	NA

Item Sl. No. 71

laryngoscope		
General		
1. Use		
1.1	**clinical purpose**	For viewing vocal folds and glottis. Surgical and mechanical ventilation/ intubation
1.2	**Used by clinical department/ ward**	PICU/NICU
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	Fiber optic Laryngoscope - preferably should be single patient use to ensure no infection to the patients, should comprise of disposable handle 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. 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. 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.
2.2	**settings**	NA
2.3	**User's interface**	Manual
2.4	**software and/or standard of communication (where ever required)**	NA
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Light weight
3.3	**configuration**	1. Handheld unit, single piece when in use. 2. On/off switch to be robust and easy to use. 3. External material to be non-ferrous. 4. Blades to be surgical grade stainless steel. 5. Supplied in protective, enclosable container.
3.4	**Noise (in dBa), heat dissipation**	NA
3.5	**mobility, portability**	Yes
3.6	**Others**	storage box should be provided
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	independent of external source
4.2	**Battery operated**	Internal batteries, rechargeable preferred/Penlight battery AA size, Battery charger (if rechargeable), Battery compartment (if reusable's) to be sealed against liquid ingress, yet easily opened.
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	3V lithium battery
4.6	**Other energy supplies**	
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Batteries, light source, blades of various neonatal sizes
5.2	**spare parts (main ones)**	Handle

5.3	**consumables/reagents (open, closed system)**	5 LED should be given as spare
6. environmental and Departmental considerations		
6.1	**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. Liquid splash resistant Blades should be autoclavable
6.2	**User's care, cleaning, Disinfection & sterility issues**	Should be autoclavable
7. standards and safety		
7.2	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/ or international**	ISO7376 standard; Manufacturer/supplier should have ISO 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 FDA/CE approved product.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. Warranty and maintenance		
9.1	**Warranty**	3 years; LED upto 6 months
9.2	**maintenance tasks**	Autoclave
9.3	**service contract clauses, including prices**	NA
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided
10	**Other accompanying documents**	service manuals
11. Notes		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer
11	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 72

Oxygen hood

General		
1. Use		
1.1	**clinical purpose**	To provide an enriched environment of oxygen (O2) to increase the patient's O2 uptake.
1.2	**Used by clinical department/ ward**	SNCU/NICU
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	Transparent Polycarbonate unbreakable single molded. Silicon rubber Neck Port adjustment enabled to minimize the wastage of oxygen. Silicon rubber Neck port adjustment to ensures use in Neonate/Infant/ Pediatric patients. Oxygen inlet Port.
2.3	**settings**	N.A.
2.4	**User's interface**	N.A.
2.5	**software and/or standard of communication(where ever required)**	N.A.
3. physical characteristics		
3.1	**Dimensions (metric)**	Appropriate to comfortably it all size babies up to 5 years of age.
3.2	**Weight (lbs, kg)**	extremely light weight
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	N.A.
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	portable
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	N.A.
4.2	**Battery operated**	N.A.
4.3	**tolerance (to variations, shutdowns)**	N.A.
4.4	**protection**	N.A.
4.5	**power consumption**	N.A.
4.6	**Other energy supplies**	N.A.
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	NA
5.2	**spare parts (main ones)**	NA
5.3	**consumables / reagents (open, closed system)**	tubing
5.4	**Others**	
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ...)**	ISO 15001-2010 Should be CE or FDA approved The company should be ISO 13485 certified

7.2	**performance and safety standards (specific to the device type)**	NA
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Confirmation in no crack, no leak in hood structure
8.3	**training of staff (medical, paramedical, technicians)**	NA
8.4	**Others**	NA
9. Warranty and maintenance		
9.1	**Warranty**	1 year
9.2	**maintenance tasks**	NA
9.3	**service contract clauses, including prices**	NA
9.4	**Others**	NA
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance.
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	NA

Item Sl. No. 73

Oxygen concentrator		
General		
1. Use		
1.1	**clinical purpose**	to concentrate oxygen (O2) from ambient air and deliver the concentrated O2, typically through an attached nasal cannula, to a patient requiring oxygen therapy.
1.2	**Used by clinical department/ ward**	SNCU/NICU
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Flow rate: 0~5 LPM, purity > 93%. 2. O2 delivery pressure: 0.03 to 0.07 Mpa (4.35 - 10.15 PSI). 3. Atomising pellet (ml/min.) > 0.5, uninterrupted low of oxygen. 4. Oxygen monitoring system (optional). 5. Low pressure alarm, high pressure alarm and power failure alarm. 6. Unit capable for supplying oxygen to two outlets simultaneously using two independent low meters.
2.2	**settings**	Should be capable of providing minimum 12 hours of continuous

		operation.
2.3	**User's interface**	Front panel access to reset switch.
2.4	**software and/or standard of communication (where ever required)**	NA
2.5	**Others**	
3. physical characteristics		
3.1	**Dimensions (metric)**	Max spec: 640 mm (H) x 410 mm (W) x 410 mm (D).
3.2	**Weight (lbs, kg)**	Max 30 kg.
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	<50 db
3.5	**heat dissipation**	Heat dissipated using an internal exhaust, so that a maximum of 36.5 degree C is maintained.
3.6	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	230 +/- 10% VAC, 50 Hz, 2 amps.
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	Fuse controlled variation, automatic switch over from AC to DC and vice versa.
4.4	**protection**	OVP, earth leakage protection
4.5	**power consumption**	<500 Watts
4.6	**Other energy supplies**	
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Humidifier Bottles-4nos, power cord-1no.
5.2	**spare parts (main ones)**	
5.3	**consumables/reagents (open, closed system)**	Nasal Cannula with extension tubing-2 nos; Gross particle cabinet filter, compressor intake filter and bacterial filter of 0.8-1.0 micron; elite crystal.
6. environmental and Departmental considerations		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..);performance and safety standards (specific to the device type)**	CE or FDA approved and company should be ISO 13485 certified; and shall meet IEC 60601-1, IEC 60601-1-2 standard requirements; and compile with ISO 15001-2010.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Availability of 5 amp/15 Amp. Electrical socket (2 nos) for each warmer.
8.2	**requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	user training manual required.
8.4	**Others**	List of important spare parts and accessories with their part number and costing.
9. Warranty and maintenance		
9.1	**Warranty**	3 years

9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	warranty of one year with free servicing (min. 3) during warranty.
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Yes
10.2	**Other accompanying documents**	to be supplied.
10.3	**recommendations for maintenance**	User/Technical/Maintenance manuals to be supplied in English.
10.4	**Others**	
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer.
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 74

Phototherapy		
General		
1. Use		
1.1	**clinical purpose**	Emits in the main radiation spectrum in the range between 400 nm and 550 nm for reducing the concentration of Bilirubin
1.2	**Used by clinical department/ ward**	New born stabilization unit, SNCU
1.3`	**Overview of functional requirements**	a) Provides filtered light using radiant electric lights, not fibreoptics. b) Infant supported securely in bassinette below bulbs. c) Monitors hours of radiant light exposure.
technical		
2. technical characteristics		

2.1	**technical characteristics (specific to this type of device)**	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. 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 deg inclined angle. 15. The temperature of baby bed and metal surfaces should not exceed 40deg C and 43 deg C for other accessible surfaces.
		16. There should be intuitive method to indicate the light surface is at the appropriate treatment distance. 17. 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.
2.2	**settings**	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.
2.3	**User's interface**	Manual
2.4	**software and/or standard of communication(where ever required)**	LED Display and inbuilt software
2.5	**Others**	
3. physical characteristics		
3.1	**Dimensions (metric)**	minimum spec: 1650mm Height X 750mm Width X 500mm Length
3.2	**Weight (lbs, kg)**	<20 kg
3.3	**configuration**	Clear cabinet for observation of infant. Infant bassinette to be an integral unit which should be detachable. Unit to provide shielding of infant in the event of bulb breakage. Bulb mounts to have angle adjustment of at least 30 degrees. All surfaces to be made of corrosion resistant materials. Light unit tilting facility and height adjustment facility.
3.4	**Noise (in dBa)**	<60dBA
3.5	**heat dissipation**	The temperature of baby bed and metal surfaces should not exceed 40deg C and 43 deg C for other accessible surfaces.
3.6	**mobility, portability**	Minimum 3 castors and at least 2 with brakes
4. Energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	220 to 240V, 50 Hz
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	± 10% of input AC

4.4	**protection**	Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines.
4.5	**power consumption**	Should not be more than 160 W
4.6	**Other energy supplies**	Mains cable to be at least 2.5m length
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Complete set of replacement tubes to allow 3 months' continuous operation Two replacement sets of fuses, if replaceable type used.
5.2	**spare parts (main ones)**	No spares required
5.3	**consumables / reagents (open, closed system)**	Total 500 nos. Infant eye masks of both available sizes (term and pre term babies).
6. environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. standards and safety		
7.1	**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
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	3 years for the machine and 20,000 hours for LEDs
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule
9.3	**service contract clauses, including prices**	Local clinical staff to affirm completion of installation
9.4	**Others**	
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		

11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided
11.2	**recommendations or warnings**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

Item Sl. No. 75

Thermometer; Digital		
General		
1. Use		
1.1	**clinical purpose**	to measure body temperature
1.2	**Used by clinical department/ ward**	All
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Range of temperature measurement 320C- 420 (89.60F-109.40F). 2. Can be calibrated in both centigrade and Fahrenheit, but if only one option is available, then Fahrenheit is preferable. 3. Buzzer signal function. 4. Takes 60-90 seconds to measure temperature. 5. Can be used in the armpit/axilla, orally and rectally. 6. Accuracy of temperature ± 0.1degC and ± 0.2 F.
2.2	**User's interface**	LCD display
2.3	**software and/or standard of communication(where ever required)**	inbuilt
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**Noise (in dBa)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Portable
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	As per device
4.2	**Battery operated**	yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	As per device
5. accessories, spare parts, consumables		

5.1	**accessories (mandatory, standard, optional)**	NA
5.2	**spare parts (main ones)**	NA
5.3	**consumables / reagents (open, closed system)**	Batteries
Bidding / procurement terms / Donation requirements		
6. environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	ISO:13485 Manufacturer
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform operation checks before handover.
8.2	**requirements for sign-of**	Certificate of inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	NA
9. Warranty and maintenance		
9.1	**Warranty**	One year
9.2	**maintenance tasks**	NA
9.3	**service contract clauses, including prices**	NA
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	Required
11. Notes		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	
11	**recommendations or warnings**	NA

Item Sl. No. 76

PULSE OX METER, LINE POWERED		
General		
1. Use		
1.1	**clinical purpose**	Measurement and display of hemoglobin oxygen saturation (SpO2).

1.2	**Used by clinical department/ ward**	All
1.3	**Overview of functional requirements**	Continuously displays patient oxygen saturation in real time using an external probe on the skin. Contains adjustable alarms to alert when either saturation or heart rate is low. Reusable, sterilisable probes are robust and easily connected and disconnected. Operates from mains voltage or from internal rechargeable battery.
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	a) 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. h) Plethysmograph (may be in form of bar) display is mandatory.
2.2	**settings**	Should have minimum 24 hrs trend memory for SpO2 & PR.
2.3	**User's interface**	Easily accessible touch button to operate the machine.
2.4	**software and/or standard of communication**	in built.
3. physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	should be less than 5kg
3.3	**configuration**	Case is to be hard and splashproof. Display must allow easy viewing in all ambient light levels. Supplied in protective case for clean storage and safe transport.
3.4	**Noise (in dBa)**	<50dBA
3.5	**heat dissipation**	Dispersed through exhaust.
3.6	**mobility, portability**	Mobile
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220 to 240V, 50 Hz
4.2	**Battery operated**	Internal, replaceable, rechargeable battery allows operation for at least four hours in the event of power failure. Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/stabilizer/UPS to allow operation at ± 30% of local rated voltage.
4.4	**protection**	Electrical protection by resettable circuit breakers in both live and neutral supply lines, Alarms should include Power failure.
4.5	**power consumption**	50-100 W.
4.6	**Other energy supplies**	Mains supply cable to be at least 3m in length.
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	Two reusable probes each for adult, pediatric and infant use, Y Probes with clips for infant use and Forehead SpO2 sensors for detection of low saturation levels (less than 70%)/lex probe with provision of fixation.

5.2	**spare parts (main ones)**	Two sets of spare fuses (if non-resettable fuses used).
5.3	**consumables/reagents (open, closed system)**	NA
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Cleanable with alcohol or chlorine wipes
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..), performance and safety standards (specific to the device type);local and/or international**	Should be FDA/CE approved product ISO 80601-2-61-2011: Medical Electrical equipment- part 2-61: Particular requirements for the basic safety and essential performance of pulse ox meter. 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.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Electrical sockets
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided Advanced maintenance tasks required shall be documented.
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Warranty of three year with free servicing (min. 3) during warranty.
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	User and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided.
10.2	**Other accompanying documents**	User/Technical/Maintenance manuals to be supplied in English.
11. Notes		
11.1	**Other information**	Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 77

Monitor		
General		
1. Use		
1.1	**clinical purpose**	Designed to continuously measure and display multiple vital physiological parameters of newborn and premature infants, especially those under critical care.
1.2	**Used by clinical department/ ward**	NICU and PICU
1.3	**Overview of functional requirements**	Operates from mains voltage or from internal rechargeable battery. Operator can set audio visual alarm levels for low or high levels of each parameter independently. Allows display of single, 3 lead ECG or simultaneous display of at least 5 waves ECG selected from up to 12 points. Display to be digital of all active parameters and trace display for at least three selectable parameters. Continuous display on screen of neonatal or infant ECG, respiration and heart rates, invasive/non-invasive blood pressure, body temperature and SpO2.
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	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. 3a. Should be supplied with. i. Pulse oximeter probe. ii. ECG cable -12 lead. iii. Temperature probe. iv. 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. 3. Capable of saving data for min 24 hrs. 4. Rates for consumables should be offered in price bid. 5. Optional item to be quoted: invasive blood pressure-monitoring module complete with reusable transducer.
2.2	**settings**	User operated 1mV ECG test marker function required.
2.3	**User's interface**	Manual (touch screen or remote operated not mandatory).
2.4	**software and/or standard of communication**	Audio Visual alarms required: high and low levels for each parameter (operator variable settings), sensor/wire/probe disconnected, low battery.
3. physical characteristics		
3.1	**Dimensions (metric)**	Screen size minimum: 10".
3.2	**Weight (lbs, kg)**	<6kg.
3.3	**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 it correct socket only.
3.4	**Noise (in dBa)**	<50 dB; Lead disconnection Alarm > 65 dB.
3.5	**heat dissipation**	Should maintain nominal Temp and the heat should be disbursed through a exhaust cooling fan.
3.6	**mobility, portability**	Supplied in protective case for clean storage and safe transport.
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		

4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220 to 240V, 50 Hz.
4.2	**Battery operated**	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.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/stabilizer to allow operation at ± 30% of local rated voltage.
4.4	**protection**	Electrical protection provided by fuses in both live and neutral supply lines.
4.5	**power consumption**	<120Watt.
4.6	**Other energy supplies**	Mains cable.
5. accessories, spare parts, consumables		
5.1	**accessories & spares**	2 pairs, 12 lead ECG cable. 2 packs of 100 disposable ECG connection electrodes. Two sets of reusable SpO2 probes including adult, pediatric & neonatal probesTwo sets of NIBP cuffs of each sizeTwo external skin temperature probes.
5.2	**consumables/reagents (open, closed system)**	
6. environmental and Departmental considerations		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washable and sterilizable using alcohol and other chemical agents.
7. standards and safety		
7.1	**certifications**	FDA/CE 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)
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule
9.3	**service contract clauses, including prices**	Warranty of 3 years with free servicing (min. 3/year) during warranty
9.4	**Others**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached
10. Documentation		

10.1	**Operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**Other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**Other information**	Contact details of manufacturer, supplier and local service agent to be provided
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 78

Baby Weighing Scale

General		
1. Use		
1.1	**clinical purpose**	To measure body mass of the neonate
1.2	**Used by clinical department/ ward**	NICU/SNCU
1.3	**Overview of functional requirements**	
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Table top, light and portable. 2. Built in rechargeable battery. 3. Easy to clean baby tray (acrylic). 4. Zero weight adjustment facility. 5. Quick, clear digital read outs. 6. Measurement does not change with position of baby on the pan. 7. Provision to measure the height of the baby in its laying position. 8. Accuracy: 5g, resolution: 1g, limit: 10gm to 15kg.
2.2	**settings**	Auto setting to 0.00 once a the machine is switched on or when no external weight has been put on.
2.3	**User's interface**	LCD/LED display
2.4	**software and/or standard of communication(where ever required)**	in built
3. physical characteristics		
3.1	**Dimensions (metric)**	Base: 300mm x 265mm x 85mm ± 20%, Pan: 510mm x 300mm x 85mm (minimum).
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	N.A.
3.4	**Noise (in dBa)**	N.A.
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	portable
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	230 V AC,

4.2	**Battery operated**	4XAA battery (rechargeable) or equivalent; one hour backup.
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
4.6	**Other energy supplies**	NA
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	NA
5.2	**spare parts (main ones)**	NA
5.3	**consumables / reagents (open, closed system)**	NA
6. environmental and Departmental considerations		
6.1	**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 less than 0.3 m/s.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Complete unit to be easily washed and disinfected using both alcohol and chlorine agents.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international**	The Scale should be as per BIS specifications. The scale should have ISI mark ie IS: 2489 Or CE/FDA certified. Should have model approval from Legal Metrology Dept., Govt. of India.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	NA
9. Warranty and maintenance		
9.1	**Warranty**	one year
9.2	**maintenance tasks**	Cal liberation schedule to be provided.
9.3	**service contract clauses, including prices**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer.
10. Documentation		
10	**Operating manuals, service manuals, other manuals**	NA
10	**Other accompanying documents**	NA
10	**recommendations for maintenance**	Cautionary Note: Do not press the weighing pan with your hand. It could damage the load cell system in the weighing machine
10	**Others**	
11. Notes		
11	**service support contact details (hierchy Wise; including a toll free/landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer
11	Recommendations or warnings	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer

Item Sl. No. 79

Breast Pump		
General		
1. Use		
1.1	**clinical purpose**	A breast pump is a mechanical device that extracts milk from the breasts of a lactating individual. Breast pumps is an electrical devices powered by electricity or batteries.
1.2	**Used by clinical department/ ward**	NICU and PICU
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Pumping frequency 30 to 80 Cpm and user adjustable. 2) Cushion inserted inside the breast cup so that it does not hurt the mother. 3) Suction Pressure 100 to 250 mm hb; user adjustable. 4) Able to express milk from both breasts simultaneously. 5) Collection bottles can be used for storage of milk should be autoclavable and biocompatible. 6) Double alternating pumps/double cycling pumps. 7) Should be motorized breast pump units. 8) Should be hospital grade and heavy duty.
2.2	**User's interface**	Manual
2.3	**software and/or standard of communication(where ever required)**	NA
3. physical characteristics		
3.1	**Dimensions (metric)**	Portable
3.2	**Weight (lbs, kg)**	Compact unit (weight less than 4 kg)
3.3	**configuration**	LCD/LED display suction timing
3.4	**Noise (in dBa)**	<60db
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	220 V AC + 10%, 50Hz power supply; 5A plug.
4.2	**Battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	± 10% of input AC
4.4	**protection**	Electrical protection by resettable over current breakers or replaceable fuses.
4.5	**power consumption**	Should be compatible with other life saving equipments running parallel.
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); spare parts (main ones); consumables / reagents (open, closed system)**	1) Reusable collection bottles along-with breast cups - 10 sets. 2) All kinds of tubes - 12 sets (If applicable). 3) Diaphragm - 100Nos. 4) Other accessories required for optimum functioning of the equipment.
Bidding / procurement terms / Donation requirements		
6. environmental and Departmental considerations		

6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	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.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1) Should be CE (EU)/FDA (US) approved product. 2) Manufacturer / supplier should have ISO 13485 certificate for quality standard. 3) Electrical safety conforms to standards for electrical safety IEC-60601-1.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Supplier to perform installation, safety and operation checks before handover.
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided.
9. Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	warranty of three year with free servicing (min. 3) during warranty.
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	User and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance. List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided.
10.2	**recommendations for maintenance**	User/Technical/Maintenance manuals to be supplied in English.
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided.
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed.

Item Sl. No. 80

Examination Treatment Light
General
1. Use

1.1	**clinical purpose**	Provides light to illuminate the site of examination and/or treatment of the patient.
1.2	**Used by clinical department/ ward**	NICU and PICU
1.3	**Overview of functional requirements**	Provides clear and cool light to operating area Minimizes shadows and distortion of colour Mounted on mobile base Single head must be easily moved by operator to direct light to required area Integral rechargeable battery for operation without mains electricity.
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Color temperature to be between 3, 000 and 5, 000 K; shadow less. 2. Maximum illumination level at 1m distance to be at least 60, 000 lux. 3. Color rendering index to be 93 or greater. 4. Minimum bulb life required 1, 000 hours (incandescent type) or 20, 000 hrs (LED type). 5. Field diameter required ' 16cm, field depth required ' 50cm. 6. Focal length required ' 65 cm. 7. Heat to light ratio to be ≤ 6 mW/m2.lx 8. Brightness control to allow full adjustment from zero to maximum illumination. 9. Bulb voltage and type to be clearly labeled on external body. 10. Replacement bulbs to be locally available. 11. Front panel to include power switch and battery state indicator. 12. Automatic switching to battery power in the event of power failure.
2.2	**settings**	Manual
2.3	**User's interface**	Manual
2.4	**software and/or standard of communication**	NA
3.	**physical characteristics**	
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Less than 30 kgs
3.3	**configuration**	Case is to be hard, splash-proof and corrosion resistant Movement must be easily achieved by operator of height 1.5m Light head mounting to allow vertical and rotational movement, capable of illuminating at least 1m high table Handle for movement must be easy to grasp and clean Light must remain steady on position and balanced once moved Base to have at least four fully 360 degree swivel castors, minimum diameter 75mm Whole system to be stable for all positions of light head All power supply and battery location to be within access for ease in replacement.
3.4	**Noise (in dBa)**	NA
3.5	**heat dissipation**	Should maintain cool temp and the heat disbursed through a exhaust fan.
3.6	**mobility, portability**	Portable on castors.
4. energy source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**Voltage (value, ac or Dc, monophase or triphase)**	220VAC ± 10%, 50 Hz
4.2	**Battery operated**	Internal, replaceable, rechargeable battery allows operation for at least eight hours in the event of power failure Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/stabilizer to allow operation at ± 30% of local rated voltage.
4.4	**protection**	Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines

4.5	**power consumption**	100 W or below
4.6	**Other energy supplies**	Mains cable to be at least 3m length
5. accessories, spare parts, consumables		
5.1	**accessories (mandatory, standard, optional)**	NA
5.2	**spare parts (main ones)**	NA
5.3	**consumables/reagents (open, closed system)**	Two sets of spare fuses (if replaceable fuses used). Ten sets of replacement bulbs (if incandescent).
5.4	**Others**	NA
6. environmental and Departmental considerations		
6.1	**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.
6.2	**User's care, cleaning, Disinfection & sterility issues**	Unit layout to enable easy cleaning and sterilization of all surfaces.
7. standards and safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	Should be FDA (US)/CE (EU) approved product Manufacturer/supplier should have ISO 13485 certificate for quality standard. Electrical safety conforms to standards for electrical safety IEC-60601-1 Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility).
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Supplier to perform installation, safety and operation checks before handover Local clinical staff to affirm completion of installation.
8.3	**training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided Advanced maintenance tasks required shall be documented.
8.4	**Others**	
9. Warranty and maintenance		
9.1	**Warranty**	One year;
9.2	**maintenance tasks**	NA
9.3	**service contract clauses, including prices**	NA
9.4	**Others**	NA
10. Documentation		
10.1	**Operating manuals, service manuals, other manuals**	User, technical and maintenance manuals to be supplied in English language. Certificate of calibration and inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost. Contact details of manufacturer, supplier and local service agent to be provided
11. Notes		
11.1	**Other information**	Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 81

EEG-ELECTROENCEPHALOGRAPHY		
General		
1. Use		
1.1	**clinical purpose**	To record the variations of the electrical potential caused by the electrical activity of the brain
1.2	**Used by clinical department/ ward**	NICU/PICU
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Should be a 32 Channel digital EEG Machine, where 24 Channels for acquisition and storage, 5 Polygraph Channels and 3 DC Channels. 2) Frequency response should be 0.05Hz to 70Hz. 3) Should have facility to view all channels in different montages during acquisition and review. 4) Should have split screen facility to study and even carefully during acquisition, where data storage should be on going in hard disk. 5) Should have split screen facility in analysis to compare the data of same time or different times with individual selection of filters, sensitivity, montages etc. 6) Should have the facility for simultaneous acquisition and review of same record. 7) Should have the facility to mark pages/important events for printing in review. 8) Should have user deniable photic stimulator protocol execution with display of photic marks on screen using LED or Xenon flash lights 9) Should have unlimited Montage Reformatting. 10) Should have HLF (15, 35, 70 Hz) and LLF (0.1, 0.3, 1.5, 3, 5 Hz) filters for each channel as well as for all channels for display. 11) Should have the facility for sweep speed selection. 12) Should have the facility to display traces with limit trace. 13) Should mark and annotate standards events such as Eyes open, Eyes closed, Hyperventilation on, Hyperventilation of, Artifact, and other user deined events of max. 50. 14) Should have separate sensitivity control for each channels as well as for all channels. 15) Should have the facility to enter patient details such as ID, Name, Referred By, Sex, Age, Patient History, Address, Doctor Name etc. 16) Should have the facility to review of selected patient form list, to sort data according to patient name, sex, age, test date etc, review another patient while acquisition and to edit the patient details. 17) Should have the facility to browse page by page, Scroll in forward and reverse direction and the speed of scrolling can be different speed levels such as same acquisition speed, 2 times, 3 times , 4 times the acquisition speed. 18) Should have user deinable protocols for acquisition. 19) EEG pages should displayed in BRAIN MAP montage and it should have the facility to view Amplitude brain map, Progressive amplitude brain map, frequency brain map,

		progressive frequency brain map, 4 bands frequency brain map with frequency spectrum, 5 bands frequency brain map with frequency spectrum, 4 bands frequency brain map with EEG & 5 bands frequency brain map with EEG in review mode. 20) Should have the facility to edit current page events, browse all the marked events. Display the page having the selected event, to store any number of marked EEG pages on another HDD. 21) Should have the facility for spike detection with amplitude greater than or equal to the specified amplitude and within specified duration. 22) Should have the facility to print all marked EEG pages/Brain map pages in queue. 23) Should have Acquisition Hot keys for Sensitivity for all traces, Eyes open, Eyes close, Hyperventilation ON, Hyperventilation OFF, Mark page, Artifact, Annotated event, Toggle pause/Release pause, Snap shot mode, photic stimulation etc. 24) Should have Review Hot Keys for page mode, scroll mode, lip mode, next page, increase speed, mark page for printing, forward direction, reverse direction, previous page, decrease speed etc. 25) Photic frequency should be 1-30 Hz, Stimulating time 1-16 sec and pause time 1-16 sec. 26) CMRR should be greater than 100 db and input impedance should be greater than 10 M Ohms. 27) Should have a high resolution low light video camera. 28) Should have infra red camera for night VEEG recording facilities. 29) Should have facility to upgrade EEG to sleep system in future. 30) Should be supplied all necessary accessories including EEG Disc Electrode.
2.2	**User's interface**	Manual
2.3	**software and/or standard of communication(where ever required)**	1) Convenient and quick USB interface. 2) Should have an efficient data base management including Hospital details, Reference doctors list, standard comments for summary report etc. 3) Should have the facility to edit and print summary report, EEG page and Brain map page. 4) Inbuilt software.
3. physical characteristics		
3.1	**Dimensions (metric)**	Portable
3.2	**Weight (lbs, kg)**	Portable
3.3	**configuration**	
3.4	**Noise (in dBa)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Supplied in protective case for clean storage and safe transport.
4. Energy Source (electricity, Ups, solar, gas, water, cO2 ....)		
4.1	**power requirements**	Input voltage 220 VAC ± 10%, 50Hz;
4.2	**Battery operated**	Battery powered, silence able alarm for power failure. Battery charger to be integral to mains power supply, and to charge battery during mains power operation of unit. Internal, replaceable, rechargeable battery allows operation for at least one hour in the event of power failure.
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector/stabilizer to allow operation at ± 10% of local rated voltage. Use of SMPS to correct voltage.

4.4	**protection**	Electrical protection, resettable over current breakers or replaceable fuses (fitted in both live and neutral lines).
4.5	**power consumption**	Should run with other life saving equipments running parallels in the NICU/ PICU.
4.6	**Other energy supplies**	Mains power cable to be at least 3m length
5. Accessories, Spare Parts, Consumables		
5.1	**accessories (mandatory, standard, optional)**	2 Two sets of electrodes;
5.2	**spare parts (main ones)**	Two sets of spare fuses (if non-resettable fuses used).
5.3	**consumables/reagents (open, closed system)**	5 tubes/box of elefix EEG paste.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	**atmosphere/ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**User's care, cleaning, Disinfection & sterility issues**	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.
7. STANDARDS AND SAFETY		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1) Should be CE (EU)/FDA (US) approved product; 2) Manufacturer/supplier should have ISO 13485 certificate for quality standard; 3) Electrical safety conforms to standards for electrical safety IEC-60601-1; 4) Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility); 5) IEC 60601-2-26:2002 and IEC 60601-2-37 applicable;
8. TRAINING AND INSTALLATION		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 Amps. electrical socket;
8.2	**requirements for sign-of**	1) Supplier to perform installation, safety and operation checks before handover; 2) Local clinical staf to airm completion of installation;
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented;
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**service contract clauses, including prices**	1) The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached; 2) Free servicing (min. 2/year) during warranty period;
10. DOCUMENTATION		

10.1	**Operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy) of:- 1) User, technical and maintenance manuals to be supplied in english/hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10.2	**Other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11. Notes		
11.1	**service support contact details (hierchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed.

Group: Skill Laboratories

Item Sl. No. 82

Abdominal Palpation Mannequin For Leopold Maneuvers During Pregnancy		
Definition		Lower adult female torso with anatomical features capable of demonstrating various stages of pregnancy (5th, 7th and term)
General		
1. use		
1.1	Clinical purpose	To demonstrate Leopold maneuvers during pregnancy
1.2	Used by Clinical Department	Skill labs
Technical		
2. Technical Characteristics		

2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. The abdominal palpation model should have full size adult female torso (abdomen and pelvis) 5. The abdominal palpation mannequin should have one-piece full term fetus with palpable fontanel's, spine, shoulders, elbows and knees. 6. The abdominal palpation mannequin should have a mechanism to adjust the firmness of the abdomen in respect to the weeks of pregnancy i.e. 12, 24, 36, 42 gestational age models. 7. The abdominal mannequin should be able to accommodate the fetus in vertex, breech, or transverse positions.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	Mobility, portability	Yes, Portable
4. Energy source (electricity, UPs, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**Accessories & spare parts**	Fetus size-5th, 7th and term flexible enough to it inside abdominal palpation mannequin.
5.2	**consumables/reagents (open, closed system)**	NA
6. Environmental And Departmental Considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. Standards and Safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. Training And Installation		

8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided
9. Warranty And Maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. Documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English/Hindi language along with machine diagrams. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site, within warranty period including training of user on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11.notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 83

Adult CPR Mannnequin	
simulators (resuscitation training model)	A specially-constructed doll with simulated respiratory and cardiovascular functions designed to demonstrate and teach resuscitation techniques that include chest compressions [cardiopulmonary resuscitation (CPR)].
General	
1. use	
1.1 **clinical purpose**	It is used to demonstrate nose pinch required for ventilation techniques. Head tilt/chin lift and jaw thrust allowing students to currently practice all manoeuvers necessary when resuscitating a real victim.
1.2 **used by clinical department**	Skill lab
Technical	
2. Technical Characteristics	

2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. It should have features to demonstrate opening of airway, head tilt/chin tilt and jaw thrust techniques. 5. Adult CPR Mannequin should have disposable airways. 6. Adult CPR Mannequins should have removable, reusable faces. 7. Adult CPR mannequin should have an indicator which confirms correct chest compression technique. 8. It should have compression spring for consistent resistance.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	adult torso
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, portable
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**Accessories & spare parts**	10 nos.reusable mannequin faces. 10 nos. reusable airways. 50 nos. mannequin wipes.
5.2	**consumables/reagents (open, closed system)**	NA
6. Environmental And Departmental Considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioriation in the mannequin.
7. Standards And Safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive:2004/108/EC.
8. Training And Installation		
8.1	**Pre-installation requirements: nature, values, quality,**	NA

	tolerance	
8.2	**requirements for sign-of**	Demonstration to the users while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty and Maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. Documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to the site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 84

Child Birth Simulator Along With Attachment For Cervical Dilatation		
Definition		Lower female torso with anatomical features of pregnancy capable of demonstrating child birth
General		
1. use		
1.1	**clinical purpose**	Should be able to demonstrate Leopold maneuver
1.2	**Used by clinical department/Ward**	skill labs
Technical		
2. Technical Characteristics		

2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous material. 2. The texture of the mannequin should be close to the feel of the baby/ adult skin. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should have pelvis structure of adult female with anatomical landmarks like pelvic cavity, spine etc.Should have manual birthing system to enable the user to control the rotation and speed of fetus delivery etc. 5. Should have fetal baby with movable joints. 6. Should be versatile to change the position of the fetus during the process of birth including descent, flexion, extension, internal and external rotation, restitution. 7. Should have features for training normal and breech deliveries. 8. Should have features to demonstrate cord prolapse. 9. Shall allow demonstration and practice of placenta previa. 10. Should have cervical dialatation attachment for closed os, 4cm, 6cm, 8cm and fully dilated cervix.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	standard female pelvic structure
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPs, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**Accessories & spare parts**	1. fetal baby with moving joints. 2. 2 detachable abdominal pads. 3. 2 nos placentas. 4. 6 nos umbilical cords. 5. 2 set cervical dilatation attachment for closed Os, 4cm, 6cm, 8cm and fully dilated cervix.
5.2	**consumables/reagents (open, closed system)**	NA
6. Environmental And Departmental Considerations		

6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water.
7. Standards And Safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. Training And Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 85

# Adult IV training Arm Kit	
Infusion/injection training model	A synthetic replica of a human arm designed for instructing intravenous (IV) line placement, injections, infusions and intravenous. It simulates the anatomy of an arm with blood vessels, tissues, and skin produced in soft, rubber-like materials.
general	
1.use	

1.1	**clinical purpose**	It is ideal for practicing:intravenous injections, correct puncture of peripheral veins for blood sampling. Puncturing of arm veins.Positioning of a butterfly cannula.
1.2	**used by clinical department**	Skill lab
technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevent and suitable for simulation. 4. Adult IV training Arm should have full adult arm with clenched/open list. 5. Adult IV arm should be suitable for practicing IV injections. 6. Adult IV training arm should have prominent venous network. 8. Adult IV training arm should have anatomically located venous grooves, fitted with soft tubes, closely simulating consistency of human veins. 7. Adult IV training arm must have a pliable translucent skin stretched over venous network. 8. Adult IV training arm should have veins in dorsum of hand. 9. Adult IV training arm should feature 'realistic feel' as needle enters vein. 10. Adult IV training arm veins and skin must be replaceable. 11. IV training arm should have cephalic, basic, antecubital, radial and ulnar veins. 12. IV training arm must have base and metal stand to hold the mannequin and accessories as required.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	Adult arm
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		

5.1	**Accessories & spare parts**	1. 2 packs of red colour concentrate/powder, with tubing and connector. 2. 25 sets of replacement skin.
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. Documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, manuals to be supplied in English language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 86

Episiotomy Suturing Trainer

Episiotomy suturing unit, reusable.		Model of female external pudendum with episiotomy and episiotomy with tears.Suitable for training of episiotomy suturing.
General		
1. use		
1.1	**clinical purpose**	The models demonstrate the different types of episiotomies and permits episiotomy suturing.
Technical		
2. Technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should enable use of chromic sutures. 5. Should have one model featuring standard episiotomy with tears in labia minora (medio-lateral) on left and right side. 6. It may have features to attach with child birth simulator and episiotomy with tears. (Desirable).
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, portable
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	Accessories & spare parts	If episiotomy part is replaceable, quote for 100 sets may be given.
5.2	Consumables/reagents (open, closed system)	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.

6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. standards And safety		
7.1	Certifications	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 87

Female Lower torso Mannequin with normal and postpartum uterus and accessories	
Gynaecologic trainer	A model of female adult lower body with relevant internal anatomical landmarks suitable for intended palpation and inspection of female pelvic organ.The model should also permit practice of IUD insertion and removal and use of other female contraceptive devices.
general	
1. use	
1.1	**clinical purpose**	Used for teaching/practicing bi-manual pelvic examination, vaginal examination, PPIUCD (postpartum intrauterine contraceptive device).
1.2	**used by clinical department/ Ward**	Skill labs

Technical		
2. Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should have full size adult female lower torso with relevant internal landmarks and post-partum uterus. 5. Should have palpable normal and pregnant uteri with realistically sculpted and anatomically accurate ovaries and imbriae. 6. Should have normal and abnormal crevices. 7. Should be suitable for teaching/practicing bi-manual pelvic examination. 8. Should be suitable for vaginal examination, including insertion of speculum, uterine sounding and IUD insertion and removal and PPIUCD (postpartum intrauterine contraceptive device). 9. Should have distal end of vagina to facilitate introduction of a female condom. 10. Should have detachable and attachable cervix.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	1. One normal and abnormal uterus. 2. One set of normal and abnormal cervices. 3. One anteverted and retroverted uterus. 4. One set of postpartum uterus with duckbill cervix and fallopian tubes. 5. 3 sets of 6 different types of cervices.
5.2	**consumables/reagents (open, closed system)**	NA

6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 88

Normal New Born baby Simulation model

Definition	Synthetic or rubber replica of human baby to demonstrate Kangaroo mother care (KMC).
general	
1.use	

1.1	**clinical purpose**	It is used to demonstrate the characteristics and examination of new born baby and Kangaroo mother care (KMC).
1.2	**used by clinical department**	Skill labs
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. New born baby mannequin should weigh close to the normal newborn. 4. Should have actual size showing external development and growth. 5. Should be close to normal skin colour, texture and bony feel. 6. Should have moving head, flexible upper and lower limbs. 7. Should have KMC clothes compatible with the size of the mannequins.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	Battery operated	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	NA
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration to the mannequin.
7. standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010. Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.

8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English/Hindi language along with visit log sheet List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of user on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 89

Paediatric IV Arm Kit

Definition		A synthetic replica of a human arm designed for instructing intravenous (IV) line placement, injections, and intravenous infusions. It simulates the anatomy of an arm with blood vessels, tissues, and skin produced in soft, rubber-like materials.
General		
1. use		
1.1	**clinical purpose**	It is ideal for practicing: intravenous injections, correct puncture of peripheral veins for blood sampling, puncturing the veins of upper limb including positioning of butterly cannula.
1.2	**used by clinical department**	Skill labs
Technical		
2. technical characteristics		

2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous material. 2. The texture of the mannequin should be close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should have paediatric arm. 5. Should have simulated blood pack. 6. Should have blood bag with tubing and connector. 7. Should have clamp and hook. 8. Should have mannequin lubricant, if required. 9. Should have replacement skin and multi-vein system.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dab)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	Replaceable skin sets-25 Lubricant to be provided, if the type of mannequin requires it for effective functioning.
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deteriorates in the mannequin.
7.standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive:2004/108/EC
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to user while delivering the product.

8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance. Once a year visit to site, within warranty period including training of user on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 90

Uterine Model		
Uterine Cavity Simulator		Rubber or synthetic model with anatomical structures capable of demonstrating insertion of IUD.
general		
1. use		
1.1	**clinical purpose**	Based on real anatomy of female genitalia, this model is designed and used for demonstration of insertion or removal of IUD.
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Anatomically accurate sagittal or coronal section of uterus and vagina suitable for demonstration of insertion and removal of IUCDs. 5. Should have uterus, ovaries and imbria. 6. Model should have a transparent window for easy view of cavity.
2.2	**settings**	NA
2.3	**user's interface**	NA

2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes
4. Energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	NA
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		

10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to the site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 91

Essential new born care and resuscitation mannequin		
Simulators and associated devices		Human neonate model for the demonstration of ENBC and practice of cleaning of airway and ventilation as part of neonatal resuscitation
general		
1. use		
1.1	**clinical purpose**	To demonstrate and practice neonatal resuscitation
technical		
2.technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl and silicone rubber, free from any hazardous material. 2. The texture of the mannequin should be close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Newborn mannequin should have features for training essential newborn care (ENBC) and newborn resuscitation. 5. Newborn Mannequin should facilitate effective bag and mask ventilation, chest must rise only with correct technique. 6. The newborn mannequin should include the following: Squeeze bulbs for simulation of cord pulsation, spontaneous breathing, auscultation of heart sound and cry. 7. The new born mannequin should demonstrate clearing of airways; perform suction; monitoring of ventilation and pulsation.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA

3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dab)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPS, solar, gas, water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	1. 10 units-device for suction of nose and mouth. 2. 4 external umbilical cords and 6 umbilical ties. 3. 2 neonatal mucus sucker (easy to open, clean, autoclave and reusable). 4. 2 training stethoscopes.
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7.standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 92

Female Catheterization Mannequin

name And coding		
Cervical Dialatation catheter, Indwelling Catheterization kit.		Rubber or synthetic model depicting normal uro-genital system capable of demonstrating insertion of urinary catheter for drainage of urine.
general		
1. use		
1.1	**clinical purpose**	This simulator allows the students to feel the pressure and resistance when a catheter is passed through the urethra and sphincter into the bladder. When the catheter enters the bladder, artificial urine (water) will flow through the catheter.
1.2	**used by clinical departments/ wards**	Skill labs
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should have adult female lower torso with realistic vulval area and urethral opening. 5. Female catheterization mannequin should have reservoir bladder. 6. Should have replaceable urethral valve to prevent fluid leakage. 7. Should have removable urinary assembly.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes
4 energy source (electricity, UPS, solar, gas, Water, co2 ....)		

4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	2 bladder tanks, 6 urethra valves
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration to the mannequin.
7. standards And safety		
7.1	Certifications	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive:2004/108/EC
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User, manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 93

Intramuscular Injection Training Mannequin

Infusion/injection training mode (Anatomical Training Models).		A synthetic replica of lower torso for demonstrating IM injections in gluteal region.
general		
1. use		
1.1	**clinical purpose**	It is designed to simulate the actual sensation of the human skeletal structure required to determine the correct injection site. It helps users to practice a range of injection procedures, including needle puncture and infusion of simulated injection fluid (water).
1.2	**used by clinical department**	Skill labs
technical		
2. technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The texture of the mannequin should be as close to the feel of the baby/ adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Intramuscular injection training model should have lifelike human torso with intramuscular injection site in upper outer quadrant of palpable gluteal region on both side (left and right). 5. Should have intramuscular injection in ventrogluteal site below iliac crest on both side (left and right).
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. Energy source (electricity, UPS, solar, gas, water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, spare Parts, consumables		
5.1	**Accessories & spare parts**	NA
5.2	**consumables/reagents (open, closed system)**	NA
6. environmental And departmental considerations		

6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration to the mannequin.
7. standards And safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010. Conformity assessment. Supplier's declaration of conformity. EMC Directive: 2004/108/EC.
8. training And installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented. User manuals to be supplied in English/Hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance. Once a year visit to site within warranty period including training of users on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared.

Item Sl. No. 94

OG Tube Insertion Simulation Model

Name and Coding	
Gastric feeding tube	An infant simulation model to practise insertion of nasal and oral tubes for the purpose of suction and feeding
General	
1. use	

1.1	**clinical purpose**	This model can be used to practice the insertion of suction catheters into oral cavity as well suction procedures, oral tube feeding, and gastrostomy care procedures, routinely applied in the nursing and care giving fields.
1.2	**used by clinical department**	Skill labs
technical		
2. Technical Characteristics		
2.1	**technical characteristics (speciic to this type of device)**	1. The material of the mannequin should be of Polyvinyl and silicone rubber, free from any hazardous material. 2. The texture of the mannequin should be close to the feel of baby/adult skin as relevant. 3. The Internal parts of the mannequin must be realistically sculpted, anatomically accurate and feel must be smooth/resilient/bony as relevant and suitable for simulation. 4. Should look like 0-8 weeks old 5.should have soft and flexible and replaceable face skin and upper body skin, 6. placing NP/OP tubes must be possible, 8.should have markings for ear canal, should have removable internal parts.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. energy source (electricity, UPS, solar, gas, Water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**Accessories & spare parts**	NA
5.2	**consumables/reagents (open, closed system)**	NA
6. Environmental And Departmental Considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable with mild soap and water without bringing deterioration in the mannequin.
7. Standards And Safety		

7.1	**certifications**	BS EN ISO/IEC 17050-1:2010. Conformity assessment. Supplier's declaration of conformity. EMC Directive:2004/108/EC.
8. Training And Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign-of**	Demonstration to the user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided.
9. Warranty And Maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to airm completion of installation.
10. documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in english/hindi language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of user on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. Notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplimentary warning for safety should be declared.

Item Sl. No. 95

# Postpartum Hemorrhage Simulation Model		
definition		A synthetic or rubber model which simulates Postpartum hemorrhage (PPH), which demonstrates diferent methods of prevention and management.
General		
1. use		
1.1	**clinical purpose**	It is used for teaching simulation of postpartum bleeding and allows students to practice fundal massage techniques.
1.2	**used by clinical department**	Skill labs
Technical		
2.Technical Characteristics		

2.1	**technical characteristics (speciic to this type of device)**	1. The material of mannequin should be of polyvinyl or silicone rubber, free from any hazardous materials. 2. The model should be highly realistic for simulating postpartum hemorrhage. 3. The model should have features to manually control the amount of bleeding.
2.2	**settings**	NA
2.3	**user's interface**	NA
2.4	**software and/or standard of communication (where ever required)**	NA
3. Physical Characteristics		
3.1	**dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dbA)**	NA
3.5	**heat dissipation**	NA
3.6	**mobility, portability**	Yes, Portable
4. energy source (electricity, UPS, solar, gas, water, co2 ....)		
4.1	**Power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**other energy supplies**	NA
5. Accessories, Spare Parts, Consumables		
5.1	**Accessories & spare parts**	The mannequin should have the following : 1. Full term fetus with placenta and umbilical cord 2. Red fluid Concentrate 3. Fluid Collection tray 4. Fluid drain 5. Urine catheter 6. 20 ml syringe 7. carrying bag
5.2	**consumables/reagents (open, closed system)**	NA
6. Environmental And Departmental Considerations		
6.1	**Atmosphere/Ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, disinfection & sterility issues**	Complete unit to be easily washable using mild soap and water without bringing deterioration in the mannequin.
7. Standards And Safety		
7.1	**certifications**	BS EN ISO/IEC 17050-1:2010 Conformity assessment. Supplier's declaration of conformity. EMC Directive:2004/108/EC.
8. Training And Installation		
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA

8.2	**requirements for sign-of**	Demonstration to user while delivering the product.
8.3	**training of staff (medical, paramedical, technicians) optional (depending upon scope of work order)**	Training of users in handling and basic maintenance shall be provided. Training features to include complete and incomplete placenta delivery, oxytocin injection, and controlled cord traction.
9. Warranty and Maintenance		
9.1	**Warranty**	3 years against functionality excluding aesthetics.
9.2	**maintenance tasks**	Maintenance manual detailing complete maintaining schedule.
9.3	**service contract clauses, including prices**	Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation.
10. Documentation		
10.1	**operating manuals, service manuals, other manuals**	Advanced maintenance tasks required shall be documented User manuals to be supplied in English language along with visit log sheet. List to be provided of equipment and procedures required for local calibration and routine maintenance Once a year visit to site within warranty period including training of user on maintenance.
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11. notes		
11.1	**service support contact details (Hierchy Wise; including a toll free/landline number)**	NA
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Group: Operational Theatres

Item Sl. No. 96

Suction Pump Portable Electric

Definition		An assembly of devices designed to evacuate fluid, tissue, gas, or other foreign materials from a body cavity or lumen by means of suction. It generally consists of a mains electricity (AC and DC powered) suction pump, tubing, plastic/glass collection container(s), a vacuum gauge, a vacuum control knob, an overflow trap, a moisture litter, and a microbial litter. The pump creates a vacuum in the suction tubing, which is inserted into the body for the removal of materials into the collection container. This system can be used in a wide variety of settings within healthcare facilities.
General		
1 use		
1.1	**clinical purpose**	to aspirate fluids, secretions, or other foreign materials from a patient's airway by means of suction.
1.2	**used by clinical department/ ward**	All
Technical		
2 Technical Characteristics		
2.1	**technical characteristics (specific to this type of**	0 to - 760 mm Hg ± 10 reusable, 1/2 HP; single phase 1440 RPM

	device)	motor; flutter free vacuum control knob,; Wide mouthed 2 x 2 LITRE (light weight, unbreakable and clear) with self sealing bungs and mechanical over low safety device.
2.2	**Settings**	Manual
2.3	**user's interface**	Manual
2.4	**Software and/or standard of communication (where ever required)**	NA
3 Physical Characteristics		
3.1	**Dimensions (metric)**	Max: 43 x 30 x 68 cms
3.2	**Weight (lbs, kg)**	Max: 27Kg (with jar)
3.3	**configuration**	NA
3.4	**noise (in dba)**	50 dB A ± 3
3.5	**heat dissipation**	Should maintain upto 36.5 deg temp and the heat disbursed through a exhaust fan
3.6	**mobility, portability**	Yes
4 Energy Source (Electricity, UPS, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	220 V, 50 Hz, 2 ± 0.5 Amps, 370 watts for AC and DC compatible with ambulance power supply with other life saving equipments running
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage. Use of SMPS to correct voltage
4.4	**protection**	Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines
4.5	**power consumption**	should run with other life saving equipments running parallels in the vehicle
4.6	**other energy supplies**	NA
5 Accessories, Spare Parts, Consumables		
5.1	**accessories & Spares**	collection container & its cap, suctions tube tips, a vacuum gauge, two sets of moisture & microbial filters and control knob
5.2	**consumables / reagents (open, closed system)**	SiliconeTubing:8 mm ID x 2 mtr (PVC), 2x2 lt jar (one set extra)
6 Environmental And Departmental Considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using alcohol and chemical disinfectants.
7 Standards And Safety		
7.1	**certifications**	FDA(US) /CE(EU) and BIS/ISO 13485:2003; IEC 60601-1
8 Training And Installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	Availability of 15 amp socket, safety and operation checks before handover. Compatible with ambulance electrical systems
8.2	**requirements for sign-of**	Certificate of Calibration and inspection from the factory.
8.3	**training of staff (medical, paramedical, technicians) optional (Depending upon scope of work order)**	Training of users in operation and basic maintenance shall be provided
9 Warranty and Maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	maintenance manual detailing complete maintaining schedule
9.3	**Service contract clauses, including prices**	Local clinical staff / authorized officer on behalf of purchaser to affirm completion of installation
10 Documentation		
10.1	**operating manuals, service**	Advanced maintenance tasks required shall be documented in

	manuals, other manuals	English and/or Hindi User, technical and maintenance manuals to be supplied in english/hindi language along with machine diagrams. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	**other accompanying documents**	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11 notes		
11.1	**Service Support contact details (Hierchy Wise; including a toll free/landline number)**	Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer
11.2	**recommendations or warnings**	Any recommendations for best use and supplementary warning for safety should be declared

Item Sl. No. 97

Autoclave Hp Vertical(Single Bin)

General		
1 Use		
1.1	**clinical purpose**	An airtight vessel for heating and sometimes agitating its contents under high steam pressure; used for industrial processing, sterilizing, and cooking with moist or dry heat at high temperatures.
1.2	**used by clinical department/ward**	Operation theatre
Technical		
2 Technical Characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) High Grade strong stainless steel, Triple walled construction. 2) Positive radial self-locking safety doors. 3) Hydrostatically tested to withstand 2.5 times the working pressure. 4) Sealed with Neoprene/Silicon long-lasting and durable gasket. 5) Digital display for Jacket and Chamber pressure and temperature. 6) Outer jacket insulated to prevent heat loss;with a high grade insulation material 7) Mounted on 304 stainless steel frame with ground levelling flanges. 8)Temperature and pressure cut-of device. 9)Auto cut-of at low water level 10)Rust-proof 304 grade stainless steel. 11)Cylindrical construction. 12)Equipment should have separate steam release valve and drainage system. 13)Minimum of two safety valves with auto-release at 16 and 20.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**capacity**	40 L,70 L,100 L

3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- single/3-phase
4.2	**battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	±10%
4.4	**pressure gauge**	0-2.1Kgf/cm²
4.5	**operating pressure**	from 15-20 psi
4.6	**Sterilizing pressure**	1.2Kgf/cm(15 psi) at 121˚C
4.7	**protection**	Should have over-charging cut-of with visual symbol.
4.8	**power consumption**	upto 9kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1. Automatic Pressure Control Switch -2 no. 2. Automatic Water Cut-of Device -2 no. 3. Micro Processor PID Controller with Timer & Auto Stop Facility 4. Digital Pressure Indicator-2 no. 5. Perforate basket(rust-free stainless steel) 6. Cord-plug-4 no. 7. Biological and chemical indicators-1 set
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented

9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 98

Autoclave HP Horizontal

Version no. :		1
Date:		5-12-2014
Done by : (name / institution)		HCT/NHSRC
name and coding		
GMDN name		Autoclave HP Horizontal
GMDN code(s)		NA
General		
1 use		
1.1	Clinical purpose	An airtight vessel for heating and sometimes agitating its contents under high steam pressure; used for sterilizing, with moist or dry heat at high temperatures.
1.2	Used by clinical department/ward	CSSD
technical		
2 technical characteristics		
2.1		1) High Grade strong stainless steel, Triple walled construction. 2) Positive radial self-locking safety doors. 3) Hydrostatically tested to withstand 2.5 times the working pressure. 4) Sealed with Neoprene/Silicon long-lasting and durable gasket. 5) Digital display for Jacket and Chamber pressure and temperature. 6) Outer jacket insulated to prevent heat loss; with a high grade

		insulation material 7) Mounted on 304 stainless steel frame with ground levelling flanges. 8) Temperature and pressure cut-of device. 9) Auto cut-of at low water level 10) Rust-proof 304 grade stainless steel. 11) Cylindrical construction. 12) Equipment should have separate steam release valve and drainage system. 13) Minimum of two safety valves with auto-release at 16 and 20.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3	**physical characteristics**	
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**capacity**	100 lts;150 lts;250 lts
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 440V AC, 50Hz ,3-phase
4.2	**battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**operating temperature**	121 deg c to 134 deg c
4.6	**operating pressure**	Should have operating pressure between 1.2 to 2.1 kg/cm2; 10-20 psi
4.7	**power consumption**	upto 18kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1. Automatic Pressure Control Switch -2 no. 2. Automatic Water Cut-of Device -2 no. 3. Micro Processor PID Controller with Timer & Auto Stop Facility 4. Digital Pressure Indicator-2 no. 5. Perforate basket(rust-free stainless steel) 6. Cord-plug-4 no. 7. Biological and chemical indicators-1 set
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards.

	safety standards (specific to the device type);local and/or international	3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety. 6. Vessel pressure testing
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 15 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years; on site
9.2	**maintenance tasks**	1)Maintenance manual detailing; 2)Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 99

Autoclave Hp Vertical(2 bin)

General
1 use

1.1	**clinical purpose**	An airtight vessel for heating and sometimes agitating its contents under high steam pressure; used for sterilizing, with moist or dry heat at high temperatures.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) High Grade strong stainless steel SS 304, Triple walled construction. 2) Positive radial self-locking safety doors. 3) Hydrostatically tested to withstand 2.5 times the working pressure. 4) Sealed with Neoprene/Silicon long-lasting and durable gasket. 5) Analogy display for Jacket and Chamber pressure and temperature. 6) Outer jacket of mild steel insulated to prevent heat loss. 7) Mounted on tubular Mild steel frame with ground levelling flanges. 8) Internal joints should be argon arc welded. 9) Should have 2 bins for loading.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	400 mm x 600 mm to 400 mm x 1100 mm
3.2	**Weight (lbs, kg)**	NA
3.3	**capacity**	75 lt to 138 lt
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Input voltage- 220V-240V AC, 50Hz,3-phase
4.2	**battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	±10%
4.4	**pressure gauge**	0-2.1Kgf/cm²
4.5	**operating pressure**	from 15-20 psi
4.6	**Sterilizing pressure**	1.2Kgf/cm(15 psi) at 121˚C
4.7	**protection**	Should have over-charging cut-of with visual symbol.
4.8	**power consumption**	16kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1) Pressure control switch-2 no. 2) Low water level cut-of device-2 no. 3) Digital timer-2 no. 4) Vacuum breaker-2 no. 5) Gaskets-2 no.
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in

		ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 100

Bowl Sterilizer (big)

General		
1 use		
1.1	**clinical purpose**	Used for the purpose of sterilizing various medical instruments.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Constructed of high grade stainless steel. 2) For steam sterilization/disinfection of utensils, bowls etc. 3) Low water cut of device 4) Fitted with thermostat 5) With perforated inner chamber 6) Water outlet with angle iron painted stand. 7) Sterilizer tank is made of stainless steel SS 304 8) The perforated Tray of SS 304 is provided for keeping the Bowls of different size for sterilization. 9) Three SS heaters of 1.5 KW each for sterilization 10) Outer Cabinet is heavy gauge SS 304 11) Double walled with glass wool insulation. 12) Digital PID temperature controller for controlling the temperature. 13) Digital time controller housed in Temperature controller cabinet used for exposure time control. 14) Level Control give audible signal for maximum water level
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	21.60 cm x 22.00 cm x 8.55 cm to 33.5 cm x 21.5 cm x 23.5 cm
3.2	**Weight (lbs, kg)**	500 g to 3kg
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	5kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	NA

bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMI/EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8. training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1)Availability of 5 amp socket; 2)Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1)Training of users on operation and basic maintenance; 2)Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 Notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;

	landline number)	
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 101

Bowl Sterilizer (Small)		
1.1	**clinical purpose**	Used for the purpose of sterilizing various medical instruments.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Constructed of high grade stainless steel 304 2) For steam sterilization/disinfection of utensils, bowls etc. 3) Low water cut of device 4) Fitted with thermostat 5) With perforated inner chamber 6) Water outlet with angle iron painted stand. 7) Sterilizer tank is made of stainless steel SS 304 8) The perforated Tray of SS 304 is provided for keeping the Bowls of different size for sterilization. 9) Three SS heaters of 1.5 KW each for sterilization 10) Outer Cabinet is heavy gauge SS 304 11) Double walled with glass wool insulation. 12) Digital PID temperature controller for controlling the temperature. 13) Digital time controller housed in Temperature controller cabinet used for exposure time control. 14) Level Control gives audible signal for maximum water level.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	3kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones);**	NA

	consumables / reagents (open, closed system)	
Bidding / Procurement Terms / Donation Requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 5. Shall meet internationally recognised for Electromagnetic Compatibility (EMI/EMC) for electro medical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support**	Contact details of manufacturer, supplier and local service agent

	contact details (Hierarchy Wise; including a toll free/ landline number)	to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 102

Operation Table Orthopaedic

General		
1 use		
1.1	**clinical purpose**	An operating table, sometimes called operating room table, is the table on which the patient lies during a surgical operation. This surgical equipment is usually found inside the surgery room of a hospital.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Should have OT Table type base made of high quality 304 stainless steel with double table, split leg type and can take x ray photography. 2) Should have imported Y type sealing ring with good sealing performance and durability. 3) Should have a Rotary brake device hitch is easy for moving operating table. 4) Base is stainless steel. 5) Leg board is separated & dischargeable. 6) Double-decked can do X- Ray. 7) Inclining forward ≥30˚ 8) Inclining backward ≥25˚ 9) Inclining leftward≥20˚ 10) Inclining rightward≥20˚ 11) Back board folding upward ≥45˚ Fold downward ≥90˚ 12) Head Board folding upward ≥80˚Folding downward ≥10˚ 13) Leg board Folding downward ≥90˚. 14) Fold outward ≥90˚. 15) Waist board elevation ≥120˚. 16) The table top must be made of durable radiolucent Bakelite material capable of withstanding exposure to frequent C-Arm imaging, without diminishing the image clarity
2.2	**user's interface**	Manual
2.3	**Software and/or standard of communication(where ever required)**	NA
3		
3.1	**Dimensions (metric)**	Max: Length:2050 ±50 mm Width:480 ±20 mm Height:750-950 ±50 mm
3.2	**Weight (lbs, kg)**	Max: 150 Kg (excluding battery)
3.3	**configuration**	NA

3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	NA
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz,24 VDC
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	NA
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1) Shoulder support (1 pair) 2) Waist Support (1 pair) 3) Arm rest (1 pair) 4) Leg holder (1 pair) 5) Screen Frame (1 Piece) 6) Foot Plate (1 Pair)
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should have FDA/CE/BIS approved product. 2. The generator must be CF isolated applied device and defibrillator production must be available. 3. Safety IEC 60601-1:- Medical electrical equipment-Part 1: General requirement for basic safety and essential. Perforation-Edition 3.1; IEC 60601-2-46:- Medical electrical equipment-Part 2-46: Particular requirements for the basic safety and Essential Performance-Collateral Standard: Usability-Edition 2.0 IEC 60601-1-6: Medical Electrical Equipment-Part 1-6: General Requirements for Basic Safety and Essential Performance-Collateral Standard Usability-Edition 2.0 4. EMI/EMC IEC 60601-1-2: Medical Electrical Equipment Part 1-2: General Requirements for Basic Safety and Essential Performance-Collateral Standard: Electromagnetic Compatibility-Requirements and Test-Edition 3.0 5. QMS:- ISO 13485
7.2	**Local and/or international**	

	manufacturer / supplier should have ISO 13485 certificate for quality standard.	
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)** **1) training of users on operation and basic maintenance;** **2) advanced maintenance tasks required shall be documented**	
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices** **the spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;**	
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents** **list of important spares and accessories, with their part numbers and cost;**	
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 103

Dehumidifier

General		
1 use		
1.1	**clinical purpose**	Control Moisture level in hospitals
1.2	**used by clinical department/ward**	Operation theatre/Labour Room/Diagnostic Laboratory
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Type of Dehumidifier: Desiccant type 2) Requirement of dehumidified air: 170 CMH. 3) CNC fabricated unit with powder coated finish. 4) Eco-Dry rotor and totally self-contained. 5) The desiccant rotor shall be of fluted honeycomb type 6) The dehumidifier shall have differential air pressure switch to control reactivation air low.

		7) The Dehumidifier shall have high temperature thermostat cut out. 8) The Dehumidifier shall have additional cooling thermostat as a safety measure 9) The Dehumidifier shall have electrical interlocking of fan, motor, heaters and rotor drive as a safety measure. 10) The dehumidifier shall have PTFE bonded silicon bulb seal designed to minimize air leakage.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication (where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	676mm X470 mm X 390 mm (H)± 10%
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	NA
3.6	**mobility, portability**	NA
4 enerGY Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	220V, 50 Hz
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	± 10%
4.4	**protection**	NA
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	IEC 60335-2-40 ed5.0
7.2	**local and/or international**	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality,**	NA

	tolerance	
8.2	**requirements for sign-of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	NA

Item Sl. No. 104

Electrosurgical Unit

General		
1 use		
1.1	**clinical purpose**	Diathermy uses an electric current to produce heat deep inside a targeted tissue. It can reach areas as deep as two inches from the skin's surface. The diathermy machine does not apply heat directly to the body. Instead, the current from the machine allows the body to generate heat from within the targeted tissue.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		

2.1	**technical characteristics (specific to this type of device)**	1) Facility for Monopole, Bipolar and underwater cutting. 2) Monopole cutting and coagulation 3) Micro-processor based technology 4) Monopole cut in minimum 3 modes 5) Bipolar-coagulation in 3 or more modes (forced coagulation, spray coagulation and soft coagulation) 6) Blending of cutting and coagulation -in minimum 2 levels 7) Automatic cut-of technology with self check on every start. 8) Foot and hand switch 9) Auto monitoring and display of set parameters 10) Touch-controlled interface to set parameters 11) 4 or more programmable memory 12) Simultaneous use of Monopole and Bipolar Coagulation. 13) Output Power of 300 Watt(Minimum) 14) Monopole Cutting and Coagulation power adjustable from 0-300 Watt 15) Bipolar Coagulation power adjustable from 0-50 W, Micro Power Range- 0.1 to 9.9 Watt increment of 0.1 Watt, Macro Power range from 1-50 Watt increment of 1 Watt 16) Audio-Visual Alarm for disconnection of Neutral Plate
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	In-built
3 physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	Max: 10kg
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	±10%
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	60W
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1. Power cord :1pc 2. Electrode lever:1pc 3. Electrode:2sets 4. Collective electric bulb: 2pcs switch 5. Trolley; Foot switch 6. Reusable electrode handle with cutting/coagulation switch 7. Disposable REM plate 8. Cable for electrode handle 9. Neutral plate for adults and paediatric.
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Shall meet internationally recognised IEC 60601-1-1 standard (General Requirements) 2. Shall meet internationally recognised IEC 60601-2-2 standard (Medical electrical equipment - Part 2-2: Particular requirements for the basic safety and essential performance of high frequency surgical equipment and high frequency surgical accessories) 3. Shall meet internationally recognised IEC 60601-1-6 standard (MEDICAL ELECTRICAL EQUIPMENT - PART 1-6: GENERAL REQUIREMENTS FOR SAFETY - COLLATERAL STANDARD: USABILITY) 4. Shall meet internationally recognised IEC 60601-1-8 standard (MEDICAL ELECTRICAL EQUIPMENT - PART 1-: GENERAL REQUIREMENTS FOR SAFETY - COLLATERAL STANDARD: GENERAL REQUIREMENTS, TESTS AND GUIDANCE FOR ALARM SYSTEMS IN MEDICAL ELECTRICAL EQUIPMENT AND MEDICAL ELECTRICAL SYSTEMS) 5. Shall meet internationally recognised IEC 60601-1-2 standard (MEDICAL ELECTRICAL EQUIPMENT - PART 1: GENERAL REQUIREMENTS FOR SAFETY 2. COLLATERAL STANDARD: ELECTROMAGNETIC COMPATIBILITY - REQUIREMENTS AND TESTS) 6. Shall meet internationally recognised IEC 62304 standard(Medical device software – Software life cycle processes)
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying**	List of important spares and accessories, with their part numbers

	documents	and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 105

Ethylene Oxide Sterilizer

General		
1 use		
1.1	**clinical purpose**	(EO or EtO) gas is commonly used to sterilize objects sensitive to temperatures greater than 60 ˚C and / or radiation such as plastics, optics and electrics. Ethylene oxide treatment is generally carried out between 30 ˚C and 60 ˚C with relative humidity above 30% and a gas concentration between 200 and 800 mg/l, and typically lasts for at least three hours.
1.2	**used by clinical department/ward**	
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1. Interior made of 304 stainless steel mirror sterilization,anti-corrosion. 2. Equipped with a thermal barrier layer. 3. Double protective doors, insulation, sealing and leak-proof. 4. Sterilization process automatic computer control, LCD/digital panel display. 5. Anti-leak vacuum pumping system. 6. Automatic humidification system 7. Automatic heating system 8. Auto exhaust system should be sound proof. 9. Efficiency and prevent environmental pollution discharge residual heating air purification system 10. Audio-visual alarm system for temperature, pressure and leakage. 11. Exhaust pipeline to be above the top floor of the building; copper pipeline 12. Temperature accuracy: ± 1 ˚C 13. Vacuum pressure: -7 ~-70Kpa 14. Composition of gases (90% Ethylene oxide and 10% carbon dioxide or 100% Ethylene Oxide) 15. Operating temperature to be settable at 35 degree celsius and 55 degree Celsius.
2.2	**user's interface**	Software, Automatic (stages to be displayed or recordable for printing)
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		

3.1	**Dimensions (metric)**	Max: 450 mm x 450 mm x 1200 mm
3.2	**Weight (lbs, kg)**	NA
3.3	**configuration**	NA
3.4	**noise (in dba)**	Noise-free system
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz Single-phase
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	Can be operated on UPS
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	Should have a detector to be installed in sterilizer room.
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 5 to 50 deg C and relative humidity of 15 to 80% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 5. Shall meet internationally recognised for Electromagnetic Compatibility (EMI/EMC) for electro medical equipment: 61326-1. 6. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover; 3) To be installed in a separate room.
8.2	**requirements for sign-of**	Certificate of calibration and inspection of parts from the manufacturer
8.3	**training of staff (medical, paramedical,**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented

	technicians)	
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of essential spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 106

Flash Sterilizer With trolley

General		
1 use		
1.1	**clinical purpose**	Used for sterilization of unwrapped equipment at 132˚C for three to ten minutes using steam.
1.2	**used by clinical department/ward**	Operation Theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) 18-23 litres table-top model. 2) No utility connection other than drainage and electricity. 3) In-built dryer. 4) Constructed of 304 or 316 stainless steel 5) Automatic cycle control with printer
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication (where ever required)**	Stages should be displayable.
3 physical characteristics		
3.1	**Dimensions (metric)**	As per capacity
3.2	**Weight (lbs, kg)**	Max:900 gm

3.3	**capacity**	18 to 20 litre
3.4	**noise (in dba)**	Noise-free
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Table with castors and brakes
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	3 to 4 kW
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1. Trays-2 nos
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 15 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign-of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years

9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets (hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 107

Operation Table HydraulicMajor

General		
1 use		
1.1	**clinical purpose**	An operating table, sometimes called operating room table, is the table on which the patient lies during a surgical operation. This surgical equipment is usually found inside the surgery room of a hospital.
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Should be a manually controlled operating table, working range from floor level: 800-1040mm. 2) Should be adjustable to all essential positions. 3) Should be equipped with movement controls at side of the table. 4) Should have Frame and bottom made of Stainless Steel 304 material. 5) Should have reinforced three section stainless steel top. 6) Height should be adjustable by oil pump, foot step control. 7) Should have detachable head rest which can be easily adjustable to any desired position, above or below table top. 8) Table top can be rotated 360˚ through base. 9) Trendelenburg: ≥25˚-30˚ 10) Reversed Trendelenburg: ≥30˚ 11) Head Section Raised from the Horizontal: ≥20˚-30˚

		12) Head Section Lowered from the Horizontal: ≥28˚-30˚ 13) Back Section Raised from the Horizontal: ≥60˚-70 ˚ 14) Leg Section Lowered from the Horizontal: ≥40˚-50˚ 15) Kidney Position should be achievable by breaking the table. 16) Table-top should be radio-lucent.
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required)**	NA
3 physical characteristics		
3.1	Dimensions (metric)	Table top dimension (1900 mm x 525 mm) ± 15% Table elevation: (700mm -1000 mm) ± 10%
3.2	Weight (lbs, kg)	Should be able to bear patient having weight up to 160 kg
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Not portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage - 220V-240V AC,50 Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-of with visual symbol.
4.5	Power consumption	NA
5 accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1) S. S. Arm Rest 1 No 2) Anaesthetic Screen 1 No. 3) Lithotomic Leg Holders with Stir-Ups 1 Set 4) Leather Wristlets 1 Set 5) Padded Leg Rest (Gutter Type)-2 nos 6) Anti static mattress-2 nos 7) Side rails-2 nos
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should be FDA/CE/BIS approved product. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS standard) and IEC 60601-2-46 for usability. 3. Shall meet internationally recognised IEC 60601-1-2 for Electromagnetic Compatibility(EMC) and Electromagnetic Interference(EMI)
7.2	Local and/or international	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		

8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 108

Shadow Less Lamp Ceiling Type Major

General		
1 use		
1.1	Clinical purpose	Luminescence shadow less lamp adopts light sources different positions for focus to eliminate shadows of different parts of medical workers.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		

2.1	Technical characteristics (specific to this type of device)	1) Double dome 2) Intensity Control in 9 steps for individual 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
2.2	User's interface	Manual
2.3	Software and/ or standard of communication (where ever required)	NA
3 physical characteristics		
3.1	Dimensions (metric)	NA
3.2	Weight (lbs, kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Handheld device
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	Voltage:±10%,Frequency:±2%
4.4	Protection	Should have over-charging cut-of with visual symbol.
4.5	Power consumption	NA
5 accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should be FDA/CE/BIS and ISO 13485 approved product. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-1General requirements (or equivalent BIS Standard) 3. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) and Electromagnetic Interference (EMI) for electro medical equipment: IEC 60601-1-2 4. Certified to be compliant with IEC 60601-2-4 for usability.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 109

Sterilizer(big instruments)

General		
1 use		
1.1	**clinical purpose**	A sterilizer is a pressure chamber used to sterilize equipment and supplies by subjecting them to high pressure saturated steam at 121 °C for around 15–20 minutes depending on the size of the load and the contents
1.2	**used by clinical department/ward**	Operation theatre
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Should have seamless shell & lever operated Lid fitted with full proof mechanism control excessive steam escape and restricts condensate within the shell. 2) Synchronized manoeuvrability of lid, due to statistically perforated tray for flushing & entry of water. 3) SS 304/316 deep drawn seamless construction 4) Thermostatically controlled 5) Drainage plug at the bottom
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication (where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**capacity**	4.5-7.5 L
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	**mobility, portability**	Portable
4 energy Source (electricity, ups, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	**battery operated**	Yes
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	Should have over-charging cut-of with visual symbol.
4.5	**power consumption**	NA
5 accessories, Spare parts, consumables		

5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	1) Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre- market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements (or equivalent BIS Standard) 4. Shall meet internationally recognised for Electromagnetic Compatibility (EMC) for electro medical equipment: 61326-1. 5. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	**requirements for sign- of**	Certificate of calibration and inspection from the manufacturer
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		

10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

Item Sl. No. 110

Gynae- Examination Table

1 use		
1.1	**clinical purpose**	A portable, collapsible chair/table for performing an OB/GYN examination or procedure, comprising a collapsible chair structure having a seat, a back rest, a pair of armrests and a pair of substantially planar leg rests, said chair being moveable between a collapsed condition for storage and/or transport and an examination position in which it enables a patient to be seated in a position suitable for an OB/GYN examination or procedure, said chair when in said examination position.
1.2	**used by clinical department/ward**	Examination room
technical		
2 technical characteristics		
2.1	**technical characteristics (specific to this type of device)**	1) Should have Head side adjustment 75° up on ratchet 2) MS tubular construction 3) Perinea cut-out 4) Should be Mounted on PVC shoe 5) Pre-treated and powder coated 6) In built sliding side stool 7) Adjustable Lithotomic Rods with rexine covered padded crutches 8) U-Cut at leg end
2.2	**user's interface**	Manual

2.3	**Software and/ or standard of communication (where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	1830 mm L X 610 mm W X 760 mm H(minimum)
3.2	**Weight (lbs, kg)**	Should be able to support patient weight up to 160kg
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	NA
3.6	**mobility, portability**	NA
4 energy Source (electricity, UPS, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
4.5	**power consumption**	NA
5 accessories, Spare parts, consumables		
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1). Mattress 50 mm with U Cut thick should be tear proof covered with non pinching Rexine, seamless joint, washable and water-proof
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	**certificates (pre- market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	NA
7.2	**local and/or international**	Manufacturer/supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA

8.2	**requirements for sign- of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9	**Warranty and maintenance**	
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	NA

Item Sl. No. 111

Table For Obstetric Labour

General		
1 use		
1.1	**clinical purpose**	Delivery Bed finds extensive usage in hospitals and nursing homes. These are specifically designed to support the mother during all stages of giving birth that include labour, delivery and recovery. Manufactured using quality raw material, these beds are widely known for their sturdy construction.
1.2	**used by clinical department/ward**	Operation theatre/Labour Room
technical		
2 technical characteristics		

2.1	**technical characteristics (specific to this type of device)**	1) Tubular frame mounted on PVC shoes 2) Three sections, with top made of SS 304 grade 3) Trendelburg and CPR position instantly available with the help of pneumatic gas spring mechanism along with manual over-ride 4) Back rest manually adjustable on ratchets mechanism 5) Leg end section should slide completely under the main section 6) Lithotomic Rods should be height adjustable covered with soft Rubber and Rexine 7) U-Cut in the middle section 8) Head and side safety railing along with hand grips made of SS
2.2	**user's interface**	Manual
2.3	**Software and/ or standard of communication (where ever required)**	NA
3 physical characteristics		
3.1	**Dimensions (metric)**	74"L×35" W×26"H adjustable to 36"
3.2	**Weight (lbs, kg)**	should be able to support patient weight up to 160kg
3.3	**configuration**	NA
3.4	**noise (in dba)**	NA
3.5	**Heat dissipation**	NA
3.6	**mobility, portability**	NA
4 energy Source (electricity, UPS, Solar, Gas, Water, co2 ....)		
4.1	**power requirements**	NA
4.2	**battery operated**	NA
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**protection**	NA
5.1	**accessories (mandatory, standard, optional); Spare parts (main ones); consumables / reagents (open, closed system)**	1). Mattress 50 mm with U Cut thick should be tear proof covered with non pinching Rexine,seamless joint,washable and water-proof
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	**atmosphere / ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**user's care, cleaning, Disinfection & Sterility issues**	1) 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. 2) Sterilization not required.
7 Standards and Safety		

7.1	**certificates (pre- market, sanitary, ..); performance and safety standards (specific to the device type);local and/or international**	1. Should be US FDA/EU CE approved product.
7.2	**local and/or international**	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	**pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**requirements for sign- of**	NA
8.3	**training of staff (medical, paramedical, technicians)**	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	**Warranty**	3 years
9.2	**maintenance tasks**	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	**Service contract clauses, including prices**	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	**operating manuals, service manuals, other manuals**	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	**other accompanying documents**	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	**Service Support contact details (Hierarchy Wise; including a toll free/ landline number)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	**recommendations or warnings**	NA

Item Sl. No. 112

Focus lamp ordinary- For examination

General		
1 use		
1.1	Clinical purpose	Widely used in examination and operation lighting in surgical dept, ENT dept, dept of stomatology, orthopaedic dept, dept of ophthalmology, dept of dermatology and OPD, Facial features section, operation illumination, low examination, gynaecology examination etc.Perfect for specialties that require very focused light in specific areas like OB/GYN etc.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		
2.1	Technical characteristics (specific to this type of device)	1) LED light 2) Illumination(lx) should be LED 3) Minimum 40,000 Lux 4) Height Adjustment(mm): <=440 5) Radial and axial movement of the lamp
2.2	User's interface	Manual
2.3	Software and/ or standard of communication(where ever required)	NA
3 physical characteristics		
3.1	Dimensions (metric)	NA
3.2	Weight (lbs, kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Portable
4 energy Source (electricity, UPS, Solar, Gas, Water, CO2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5 accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		

6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should be FDA/CE/BIS and ISO 13485 approved product. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-1General requirements(or equivalent BIS Standard) 3. Shall meet internationally recognised for Electromagnetic Compatibility(EMC)and Electromagnetic Interference(EMI) for electro medical equipment:IEC 60601-1-2 4. Certified to be compliant with IEC 60601-2-4 for usability.
7.2	Local and/or international	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		

11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 113

Operation Table Electro-Hydraulic(Electrical With Manual Over Side)

General		
1 use		
1.1	Clinical purpose	An operating table, sometimes called operating room table, is the table on which the patient lies during a surgical operation. This surgical equipment is usually found inside the surgery room of a hospital.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		
2.1	Technical characteristics (specific to this type of device)	1) Should be manually controlled operating table, working range from floor level:700 -1000 or more ±10% 2) Should be adjustable to all essential positions. 3) Should be equipped with movement controls at side of the table. 4) Should have frame and bottom made of 304 grade Stainless Steel material. 5) Should have reinforced five section stainless steel top. 6) Height should be adjustable by oil pump, foot step control. 7) Should have detachable head rest which can be easily adjustable to any desired position, above or below the table top. 8) Table top can be rotated 360° through base. 9) Head section raised from the Horizontal:20°-30° 10) Durable and leak-proof hydraulic pump. 11) Head section lowered from horizontal:28°-30° 12) Back section raised from the horizontal:60°-70° 13) Trendelenburg:25-30˚ 14) Reverse Trendelenburg:≥30° 15) Leg section lowered from the Horizontal:40°-50° 16) Kidney-position should be acheivable by breaking the table. 17) Table-top should be radio-lucent. 18) Should have handset for position selection by in-built stand-by control.

2.2	User's interface	Manual
2.3	Software and/ or standard of communication(where ever required)	NA
3 physical characteristics		
3.1	Dimensions (metric)	1910 x 530 mm
3.2	Weight (lbs, kg)	Should be able to bear patient weight
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Not portable
4Energy Source (electricity, UPS, Solar, Gas, Water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1) S.S Arm Rest: 2 no. 2) Anaesthetic Screen: 1 no. 3) Lithotomy Leg Holders with Stirr-Ups:1 set 4) Leather Wristlets:1 set 5) Padded Leg Rest(Gutter type) 6) Anti static mattress 7) Side rails
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should have FDA/CE/BIS approved product. 2. All mechanical tests. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements(or equivalent BIS standard) and IEC 60601-2-46 for usability. 3. Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2 :Particular requirements for the safety of High frequency Surgical Equipment if applicable or equivalent
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		

8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 114

Operation Table Hydraulic Minor

General		
1 use		
1.1	Clinical purpose	An operating table, sometimes called operating room table, is the table on which the patient lies during a surgical operation. This surgical equipment is usually found inside the surgery room of a hospital.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		

2.1	Technical characteristics (specific to this type of device)	1) Should have Stainless steel top 304 grade 2) Should have Castor wheel for easy mobility 3)Head & Leg section should be detachable and interchangeable 4) Four section table 5) Durable and leak proof hydraulic pump with heavy pillar fitted in centre of the table 6) Archived by gear mechanism 7) Trendelenburg: 25°-30° 8) Lateral tilt (Left & Right):15°-20° 9) Leg Section 90°
2.2	User's interface	Manual
2.3	Software and/ or standard of communication(where ever required)	NA
3 physical characteristics		
3.1	Dimensions (metric)	Table Top dimension 1900 mm x 525 mm ± 15% Table elevation 700 mm – 1000 mm± 10%
3.2	Weight (lbs, kg)	Should be able to support the weight of the patient upto 160 kg.
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Not portable
4 energy Source (electricity, up's, Solar, Gas, Water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1) side rail clamp, 2) shoulder support, 3) Arm support(2 nose) 4) IV pole 5) Body restraining belt 6) Leg supports:2 nose 7) Lateral supports 8) Anti-static mattress
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.

6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international	1. Should be FDA/CE/BIS approved product. 2. All mechanical tests. 3. Shall meet internationally recognised standard IEC 60601-2-46 for usability.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets (hard copy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 115

Shadow less lamp ceiling type minor

General		
1 use		
1.1	Clinical purpose	Luminescence shadow less lamp adopts light sources different positions for focus to eliminate shadows of different parts of medical workers.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		
2.1	Technical characteristics (specific to this type of device)	1) Single dome 2) minor dome 3) Intensity Control :continuous (1,00,000 Lux) 4) Height Adjustment :600mm 5) Action Radius :1850mm 6) Possible Movements :Radial, Angular & Axial 7) Colour Temperature :4500 and above 8) LED technology: minimum 40,000 hours lamp life 9) Intensity,brightness,contrast and power switch to be made available on handle/wall-check. 10) Focal distance(d1+d2)=0.8 to 1.2 m 11) Temperature rise on the keep of surgeries to be less than 10° 12) CR± approx. 95 or more 13) 360° rotation for both arms
2.2	User's interface	Manual
2.3	Software and/ or standard of communication (where ever required)	NA
3 physical characteristics		
3.1	Dimensions (metric)	NA
3.2	Weight (lbs, kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Portable
4 energy Source (electricity, UPS, Solar, Gas, Water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	NA

4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5 accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should be FDA/CE and BIS/ ISO 13485 approved product. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-1General requirements(or equivalent BIS Standard) 3. Shall meet internationally recognised for Electromagnetic Compatibility(EMC)and Electromagnetic Interference(EMI) for electro medical equipment: IEC 60601-1-2 4. Certified to be compliant with IEC 60601-2-4 for usability.
7.2	Local and/or international	Manufacturer / supplier should have ISO certificate for quality standard.
8 training and installation		
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		

10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Item Sl. No. 116

# Shadow less lamp Standing model		
1.1	Clinical purpose	Luminescence shadow less lamp adopts light sources different positions for focus to eliminate shadows of different parts of medical workers.
1.2	Used by clinical department/ward	Operation theatre
technical		
2 technical characteristics		
2.1	Technical characteristics (specific to this type of device)	1) Dome Head :515mm Dia 2) LED lights-2 nos 3) Lockable castor stand with minor dome 3) Light intensity at 1 mt. :1,00,000 Lux 4) Intensity Control :Continuous 5) Height Adjustment :600 mm approx 6) Action Radius :1250mm 7) Possible Movements :Radial, Angular & Axial 8) Colour Temperature :4500K or above 9) Temporise in field :3°-6° c from Amb.Temp 10) Control Panel at the dome 11) CR± 95000 12) Lamp life:40,000 hours 13) Battery back-up:1 hour 14) Auto-power of and over-charging cut-off.
2.2	User's interface	Manual
2.3	Software and/ or standard of communication(where ever required)	NA
3 physical characteristics		

3.1	Dimensions (metric)	NA
3.2	Weight (lbs, kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Portable
4 energy Source (electricity, ups, solar, gas, water, co2 ....)		
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes;Rechargeable battery at the base with the frame.
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5 accessories, Spare parts, consumables		
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
bidding / procurement terms / Donation requirements		
6 environmental and Departmental considerations		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1) 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. 2) Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1) 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. 2) Sterilization not required.
7 Standards and Safety		
7.1	Certificates (pre- market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should be FDA/CE and BIS/ISO 13485 approved product. 2. Electrical safety conforms to the standards for electrical safety IEC 60601-1General requirements(or equivalent BIS Standard) 3. Shall meet internationally recognised for Electromagnetic Compatibility(EMC)and Electromagnetic Interference(EMI) for electro medical equipment: IEC 60601-1-2 4. Certified to be compliant with IEC 60601-2-4 for usability.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8 training and installation		
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover;
8.2	Requirements for sign- of	Certificate of calibration and inspection from the manufacturer

8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented
9 Warranty and maintenance		
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10 Documentation		
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy and soft-copy) of:- 1) User, technical and maintenance manuals to be supplied in English/ Hindi language along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Service and operation manuals (original and copy) to be provided; 4) Advanced maintenance tasks documentation; 5) Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11 Notes		
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Group: Preclinical Items

Item Sl. No. 117

EMBALMING MACHINE AND ACCESSORIES

1. Drive master flex L/S 100 RPM -01 No.
2. Pump Head L/S Easy Load 11 SS - 04No.
3. Master Flex L/S Chem Durance Biotubing 18, 50, 15.2 m -04 No.
4. Cannulas 18 gauge, ID 0.067, Length -2.5” -04 No.
5. Keep ramp clamp tubing pack of 12 – 01 No.
6. For injecting Formaldehyde solution in to Cadaverous at much higher speed than normal gravity process.
7. Unit is fully covered & mounted on a portable trolley having four castor wheels for easy movement.
8. Unit consists of one air compressor fitted with 1/2 HP Crompton /AUE/equivalent make Motor which is connected with a Stainless Steel Tank of 10 liters capacity meant for storing and injecting the solution with built in level Indicator and top liquid filling nozzle with cap.

9. Tank is fitted with a safety valve, pressure gauge and rubber tubing having provision for injecting the solution. Supplied with 2 sizes of cannulae.
10. Suitable to work on 220 volts, 1ph 50 Hz, Ac supply.

Item Sl. No. 118

Meat cutting machine (Bakon's slicer) for thin body sections for gross anatomy sections study

1. Table made of thick SS sheet with special heavy axles for easy and firm movement.
2. Machine should be supplied complete with one blade, starter, cord and plug
3. Machine should work on 220 V, single phase, 50 Hz AC Supply
4. Machine should be fitted with moving table and extension table mounted on four ball bearing rollers.
5. Additional accessories 1) Blades – 02 nos 2) Belt – 01 no.

Item Sl. No. 119

HOT PLATE – ELECTRICAL

1 Description of Function
1.1 Used to heat glassware or its contents.
2 Technical Specifications
2.1 Durable cast-iron heating element that heats up fast
2.2 Thermostatic control from simmer to boil
2.3 Durable and easy-to-clean spray plastic finish
2.4 Variable heat control
2.5 Stainless steel body with top having the diameter 30cm
2.6 Temperature and working indicator light
2.7 Maximum surface Temperature - 300 °C

Item Sl. No. 120

INCUBATOR

A. Technical specifications:
1. Capacity: 100-150L
2 Interior chamber: Stainless steel for easy cleaning and decontamination
3 Timer: 1 min. to 100 hours and hold position
4 Minimum turbulence and no cross contamination
5 Adjustable safety thermostat for temp setting at 1 deg C increment
6 Temp Accuracy +/-1% of required temp, with inbuilt Temperature Sensor

7 Internal glass door for the observation
8 With minimum two adjustable shelves
9 Audiovisual Alarm to Indicate when temperature deviates more than 1°C from setpoint, and when program or time has finished. Alarm may be muted.
10 Peltier or Jacket or Blanket heating with continuous air circulation and Heating by natural/forced convection for homogenous temperature distribution.
11 Temperature range: +5° C to 80°C
12 There should be a Membrane Keypad with LCD/LED to set and display operating parameters, current status, running time and alarm conditions for time and temperature.
13 Interior lighting facilities, insulated door fitted with heavy hinges handle locking, mechanical door lock.
B.Power Supply:
1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
2 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
C. Standards:
1. Should be CE or FDA or BIS approved product.

Item Sl. No. 121

DISSECTION TABLE – STANDARD

1 Technical Specification
1.1 Approximate Dimension:-1820 X 600 X 900 (L x W x H)
1.2 It should be made of stainless steel (steel grade 304) with a frame made of rugged torsion-resistant stainless steel profiles.
1.3 It should have 4 solid rubber swivel locking castors
1.4 Tabletop depth should be of approx. 15mm sloping towards the drain.
1.5 Deleted.
1.6 10 litre removable container with bayonet lock, mounted beneath the down spout, should be attached to a rack in the base frame.
1.7 Airtight compartment should be mounted beneath the table top to serve as an odour-free storage of drapes. Size: 2 ft (Length) x 1.5ft (Width) x 9" (Depth)
1.8 - It should have stainless steel full extension drawer and a removable stainless steel tray provided with a perforated plate and a removable lid. Size: 2 ft (Length) x 1.5ft (Width) x 9" (Depth)
2. System Configuration Accessories, spares and consumables
2.1 Stainless Steel Bucket 50 Ltrs
2.2 Headrest
2.3 Body support shim.
2.4 Foot rest.
2.5 Foldable, extendable arm rests.
2.6 Facility to fix stands & stands for lithotomy strapping.

Item Sl. No. 122

DISSECTION TABLE – SMALL

1 Technical Specification
1.1 Approximate Dimension:- 4ft X 2ft X 3ft (L x W x H)
1.2 It should be made of stainless steel (steel grade 304) with a frame made of rugged torsion-resistant stainless steel profiles.
1.3 It should have 4 solid rubber swivel locking castors
1.4 Tabletop depth should be of approx. 15mm sloping towards the drain.
1.5 Deleted.
1.6 10 litre removable container with bayonet lock, mounted beneath the down spout, should be attached to a rack in the base frame.
1.7 Deleted.
1,8. It should have stainless steel full extension drawer and a removable stainless steel tray provided with a perforated plate and a removable lid. Size: 2 ft (Length) x 1.5ft (Width) x 9" (Depth)
2. System Configuration Accessories, spares and consumables
2.1 Stainless Steel Bucket 50 Ltrs
2.2 Headrest
2.3 Body support shim.

Item Sl. No. 123

X-RAY VIEWING LOBBY

1 Panel Side by Side X-Ray View Box Illuminators; High quality with aesthetic finish.
2 Should have the following Standard Features:
3 LED light source (blue type) lasting several thousand hours.
4 Roller gravity film holding system
5 Durable steel construction
6 Thin 3" profile
7 Chip resistant hospital white finish
8 Continuous bottom film ledge
9 Even view reflective system, with white acrylic translucent surface.
10 Centralized cluster On/Off switching
11 Optional Features:
12 FAS – Film Activated Switching
13 MS - Master Switch
14 HGP - Hospital Grade Plug Specs: Surface Wall Mount 3 Panels Side by Side 56" x 17" Viewing Area.
15 Overall Dimensions approx: 56" (L) 21" (H) 3 3/8" (D) (approx.)
16 Illumination: 2000 cd/m2
17 It should be aesthetic and high quality, thin type and mountable on wall.
18 Power Supply

19 Power input to be 220-240VAC, 50Hz.

Item Sl. No. 124

CHARTS

All charts should be 26" x 20" size multi color, thick laminated with roller on up and lower end. Wall hanging type
NAME OF CHART
CHARTS ON ANATOMY
1 The Muscular System
2 The Skeletal Systems
3 The Vertebral Column
4 Rib, Vert, System & hyoid Bone
5 The Nervous System
6 The Brain
7 The Anatomy of the Brain
8 The Spinal nerves
9 The Autonomic nervous System
10 The vascular System and Viscera
11 The Heart
12 The Lymphatic System
13 The Human Skull
14 Skull External and Internal Surfaces
15 The Head and Neck
16 The Respiratory System
17 The Eye
18 The structural Anatomy of the eye
19 The Eye. Anterior & Posterior chambers
20 The Ear, Nose & Throat
21 The Ear - Organs of hearing & Balance
22 Pharynx & Larynx
23 Anatomy of the inner ear
24 Temporomandibular Joint (TMJ)
25 The Skin
26 The Female Reproductive System
27 The Male Reproductive System
28 Pregnancy & Birth
29 Female Reproductive Systems (Ant. & Patho)
30 The Female External Genitalis (Ant.& Patho)
31 Body surface area & body weight
32 Birth Weight
33 Obstetrical Table
34 Critical Stages of foetal development. 1st.lunar month - 10th lunar month
35 The Endocrine System
36 The Shoulder and Elbow (Ligament)
37 Shoulder, Arm, Elbow, forearm & Head
38 The Hand and Wrist (Ligament)

39 Male, Female pelvis, Sacrum, Coccyx, Hip and Knee
40 Hip Thighs, Knee and Leg
41 The Foot and Ankle (Ligament)
42 Ankle and Foot
43 Skeletal Maturation & Growth
44 The Digestive System
45 The liver
46 The Urinary Tract
47 The Kidney
48 The Prostate
49 The portal System
50 Gastroesophageal Disorders and Digestive Anatomy
51 Origins, Development & Structure Cells
52 Soft Tissues of the Lower Limb
53 Soft Tissues of the Foot
54 Bones of the pelvis and Lower Limb
55 Varicose Veins
56 (a) External Morphological Features in Male Female (b) Sex Differentiating Features in Skull (One Chart)
57 (a) Sex Differentiating Features in Mandible.
(b) Sex Differentiating Features in hip Bone.
(c)Sex Differentiating Features in Sacrum ……..(One Chart)
58 (a) Sex Differentiating Features in Articulated pelvis In addition to those present in hip bone & sacrum.
(b) Sex Differentiating Features in Femur……..(One Chart)
59 (a) Estimation of Age-Ages of Eruption of teeth
(b) International system of numbering the Teeth…….(One Chart)
60 (a) Aged of appearance and fusion of different Ossification of bones
(b) Multiplication factor for different bones .for calculation of persons of different parts of India …..(One Chart).

(Bidder has to quote all the items as a set and price of each item should be mentioned separately)

Item Sl. No. 125

MODELS

1- ANATOMY
1 Model of Man or Woman…Normal Size….Adult
Showing superficial dissection on one side. And other side intact.
Arms and legs are detachable . The internal organs in abdominal & thoracic wall are shown in situ and they are detachable.
2 Human Torso with Head ….. Life size .(Male or Female)
Height 38 inches excluding arms & legs. Showing superficial dissection on one side and other side intact. The internal organs in abdominal & thoracic wall are shown in situ. Half of the skull cap can be removed and brain can be taken out.
3 Principal Structures found within tissue Cells
4 Head and Neck ……Longitudinal Section of Head and Neck

5 Brain with Skull
6 Brain in 4 Parts
7 Nervous system
8 Mid sagittal Section through the Brain
9 Structure of the Cerebellum.
10 A Superior View. An Interior View. A Sagittal View
11 Sagittal section through the Medulla Oblongata and pons showing
12 The Cranial Nerve Nuclei of Gray Matter
13 The Autonomic Nervous System
14 Spinal Cord with Spinal Nerves
15 Stretch Reflex
16 Tendon Reflex
17 Flexor (Withdrawal) Reflex
18 Crossed Extensor Reflex
19 Spinal nerves of the hand …. Anterior View
20 Spinal nerves of the leg. (Distribution of Nerves from Lumber & sacral Plexuses)
20 Posterior view of the brain Stem
22 Lymphatic System
Types of Neurons
23 Multipolar Neuron. Bipolar Neuron. Unipolar Neuron
24 Reflex Arc. Inclufing the Sensory receptor, Afferent Neuron, Association Neuron, Efferent neuron and Effector organ.
25 Converging Circuit in the Spinal Cord
26 Diverging Circuit in the spinal Cord
27 Ascending Pathway: The Dorsal Column Descending Pathway: The Pyramidal System (2 Models)
28 Somaesthetic pathway
29 Relationshoip of the Lymphatic System to the Cardio vascular system.
30 The cervicle sympathetic Ganglia
31 Human Eye … Vertical Section ….Greatly Enlarged Showing Muscle, Optic Nerves,Crystaline Lens, Iris, Cornea etc..
32 Human Eye ball…. 100 times enlarged (Detatchable)
33 Visual Central nervous System pathways (Superior View)
34 Ear … Large Size … Dissectible in 4 parts
35 Structure within the inner ear including the cochlea & Vestibular Apparatus
36 Ear … Sagittal Section … On board. (External, middle & Inner Ear)
37 Larynx…. Anterior View, Posterior View, Side View, Cut away Side View & Sagittal Section (5 Models)
38 Functional Model of Larynx…
39 Larynx ……Deep side-View
40 The Pharynx……Posterior View
41 Pharynx ….Sagittal Section
42 Tonsils …… Pharyngeal, Palatine & Lingual Tonsil
43 Teeth (Lower jaw) with structure shown
44 the Structure of tooth
45 The Cavity in tooth
46 The Tongue …. Dorsal Surface
47 Pituitary Gland …… Hypothalamus
48 Thyroid & Parathyroid Glands
49 Sagittal Section through Nasal Cavity and Pharynx Viewed From medical Side
50 Lungs ….. One side sectioned with Respiratory Tract, Bronchial Tubes, Arteries & Veins
51 Pulmonary circulation
52 The Respiratory System
53 Liver ….. Enlarged showing Gall Bladder
54 Liver with Gall Bladder & Pancreas (On Stand)
55 Blood Supply of the Liver
56 Duct System with Gall Stones in common sites
57 Duct Hepatic Portal System

58 Endocrine System
59 Pancreas Enlarged
60 Structure of the pancreas
61 Stomach……Enlarged……with duodenum, sectioned showing details
62 An Anterior view of Abdominal arota & its principles branches
63 Spleen……. Normal size with details
64 Gall bladder, Pancreas & Duodenum
65 Blood supply of the Intestine
65 Rectum (Anal Canal)
67 Large Intestine
68 Small Intestine.
69 The Digestive System
70 Heart …… Enlarged ….Separable in 4 Parts
71 Fat depositions in the arteries
72 Death of an Artery.
73 Artery section with Blockage. (Plaque built up on artery body)
74 Principal Arteries of the body.
75 Principal Veins of the body .
76 Veins that drain the head & Neck
77 An Anterior view of the Veins that the upper right extremity
78 Veins of the lower Extremities.
79 Circulatory System
80 Relationship of the lymphatic system to the Cardio vascular system.
81 Fetal Circulations
82 A Schematic Model of Circulatory System
83 Arteries of the Neck and Head. Major branches of the right Common carotid and right subclavian arteries
84 An Anterior view of the Major Arteries of the Upper Extremity
85 Arteries of the pelvic Region
86 Arteries of the right lower Extremity (Anterior view & posterior view)
87 Urinary System ….. With Kidney and Urinary Bladder
88 Kidney ……in 2 Parts…….on stand
89 Blood supply of the kidney
90 Urinary Bladder ……..Sectioned
91 testis …..X Section
92 Cross Section of the Penis….. Anterior view (Oblique section)
93 Structure of the Penis showing the Attachment, Blood & Nerve supply and the arrangement of the erectile tissue
94 Longitudinal Section of the Female Urethra
95 Organs of the Male Reproductive System.(A Sagittal View)
96 Organs of the Female Reproductive System (A Sagittal Section)
97 The Size & Position of the Uterus in s full term Pregnant Woman in a Sagittal Section
98 Uterus …….Sagittal Section …..with fallopian tube with details
99 Uterus in section showing sperm & Ovum in process of Fertilization.
100 Ovarian Cycle, Fertilization and the Morphofenic events of the first week.
101 Blood supply of the uterus.
102 Vascular Supply to the Uterus
103 Tubal Ligation involves removal of a portion of each uterine tube.
104 Structure of the Breast and Mammary glands (A sagittal section and anterior view partially setioned)
105 The skin …. 1000 times Enlarged
106 Types of Skin Lesions…..Macule, Papule, Nodule, Wheel, vesicle, Intra or Sub epidermal blister, Pustule, Cyst, fissure and Ulcer
107 Bone Structure……. Cross Section
108 Hair Structure…….Cross Section
Anatomy & Physiology of Pregnancy
109 Human Ovum Enlarged

110 structure of Human Spermatozoon
111 spermatogenesis and Oogenesis
112 Uterus in section showing Sperm and Ovum in Process of fertilization
113 Foetal Surface of Placenta
114 Maternal Surface of Placenta
115 Breast In Pregnancy (Made of fibre Glass Material)
Before Puberty
At Puberty
Adolescent
Aduklt, conical type
Adult, well developed hemispherical type
In Pregnancy
in Lactation
Pendulous, in older multiparous woman
116 Breast In Pregnancy (Made in Silicon Material …. Germany Make) Looks natural, Feels natural.
117 Gradual Development of Uterus from 1st month to 9 months (9 Models)
118 Model showing First, Second & third stage of Labour
(Bidder has to quote all the items as a set and price of each item should be mentioned separately)

MODEL ON ANATOMY….. DISSECTION OF UPPER & LOWER EXTRIMITIES…
Made of fibre glass
Material for Understanding dissection
1 Superficial branches of cervical plexus.
2 Dissection of the right mammary gland.
3 Contents of axilla exposed by reflexion of pectoralis major nodes. and the fascia, and removal of fat and lymph. Part of auxiliary vain has been removed to display the medial cutaneous nerve of forearm and unlar nerve.
4 Lymph nodes and lymph vessels of axilla and mamma.
5 Dissection of auxiliary artery and its branches.
6 Dissection of lower part of posterior triangle of neck showing the supraclavicular part of branchial plexus.
7 Dissection of superficial muscles and nerves of the back.
8 Superficial veins at bend of elbow in a specimen in which the median vein was larg.
9 Superficial lymph vessels and lymph nodes of front of upper limb.
10 Superficial lymph vessels of back of upper limb.
11 Superficial veins and nerves of front of upper lumb.
12 Superficial veins and nerves of back of upper lumb.
13 Deltoid muscle and lateral aspect of arm.
14 Dissection of scapular region and back of arm to show the auxiliary and turned. The lateral head spiral groove on the humerus for the radial nerve
15 Anastomosing arteries around the scapula.
16 Dissection of left cubital fossa. The fat has been removed and the bicipital aponeurosis cut sway with the rest of the deep fascia.
17 Dissection of back shoulder and arm. The lateral head of triceps has been divided and turned aside to expose the spiral groove on the humerus for the radial nerve
18 Dissection of superficial muscles, arteries, and nerves of front of forearm. Part of the redial artery was removed to show the muscles deep to it.
19 Deep dissection of muscles, and nerves of front of forearm. The division of the branchial artery is slightly lower than usual.
20 Deep dissection of front of forearm. The elbow is partially flexed, the forearm semi-pronated. The superficial muscles are cut short and turned aside. The deeper parts are still further displayed by the separation of the flexor digitorum superficial from the flexor carpi ulnaris.
21 Superficial dissection of palm to show the palmar aponeurosis. The deep fascia has been removed from the thenar and hypothenar eminences.

22 Structure in palm displayed by removal of palmar aponeurosis. In this specimen the radialis indicis and the princeps pollicis arteries took origin from the superficial palmar arch.
23 Superficial dissection of back of forearm.
24 Deep dissection of back of forearm.
25 Dissection of right forearm triangle.
26 Dissection of adductor canal in the right thigh. A portion of the sartorius has been removed.
27 Scheme of adductor group of muscles and obturator nerve.
28 Dissection of left gluteal region. Gluteus maximus and gluteus medius have been removed, and quadratus femoris has been reflected. In the specimen, the inferior gluteal artery was medial to the internal pudendal instead of lateral to it.
29 Left popliteal region after removal of the deep fascia- the muscles and fat being left undisturbed
30 Dissection of left popliteal fossa. The upper boundaries have been pulled apart and the aponeurosis to which the two heads of the gastrocnemius are attached has been split and the heads separated. For deeper dissection.
31 Dissection of left popliteal fossa. The two heads of the gastrocnemus and portions of the semimembranosus and semitendinous have been removed. For more superficial dissection.
32 Left popliteal artery and its branches.
33 Dissection of gluteal region and back of thigh.
34 Synovial sheaths of dorsum of foot.
35 Dissection of font and lateral side of leg.
36 Dissection of dirsum of foot.
37 Dissection of showing synovial sheaths of tendons of lateral aspect of foot.
38 Superficial dissection of leg viewed from posteromedial side, showing veins and nerves. Note the numerous anastomosis between the great and the small saphenous veins.
39 Superficial dissextion of leg viewed from posterolateral side showing veins and nerves. In the specimen were numerous large anastomosing channels between the small and the great saphenous veins.
40 Deep dissection of back of leg.
41 Dissection of medial side of ankle, showing the relations of the flexor retinaculum. (model no.-1)
dissection of leg and foot showing synovial sheaths.(model no.-2)
42 Superficial dissections of sole of foot to show plantar sponeurosis. The skin and superficial Fascia, except the superficial transverse ligament, have been removed, and the fobrous flexor sheaths partially opened.
43 Superficial dissection of sole of foot. The plantar aponeurosis has been removed. The abductor digiti minimi and the abductor hallucis have been pulled aside
44 Dissection of sole of foot. Most of the flexor digitorum brevis has been removed.
45 Deep dissection of sole of foot.

Item Sl. No. 126

REFRIGERATOR (LABORATORY TYPE)/REAGENT REFRIGERATOR

For storing blood plasma and other blood products, vaccines, other medical or pharmaceutical supplies. Also to cool samples or specimens for preservation . For faster pull-down and recovery times, it should have a bypass refrigeration and microprocessor-based controls
Technical Specifications
1 Laboratory refrigerator should have capacity of 330-380 Litres.
2. Temperature range from 2 deg C to 8 deg C.
3. It should have galvanized sheet steel construction, powder coated and adjustable feet.
4 No welded joint to be exposed for rusting.
5 Insulation of high-grade pressure – foam material.
6. Lockable door with tight sealing surround to prevent cold loss.

7 Automatic defrosting and condensed melt water evaporation.
8 Re-circulating air-cooling system.
9 Control panel with thermometer, main switch and temperature selection.
10. Hermetically enclosed, low noise, vibration proof/low vibration compressor.
11 Visual and a caustic signal alarm system.
12. Epoxy coated outside finish and GS interior.
13. Low noise, automatic defrosting, CFC free & HCFC free.
14 Should be CFC free.
15. Digital temperature display should be provided.
16 Power input to be 220-240VAC, 50Hz.
17 Should be CE or FDA or BIS approved product

Item Sl. No. 127

DISSECTING MICROSCOPE

A Eye piece:
1 " Eye piece: Straight binocular type wide field (10 x) with 22 or better FOV".
2 Magnification 2.0X to 40X with 10X eyepiece.
3 Fine focusing- manual
4 Objective 1X or better.
5 Solid metallic body with sturdy stand riding on heavy castor wheels with locking breaks.
6 Halogen illumination 100W or LED with power supply.
7 Should have 3 spare lamps with each unit.
B Power Supply
Power input to be 220-240VAC, 50Hz
CE or BIS approved product or equivalent.

Item Sl. No. 128

Paraffin Water Bath

1. Should be temperature control.
2. Operation through key pad.
3. Bath tanks and all parts in contract with the bath liquid should be made up of high grade stainless steel.
4. Filling volume should be around 20 litres.
5. Working temperature range- room temperature to 90°C.
6. There should be a multi display facility (LED) with actual value, set point, high/low temperature,
7. Temperature stability should be ± 0.2°C.
8. Temperature uniformity in the bath should be ± 0.05°C.
9. Audible warning safety signals should be there for high/low temperature warnings, and dry running protection.
10. Instrument should have lift up bath cover.
11. Carrier racks should be given for flasks and test tubes racks.
12. A cock should be provided to facilitate draining of bath contents.
13. Water bath protective media should be there to prevent contamination and formation of algae.
14. Heating capacity - 2 KW.
15. Should be CE or BIS approved product

Item Sl. No. 129

Water Bath Serological

1. Useful for dual purpose. It is a combination of serological and routine rectangular water bath with holes and concentric rings.
2. Standard double wall construction. Inner chamber made out of highly polished stainless steel sheet and exterior made out of thick mild steel duly finished power coated paint.
3. Immersion heaters are provided for heating to attain temperature range from 5° C above ambient to 95° C ± 1 °C.
4. Digital temp. Indicator-cum-Controller. The equipment to work on 220v AC 50 Hz single phase.
5. Chamber size in mm & inches L x W x H 300 x 225 x 175 mm Approx Capacity appox 15 ltrs. Approx.
6. Should be CE or FDA or BIS approved product

Item Sl. No. 130

HOT AIR OVEN

1 Description of Function
1.1 Hot Air Oven is required for heating a sample under controlled conditions.
2 Operational Requirements
2.1 Microprocessor based system with PID-temperature controller with integrated .auto diagnostic system with fault indicator.
2.2 Thermostatically controlled system.
3 Technical Specifications
3.1 External: Stainless Steel Casing :Insulated stainless steel door with locking and rear zinc-plated steel
3.2 Interior - Internal Volume atleast 55 liters easy-to-clean interior, made of stainless steel, with supports on the three sides for three adjustable perforated stainless steel shelves
3.3 Forced air circulation by quiet air turbine/Fan to ensure uniform temperature
3.4 Fitted with load indicator and safety thermostat take over indicator lamp. LCD/LED Indicator
3.5 Temperature Variation +/- 1 deg C.
3.6 Temperature Range- ambient to 250 deg C.
3.7 Output available for data acquisition.
4 System Configuration Accessories, spares and consumables
4.1 System as specified-
5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

Item Sl. No. 131

ICE FLAKING MACHINE

1. The ice flaking machine with safety control against failure of refrigerant & water.
2. Machine should automatically shut off when water is not available in line and resumes when water is available.
3. Machine should automatically stop when the Bin is full and resumes when sufficient ice is taken from the Bin.
4. Machine should automatically shut off and indicate if the Refrigerant is not sufficient to produce Ice.
5. An out let should be provided to drain water from the Bin to protect it from contamination.
6. Production Capacity: Should produce at least 200 Kg/24 hrs
7. Storage Bin Capacity: Should have a capacity to store 100 Kg Ice Flakes
8. Freezing Cylinder : Stainless Steel Made
9. Compressor : Should be Hermetically sealed
10. Condensation/Cooling : Air Cooled
11. Cabinet : Should be of Stainless Steel, corrosion free with PUF insulation
12. Exterior (Chamber) : Stainless Steel
13. Control : Microprocessor Control
14. Alarms Indications : Visual LED
15. Should produce very Low Noise Level
16. Operating Temp. : 10 to 38 deg.C
17. Machine should have AgION Silver Antimicrobial product protection
18. Refrigerant : R-404a CFC Free
19. Safety control: Microprocessor control against failure of refrigerant & water.
20. Hardness : Atleast 70%
21. Power Consumption not more than 760 Watts
22. Power Requirement: 220-240V/50Hz
23. Machine should have ISO/CE/FDA certification
24. Adjustable legs to keep the machine in level.

Item Sl. No. 132

BOD INCUBATOR

1	The system should have a temperature control range from +5º C to 60ºC accuracy +/-1 Deg C.
2	Hermitically sealed compressor with CFC free refrigerant.
3	The heat transfer to environment at 37º C should be 40 W/h.
4	The equipment should have inner chamber volume of 300-350 Litres.
5	Should have lockable castor wheels for movement.
6	The system should have a temperature deviation of+ 0.2C at 37º C
7	The system should have heating up time of less than 45 min to achieve 37º C.
8	The equipment should have temperature recovery time of 10 min at 37º C.
9	The equipment should have rounded edges and corners for easy cleaning.
10	Should work on 220 volts, 50 Hz.
11	Should be USFDA or European CE or BIS approved product

Item Sl. No. 133

ALL GLASS DISTILLATION APPARATUS

Technical specifications:
1. The glassware should be made of high quality borosilicate glass to withstand high heat.
2. Apparatus capacity should be of 4 litres/Hr.
3. Should be double stage.
4. Should have metallic stand and other accessories.
5. Stand should be made of rust free material.
6. Standards heating elements of 2.5-3KW to be used.
7. An automatic cut off device should be attached.
8. Heather should be of quartz for immediate output of distilled water. Apparatus should consist of high quality Borosilicate Boiler with built in water leveller.
9. Output water should be pyrogen-free with conductivity less than 1 micro siemen, ph 6.9-7, distillate temp 65-75 deg C.
10. Metal stand.
11. Automatic cut off device or safety control module.
12. Power input to be 220-240 VAC, 50 Hz.
13. Manufacturer should have ISO & CE certification for quality standards.

Item Sl. No. 134

PERISTALTIC PUMP

1. 2 channels
2. Choice of 6 rollers
0.001– 68 ml/min (per channel)
3. Microprocessor controlled
4. Motor type: DC motor
5. Speed : 2-channel 1.6 -160 rpm
6. Speed setting : rpm, resolution 0.1 rpm
7. Flow rate setting : µl/min or ml/min
8. 6 – button membrane key pad
9. LED display
10. Flow rates and tubing : 2-channel 0.012, 0.24, 0.53, 0.68 (ml/min per channel)
11. Mains connection : 230V AC/50Hz, 115V AC/60Hz adjustable
12. Protection rating : IP 30
13. Should be FDA or CE or BIS approved product

Item Sl. No. 135

Biological safety cabinet

Description of Function

Bio-safety cabinets are used to provide primary containments in the laboratory when the investigator is using potentially infectious materials
Operational requirements
Protection for operator, environment and the product from the aerosols and microorganisms
Microprocessor/Microcontroller/Microcomputer controlled system
Technical specification
Outer body made of stain less steel with epoxy powder coated(dimension 4x2x3 feet with variation range +/- 3 inches
HEPA filters with 99.995% efficiency for particles 0.3mm (H14 class according to ENI 822)
Deleted
Air circulation to vertical with 30% exhaust and 70% recirculation
Single stainless steel perforated working platform
Alarms for power failure and door opening
Should be fitted with UV light > 800lux
High speed centrifugal blower with lifetime lubricated
Noise level <63dBA elapsed hour counter
DOP test outlet
Fluorescent lamp to obtain powerful glare free lighting
On /Off switch
Gas connection should be provided in the cabinet
Quote for BOP tested HEPA filter separately
Power Supply
Power supply – 220V 50Hz. Fitted with Indian plug
Reset table over current breaker shall be fitted for protection
Suitable serve stabilizer
Standards, Safety and Training
Electrical safety conforms to standards for electricity safety IEC-60601/IS-13450
Should be complaint to ISO 13485: Quality systems-Medical devices-Particular requirement for the application of ISO 9001 applicable to manufactures and service providers that perform their own design activities
Should be FDA or CE or ISI approved product

Item Sl. No. 136

PHYSIOGRAPH SINGLE CHANNEL WITH STANDARD ACCESSORIES

Should be able to record simple muscle and nerve responses to nerve stimulations
It should be made of light metal for compactness and lightness.
Student Physiograph should be single channel console with 9 speed (.5,1,2,5,10,20,25,30 & 50 mm/sec) chart drive, time & event markers and appropriate transducers and stimulator
Couplers: Strain Gauge and isotonic
Transducers: Pressure, volume, muscle activity/ force, Isotonic fine movement
Accessories, spares and consumables
Earth Lead
Ink bottle
EP to EP lead
Perpex pen
Steel wire
Motor Belt
Chart paper Z- fold
Fuse
Cover
Power Supply
Power input to be 220-240VAC, 50Hz

Item Sl. No. 137

Algometer

1. Accuracy should be ±3% of reading
2. LCD Display should be 5 digits,
3. Display Update should be 8 per second
4. Power: 220 VAC charger
5. Should have rechargeable battery
6. Battery backup should be up to 50 hours
7. Tip Size should be 1 cm2
8. Should have Bi-Directional RS232 (include RS232-USB convertor) communication with the computer
9. Should have auto calibration facility
10. Should have internal memory of 500 data
11. Should have USB patient response unit to record patient response during stimulation
12. The product should be CE or FDA or BIS or ISO Certified

Item Sl. No. 138

KYMOGRAPH

Should run on electric motor,
Speed should be adjustable with the minimum 2.5 mm/sec to maximum 640 mm/sec,
Shaft with the groove on one side and screw lift at the top,
Gear for adjusting the speed,
Clutch to change the gear,
Contact button with the striker or contact arms,
Drum 15 x 15 cm,
Levelling screw.

Item Sl. No. 139

PH Meter

1 Description of function: will be able to measure precisely the Ph of any solution.
2 Operational requirement: combined electrode with digital display of Ph.
3 Technical specification:
Ph: (1) range: 1-14, (2) Resolution: 0.1, (3) accuracy: ±, (4) calibration: at least 2 point.
ORD: (1) RANGE: ± 199 mv (2) Resolution: 0.1 mv / 1 mv
Temperature: (1) range: 0-100º C, (2) Resolution: 1º C (3) Accuracy: ±1º C (4) calibration: off set range ±1º C
4 System Configuration Accessories, spares and consumables
5 Should be supplied with two level standard Ph solution / Ph tablets.
6 Manufacturer should have ISO certification for quality standards.

Item Sl. No. 140

Drug cart

Advanced Emergency Cart-
Emergency cart contructed of steel/aluminum and high density resin.
Defibrillator shelf with monitor straps, glove dispenser, sharp container, oxygen cylinder cradle, IV pole, cardiac chest board, writing surface.
Clear plastic overlay for top cap.
Push handle built in to the end panel for smooth and stable movement.
Pullout writing surface top.
Cart should be light, sturdy and scratch resistant.
All drawers should be lockable individually.
Should have minimum of five drawers with adjustable divides.
Should have side bin discarding syringes and gloves.
Castor, should not be less than 5" diameter to facilitate quite and easy manuvrebility,dust-prevention, flexible transportation.
Size should be :-Height: 100 to 110 cm
- Base should not be less than 60 to 70 cm
- width and depth should be good enough to accommodate the necessary items:

Item Sl. No. 141

View Box

Specialty X- Ray Film LED basedView Box for viewing CT/ MRI/ Diagnostic X-ray films
with External Electrodes Fluorescent Lamp Technology.
Unit suitable for viewing 3 Films of size upto 14" x 17" in single Panel.
Light weight & Slim, giving uniform light output with adjustable light output.
Uniform light output of around 12000Lux
Panel thickness not more than 1"
Wall mounting.
Lamp Life time should be longer over 20,000 hours.
The unit is to operable on 220V
Should be CE marking
To be supplied with table stand from the manufacturer.

Item Sl. No. 142

Infantometer

	Technical Specifications
1	Measuring length of babies and infants
2	Measuring length 33 to 100 cm
3	Graduation 1 mm
4	Baby surface curved to place the babies in right position
5	Edges not sharp to prevent injury to the baby
6	The head and foot positioners lockable.
7	Should be ISO 9001 certified

Item Sl. No. 143

Stadiometer

	Technical Specifications
1	Stadiometer (with head rod)
2	Measuring range : 20-205cm –Graduation : 1mm
3	Weight should be less than 5 KG
4	Robust platform for stand
5	CE/FDA/BIS/ISO approved product.
	Added Para: Should be Provided with standard length rod for calibration

Item Sl. No. 144

Centrifuge-capillary

	Specification:
1	Benchtop centrifuge for quick assessment of hematocrit on microcapillary blood samples.
2	Rotation upto 16,000 rpm adjustable in increments of 100
3	Timer settable in minutes, maximum preset 99 minutes
4	Safety lid-lock feature and emergency lid release
5	Motor overheating protection and imbalance shut-off
6	Digital display shows rpm and time
7	Angle rotor, 24 positions, maximum approx 16000 rcf
8	2 hematocrit readers
9	Noise level less than 40 dB
10	Power requirement: 220V/50Hz
11	Should be CE/FDA/BIS approved product.
	Supplied with each unit:
	1. 10x pack of sealing compound for micro capillary tubes
	2. 10 spare sets of fuses
	3. Carbons: 5 pairs.
	100 pack of 100 heparinised capillary tubes

Item Sl. No. 145

Air Oxygen blender

	Technical Specifications
1	High quality corrosion resistant stainless steel
2	Able to supply FiO2 : 21 to 100%
3	Compatible with standard fitting
4	Compact unit
5	Supplied with two outlets providing different flow rates
6	Should be wall mountable

Item Sl. No. 146

Exercise Table

1) Smooth Wooden Exercise Table
2) Plain table (Wooden table) with adjustable-hack 2" upholstered top.
3) Adjustable hack features positive locking in 6-8 places
4) Top : 150 cm x 88 cm
5) Provided with 6 legs
6) Special frame design allows 1000 pound patient capacity

Item Sl. No. 147

Tilt Table (Manual)

1) Manually operated tilt table with foam padded top
2) Provided with three straps to hold the patient- Thoracic, Pelvic and Knee
3) Range of tilt calibrated from 0-90 degree
4) Table top is 61 cm wide x 198 cm long x 80 cm high
5) Fitted on heavy duty tubular steel frame with locking castors for easy mobility
6) Oven baked finish
7) Provided with two griping handles for various activities.

Item Sl. No. 148

Tilt Table (Motorised)

1) Table should have electric height adjustment control via remote from 46 to 84 cm
2) It should have electric tilting control via remote.
3) Both control can be adjust by two function hand remote.
4) Table should tilt full 90 degree
5) tilt tables motor should have 12- 14 mm/sec speed at unloaded and 6 -7 mm/sec speed at full load.
6) It should have Battery Back-Up to bring the patient down in case of power failure
7) It should have facility of lowers to wheelchair height
8) It should have good quality large braking castors
9) It should indicate tilt angle.
10) Table should have minimum 200 kg weight barring capacity of patient.
11) Table top should have minimum 61cm wide x 198cm long x 80cm high
12) Table should have minimum Three fixation belts:- Thoracic, Pelvic, Knee
13) Table should have work table attachment.
14) Should be USFDA or European CE or BIS certified.

Item Sl. No. 149

PARALLEL BAR WITH PLATFORM

a Width adjusts from 15" to 28" with ergonomic control knobs on each upright.
b 30" clearance between uprights.
c Satin-finish hardwood platform with tapered hardwood ends for easy wheelchair access.
d "anti-slip" treads on each end.
e 1.5 diameter one piece stainless steel handrails.
f Heavy gauge black powder coated steel uprights and fittings.
g Each upright telescopes up in 1.5 increments and locks into (10) height positions with fail-safe ball-tip locking pin.
h Weight Capacity: 400 lbs.
i Dimensions: L x W x H: 7'x 15"- 28" x 29"- 42"
j Dimensions: L x W x H: 10'x 15"- 28" x 29"- 42"
k Dimensions: L x W x H: 12' x 15"- 28" x 29"- 42"

Item Sl. No. 150

Hemoglobinometer

1 Should be able to measure the Hb using blood from finger prick (Should be based on Azide methohemoglobin method).
2 Should be capable of displaying results within 1 minute
3 Accuracy ± 1 %
4 Disposable cuvettes. Cost of consumables to be quoted along with this tender as it will be considered for financial comparison.
5 Should be portable and should have the battery backup for 8 hours or more with provision of electric operations.
6 Factory calibrated and calibration should be verified automatically time when the instrument is turned on.
7 Should have the memory to store at least 500 results with date and time and should be able to transfer the results to PC.
8 Should be US FDA or European CE
9 Original literature of equipment should be submitted.
10 Should be able to do turbidity correction by using double wave length method
11 User‟s list should be attached with satisfactory report for the last three years from three users with contact details.
12 Demonstration for performance of equipment is compulsory in nearby area failing to which will be disqualification.
13 Electrical: The equipment should be able to run on the existing electrical provision

Specification for the consumables for Haemoglobinometer

1 Consumable should be compatible with the above mentioned system
2 System should be calibrated against the reference ICSH. Method
3 Should be able to use venous. Arterial or capillary blood
4 Price of the consumable should be quoted.
5 The system must be US FDA or European CE

Item Sl. No. 151

Dielectric Tube Sealer, Handheld

Purpose of Equipment:
Handheld Blood Bag Tube Sealer is a compact handheld equipment to seal the Blood Bag pilot PVC tubing by transient radio frequency heating and sealing, with no haemolysis
Quality Standard:
Manufacturing should be compliant with ISO 13485.
Should be compliant with CE Class IIA and/or US FDA
Equipment must meet electrical safety specifications of IEC 60601.
Operational requirements:
Should gently seal tubing with no hemolysis, using radiofrequency heating
Should be capable of making wide seal of at least 2 mm width.
Should be rechargeable battery operated compact (less than 3 Kg) hand held type, not bench top type.
Sealing time should not be >2 sec
Electrodes should be well protected by a cover to prevent blood splutter.
Should have indicator lamp for sealing process
No warm up time should be required
Should have tear-seal feature to make segments that can be easily separated by hand
No. of seals per charge should be more than 1000 continuous seals from a fully charged battery.
Charger should be compatible with Input voltage: 240V 50 Hz Single phase Ac
Additional requirements
All equipment should specify qualifications for design, installation, operation and performance.
Validation and calibration reports should have traceability to applicable national and international standards.
Complete with comprehensive set of spare parts and a suitable capacity voltage stabilizer and surge protector with the charging set.
Necessary catalogues, technical write up in English, should be attached with the offer both in hard and electronic copies.
Demonstration and continued comprehensive training for lab staff and support services till familiarity with the system.
Should provide electronic and hard copies of User Manual (English), Service manual (English) and Complete construction details with respect to material specification, thickness, finish etc.
Should provide a set of equipments for calibration and routine Preventive Maintenance as per manufacturer documentation in service/technical manual.

Item Sl. No. 152

Blood Bag Tubing Stripper

1 Should have completely anti-rust, stainless steel body.
2 Should be light weight.
3 Should ensure the uniform pressure while pressing to close and automatic recoiling of spring to release handle for opening.
4 Should have Screw- less rollers to avoid loosening of the rollers.
5 Should have extra sharp cutting edges.

6 Should behave ergonomically designed handle for better grip.
7 Should have roller guide to avoid any damage of tube.
8 Should have provision for manual tube sealing by aluminium rings.
9 Original literature of equipment should be submitted.
10 Should be ISO 13485 approved product.
11 User‟s list should be attached with satisfactory report the last three years from three users with contact details.

Item Sl. No. 153

Refrigerated Blood Bag Centrifuge for Marking Blood Components

1 Design:
Stable, sturdy all- steel design with stainless steel rotor chamber easy to clean/ corrosion resistant paintings & provision of both drain and condense water collection.
2 Max. rcf:
6000 x g to 6400 x g
3 Max. speed:
At least 4,000 rpm to 4500 rpm
4 Max. volume:
Should be able to accommodate twelve 350ml 450ml single, double, triple, quadruple, quintuple blood bags with SAGM bag and empty satellite bags with „In Line filter system‟
5 Drive unit:
Maintenance free induction drive
6 Operation:
(i)Should have 25-30 programming of all parameters,
(ii) Should have digital display
7 Programme:
Should be tamper proof
8 Safety of operation:
Lid-lock and interlock, imbalance display and cutout, steel-armored chamber, protection of overheating of rotor and compressor should conform with European CE/ US-FDA certification specific for the safety issues should be submitted.
9 Protection of data:
In event of power interruption or complete failure, data should remain stored for 2-3 weeks
10 Documentation:
Should have software which should be compatible with hospital information system of respective AIIMS and /or Blood Bank software any interfacing required must be provided by the firm.
11 User-friendly handling:
The equipment should be movable on castor wheels however it should have facility to be placed on four solid feet. There should be no need for ground fixing. Digital display should have keys for controlling for immediate access. The machine should be equipped with and automatic lid lock.
12 Digital Display and adjustment parameters should Include
(a)Acceleration : Different acceleration profiles
(b)Deceleration : Different deceleration profiles
(c) RCF value : 4 digit, should be adjustable
(d) Speed : 4digit, should be adjustable
(e) Centrifugal : Format should be as hour and minutes
(f) Programme number : Multiple programmes
(g)Temperature control : Adjustable in1˚C intervals
(H)Temp. range :-20º to +40ºC
(i) Min. temp. at max. rcf : 4ºC

(j) Error message : Programme error, imbalance, lid open or any other error.
Speed variation: microprocessor controlled rotor speed to within 10 rpm of set value. (Certificate should be submitted by NABL calibration lab)
 Temperature control Microprocessor controlled rotor temperature within 1°C of set temperature regardless of centrifuge speed.(Certificate should be submitted NABL calibration lab)

13 Refrigerant:
CFC- free

14 Warm air Outlet:
From sides and rear of the Machine
Should be supplied with following Standard Accessories:

1 Swing-out rotor with or without shield, should be able to accommodate twelve 350ml and 450ml single, double, triple, quadruple/quintuple blood bags with SAGM bag and empty satellite bags with In Line filter system
2 6 buckets (one bucket for 2 blood bags) for centrifuging 12 units of bags.
3 Removable Plastic inserts, for centrifuging twelve 350ml and 450ml single, double, triple, quadruple/quintuple blood bag system with SAGM bag and empty satellite bags with In Line filter system for preparing blood components like Red Blood Cells Plasma/FFP/Platelets concentrate and Cryoprecipitate. One extra set of above plastic inserts will have to be provided by the firm.
4 Should be provided with balancing weights and balancing plates
5 Should be provided with Hook adapter to spin small volume of Cord Blood and Buffy coat.
6 Operation and Maintenance manual should be provided in original
7 Firm will have to supply the stabilizer with the equipment.
European CE or US FDA certification specific for the product should be submitted
Noise Level should be less than 58 Db
Firm should supply the relevant calibration certificate for the equipment from NABL accredited Lab.
User"s list should be provided with satisfactory report for the last three years from three Licensed Blood Banks with contact details.
Original literature of equipment should be submitted.
Demonstration of performance of equipment compulsory in nearby area failing to which will be disqualification.
Electrical: The equipment should be able to run on the existing electrical provision

Item Sl. No. 154

Electronic Double Pan Component Balance

1 Should be two pan balance
2 Should have digital display of weight and other parameters
3 Accuracy ± 2 grams
4 Should have two independent weight sensors, which display individual weight of each bucket with accuracy
5 It should have individual display monitor to display the weight of each bucket with blood bags
6 Visual or audio alarm should get on as soon as the two plates get balanced
7 Weight Measurement: Should be able to measure weight till 3 Kg.
8 Should be appropriate to weigh and balance blood holding baskets of standard size
9 Weight of balance should not be more than 5 Kg.
10 Original literature of equipment should be submitted.
11 User"s list should be provided with satisfactory report for the last three years from three Licensed Blood Banks with details.
12 European CE or US FDA certification specific for the product should be submitted.
13 Firm will have to supply the stabilizer if required along with the equipment free of cost

14 Firm should also provide the relevant calibration certificate for the equipment from any NABL accredited Lab.
15 Demonstration of performance of equipment is compulsory in nearby area failing to which will be disqualification.
16 Electrical: The equipment should be able to run on the existing electrical provision

Item Sl. No. 155

Manual Plasma Extractor

1 Should be suitable to manually express blood components (Plasma, Platelets) from collection blood bags.
2 Front panel should be spring loaded to apply uniform pressure on container causing transfer of fluid.
3 Compression plate should be made of durable transparent acrylic
4 Metal used for the apparatus should be non-corrosive and can be cleaned with antiseptics
5 Base portion and vertical surface should be made to have better strength and long lasting performance
6 Certification: Product certification: CE class IIA or US FDA certified Quality certification: ISO 13485 certified
7 User‟s list should be attached with satisfactory report for the last three years from three users with contact details.
8 Demonstration of performance of equipment is compulsory in nearby area failing to which will be disqualification.

Item Sl. No. 156

Vertical Blood Bank Refrigerator

1 Storage Capacity: Should be at least 600 Liters capacity and should be able to accommodate minimum 300 double bags of 500 ml capacity
2 Set temperature 4ºC with temperature range 2ºC to 6ºC and adjustable with setting accuracy of ± 0.5ºC
3 Refrigeration: Non-CFC cooled refrigeration
4 Should have good insulation to maintain required temperature
5 Should have double walled glass door.
6 Microprocessor based temperature controller with integrated audiovisual temperature and power alarm function with digital monitoring display.
7 Safety features: Audio alarm for all the following parameters should be there: temperature fluctuation & power failure, set point alarm, low alarm point, Door opening audio and visual display alarm.
8 Safety thermostat to avoid negative temperatures.
9 Should have battery backup for temperature display and power alarm
10 Should have seven days graphic temperature recorder along with data logging device.
11 nternal temperature hold over time in case of power failure should be at least 1.5 hours.
12 Should have fluorescent light inside the Blood Bank Refrigerator with On/ Off switch
13 Should have castor wheels with locking facility
14 Original literature of equipment should be submitted.
15 European CE/US-FDA or WHOGMP certification specific for the product should be submitted.
16 Should be ISO 13485 approved product.

17 Deleted
18 User"s list should be provided with satisfactory report for the last three years from three Licensed Blood Banks with contact details.
19 Firm should supply the temperature recorder chart paper for five years. The cost of the temperature recorder chart paper will be included in the total cost of the equipment financial comparison.
20 Firm will have to supply the stabilizer if required along with the equipment free of cost
21 Demonstration of performance of equipment is compulsory in nearby area failing to which will be disqualification.
22 Electrical: The equipment should be able to run on the existing electrical provision

Item Sl. No. 157

Platelet Incubator with inbuilt Agitator

1 Platelet incubator should have the provision to store 96-platelet bags agitator.
2 Should have transparent outer door for clear visibility
3 Should have micro processor controlled LCD display temperature graph display
4 Should have automated high/low alarm with alarm testing.
5 Should have independent temperature controller.
6 Should have 7 days inkless chart recorder with battery back up to one hour for continuous operation during power failure , should be supply with USB port.
7 The firm will have to supply 300 temperature recorder chart papers and 10 ink pens (if the temperature recorder is not inkless) along with the equipment free of cost.
8 Should be able to maintain a temperature of 22°C with ±1degree variation.
9 Should have digital temperature indicator cum controller
10 Should have forced air circulation for uniformity of temperature all over the incubator.

11 Inner chamber should be made of stain less steel and outer cabinet made of MS sheet powder coated.

Platelet Agitator

12 Should be able to store minimum 96 random bags or aphaeresis bags of different sizes with gentle side-to-side agitation at 3.6 to 4cm, motion of 60-70 strokes per minute.
13 Graphical display of agitation speed of the agitator

Shelves:

14 Should be made of good quality,
15 Coated with bacteria resistant material,
16 Perforated so that air circulation on both side of bags
17 Should be made of 'non slip' material
19 Removable shelves.
20 Should have noiseless heavy-duty ball bearing gear motor, which should continuously operate for 24 hours.
21 Should have built in motion alarm for unplanned ceased agitation. Should be FDA approved or European CE
22 Firm will have to supply the stabilizer if required along with the equipment free of cost
23 Original literature of equipment should be submitted.
24 Deleted.
25 User's list should be attached with satisfactory report for the last three years from three licensed blood banks with contact details.
26 Demonstration of performance of equipment is compulsory in nearby area failing to which will be disqualification.
28 Electrical: The equipment should he able to run on the existing electrical provision

Item Sl. No. 158

VDRL Shaker

1 Body should be made of thick steel and finished with powder coating.
2 Should have rotation in horizontal plane.
3 Platform size should be minimum 12" x 12" for keeping reaction trays.
4 Should have Digital display with digital countdown timer of minimum 0- 15 minutes time.
5 Should have built in speed regulator with maximum speed upto 250 rpm.
6 Workable on 220- 240 volts AC supply, 50 Hz Single phase.
7 Demonstration of performance of equipment is compulsory in nearby area failing to which will be disqualification.
8 Warranty: Deleted
9 Electrical: The equipment should be able to run on the existing electrical provision
10 Should be BIS/CE/FDA/ISO approved product.

Item Sl. No. 159

Micropipette set (2ul-1000ul)

A) Variable Volume
Range 0.1 to 2 ul, 0.5 to 10 ul, 10-100 ul, 100-1000 ul, 500-5000 ul,(ONE Each)
2-20 ul, 20-200 ul or 30-300 ul (3 each)
Volume setting with click stop
Robust design
Tip ejector allows convenient one handed operation
Finger support keeps the pipette in place with minimum user effort.
Digital display clearly reads volume setting.
Ejector collar and tip cone can be removed for easy cleaning and maintenance.
The equipment should be USFDA or European CE approved

Item Sl. No. 160

Fixed volume micropipette set

Volume 5ul;10ul;50ul;50ul;100ul;500ul:one each **(Price of each pipette should be quoted separately)**
Volume setting with click stop Robust design Tip ejector allows convenient one handed operation Finger support keeps the pipette in place with minimum user effort. The equipment should be USFDA or European CE approved.

Item Sl. No. 161

Refrigerated Blood Component Transport Box

Purpose of Equipment:
To transport Blood Component including Fresh Frozen Plasma in vehicles that may or may not have sufficient electric outlet.

Must be designed specifically for blood component transportation use.
Quality Standard:
Both manufacturer and distributor/service provider should be ISO 9001:2008 compliant.
Operational requirements:

1 Should have a Battery back up of at least 4-6hrs, and should be chargeable by Mains/Car battery.
2 All the internal corners should be rounded to make easy any cleaning operation
3 Insulation should CFC-free.
4 Should be high thickness value, the refrigerators should maintain the internal temperature for long time beyond when its battery back up is exhausted.
5 For easy handling of the portable refrigerator there should be handles and there should either be inbuilt wheels or an attachable trolley.
6 Lid should be fully insulated and fitted up with a perimetric rubber gasket, with a special locking device (granting a perfect seal).
7 Internal partitioning and securing should be possible for easy handling and preventing damage to fragile FFP units during tilting/harsh transport conditions.
8 Temperature range: infinitely adjustable between +10 C to –18C
9 Adjustable thermostat should be present to set for different temperatures for different transport functions eg +4°C for RBC and -18°C for FFP, and the present temperature and set temperature both should be displayed.
10 10. Cooling unit should have a hermetically sealed compressor and should be industrial grade granting the maximum reliability and safety during transport.
11 . Refrigerant should be CFC-free.
12 Should be able to store at least 30-40 bags.
13 Voltages: both 12/24 V and 220-230V/1 phase /50 Hz
14 Connecting cables (included): for both the voltage (12/24V and 220-230V).

Additional requirements
All equipment should specify qualifications for design, installation, operation and performance.
Validation and calibration reports should have traceability to applicable national and international standards.
Complete with comprehensive set of spare parts and a suitable capacity voltage stabilizer with the charging set.
Necessary catalogues, technical write up in English, should be attached with the offer both in hard and electronic copies.
Performance, efficiency, other factors as applicable should be furnished.
Should provide electronic and hard copies of User Manual (English), Service manual (English) and Complete construction details with respect to material specification, thickness, finish etc.
Should provide a set of equipments for calibration (eg thermometer) and routine Preventive Maintenance as per manufacturer documentation in service/technical manual.
Should provide Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Item Sl. No. 162

LED Head lights

1. Integrated battery/battery light source that allows more freedom of movement.
2. No separate light source required
3. No separate light cable required
4. No mains supply required
5. Low energy consumption
6. No need to change the lamp (Atleast50,000 hours of service life)
7. Available with rechargeable battery option
8. Yellow/ white light

9. Luminosity adjustable from 10 to 100 mm at a working distance of 40 cm
10. Soft flexible headband
11. Ergonomic fit
12. Easy vertical and horizontal adjustment to the shape of head
13. Extension cable for attaching the rechargable battery and battery box to the clothing
14. All accessories should be from the same manufacturer and should be European CE/ US FDA approved

Item Sl. No. 163

Tail Flick Analgesiometer

1	Description of Function
1.1	This Tail Flick Unit is required to perform rapid precise screening of analgesic drugs on the rat and mice tail.
2	Operational Requirements
2.1	Microprocessor based system required with PC connectivity
3	Technical Specifications
3.1	Should consist of an I.R. source, whose radiant energy of adjustable intensity is focused on the rat tail.
3.2	Restrainers should be available to be used with rat and mice.
3.3	The instrument should automatically detect the withdrawal latency to the nearest 0.1 s.
3.4	The Experimental data can be directly exported to the PC USB or serial ports.
3.5	Dedicated Data Acquisition Software Package.
4	Standards, Safety and Training
4.1	Should be CE / BIS approved product
4.2	Calibration/Acceptance test certificate from the factory required.
4.3	Manufacturer/Supplier should have ISO certification for quality standards.
4.4	Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
5	Documentation
5.1	User/Service Manual in English (Both soft and hard copy) 2 Nos must be provided

Item Sl. No. 164

Electro Convulsiometer(with ear and corneal electrodes)

1	Description of Function
1.1	To the study of Anti-Convulsion and Anti-Epileptic drugs, whether for education, screening or manufacturing of drugs
2	Technical Specifications
2.1	Should provide 50Hz Stimulus Current variable from 0.25mA to 500 mA through touch panel controls for producing minimal and Supra-maximal seizure in small animals
2.2	The duration of Stimulus current is variable from 0.1 second to 1 second in steps of 0.1 second
2.3	Power Supply 230V 50Hz
2.4	Should be supplied with corneal electrode pair (different cup size) and ear clip pair
2.5	Experiment data exported to PC or dedicated data acquisition software package.
3	Standards, Safety and Training
3.1	Product should be CE/BIS approved
4	Documentation
4.1	User/Technical manual should be supplied

Item Sl. No. 165

Cooks pole climbing apparatus

1 Description of Function
1.1 For studying cognitive function, mainly response to conditioned stimulus during learning & its retention
2 Technical Specifications
2.1 Digital Voltmeter: 16 - 200 V DC.
2.2 Digital Timer: 0.1 - 999 sec.
2.3 Digital Delay Timer: 0.1 - 999 sec (cyclic).
2.4 Complete Chamber and Tray made of thick imported Acrylic Sheets.
2.5 Climbing Pole of Bakelite.
2.6 The experimental chamber has a grid floor sliding door with a clear perplex front. Electric buzzer and chamber light. Stimulator with built in timer to provide shock of 440 v 0.2 mA at a frequency of 5 per second. The duration also controlled manually.
2.7 It should be a compact model
3 Standards, Safety and Training
3.1 Should be CE / BIS approved product
3.2 Calibration/Acceptance test certificate from the factory required.
4 Documentation
4.1 User/Service Manual in English
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 166

Rotarod(6 compartments)- Computerized

1 Description of Function
1.1 The "Rota-Rod" treadmill technique has proved to be of great value in research involving screening of drugs which are potentially active on motor coordination
2 Operational Requirements
2.1 Microprocessor / microcontroller treadmill is required for rat and mice
2.2 Technical Specifications
2.3 Rota-Rod treadmill should consist of a computer-controlled stepper motor-driven drum with constant speed or accelerating speed modes of operation or Variable speed via belt / gear
2.4 Provision of recording 5 animals simultaneously in five test zones with independent trip counter.
2.5 Plexi-Glas front panels for viewing during test.
2.6 Adjustable test length(at least upto 900 sec, start speed (0-20,25,30 variation of +/- 3 RPM),top end speed(Max speed 30 RPM),ramp speed, Forward and reverse rotation mode
2.7 PC connectivity as well as suitable PC of Latest configuration should be supplied.
2.8 Printer connectivity as well as Printer should be supplied.
2.9 Should have a digital display shows all test results for each animal position The results should include Stopping RPM, length of test and distance travelled.
2.1 Should be able to determine neuro-pixicity, muscle tone, balance and motor co-ordination in rats and mice.
3 Standards, Safety and Training
3.1 Should be CE / BIS approved product
3.2 Calibration/Acceptance test certificate from the factory required.

4. Documentation
4.1 User/Service Manual in English
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 167

Digital Photoactometer

1 Technical Specifications
1.1 Solid State instrument for monitoring spontaneous & induced Ambulatory (horizontal and vertical) activity of laboratory animals.
1.2 Software must indicate fast and slow movements, fast and slow stereotypy and reaming.
2 Standards, Safety and Training
2.1 Manufacturer should have ISO certification

3 Documentation
3.1 User/Technical/Service manual should be provided

Item Sl. No. 168

Video assisted Elevated plus maze for rats and mice

1 Description of Function
1.1 This Elevated Plus-Maze a sturdy apparatus frequently used to measure anxiety levels in rodents and to screen potential anxiolytic drugs
2 Technical Specifications
2.1 Should have an elevated 4 arm maze in which 2 arms are open and 2 are closed with glass opening on top. (H×L×W : 40-45 cm×50-60 cm×10-12 cm)
2.2 Should have closed arm walls are held solidly in slotted base
2.3 Grey non reflective base plate
2.4 Grey Walls Height: 500 mm
2.5 Transparent Walls Height: 100 mm
2.6 Made by: Wood / stainless steel
2.7 Should Tracks time spent and distance travelled, speed and resting time in each zone
3 Standards, Safety and Training
3.2 Calibration/Acceptance test certificate from the factory required.
3.3 Manufacturer should have ISO certification for quality standards.
4 Documentation
4.1 User/Service Manual in English
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 169

Portable Autoclave (vertical)

1 Suitable of general laboratory use as well as for field sterilization of instruments and dressings etc.
2 It should be portable with capacity 20-25 L
3 The sterilizer should be made up of S.S. Sheet deep drawn to cylindrical shape.
4 Dome shaped S.S. lid is to be provided which will seal the autoclave with neoprene joint less gasket.
5 The lid should be tightened to the body when closed.
6 The working pressure is 1.1 to 1.2 Kg./cm2 (15-18PSI).
7 It should have seamless construction which will not allow bacterial residue and contamination.
8 It is equipped with dial pressure gauge 0-60 PSI, spring loaded safety valve, dead weight type safety valve and steam release valve.
9 The load is held in dressing drums (optional), which is supported on a stand (tripod) the autoclave is hydraulically tested at twice the working pressure as per ISI requirement.
10 Should be with plug & cord.
11 Suitable to work on 220/230 Volt, single phase, 50 Hz, AC supply.
12 Size : 350 × 300-325 mm
13 Accessories : Dressing Drum
14 Should be ISI marked/Test certificate from NABL accrediated lab for the quoted model should be submitted.

Item Sl. No. 170

Digital spirometer

1 Description of Function
1.1 Used for measuring lung function.
2 Operational Requirements
2.1 Complete with all hardware and software is required
3 Technical Specifications
3.1 The system should be able to measure spirometry and flow volume parameters and sub divisions, Maximum Ventilation Volume (MVV), Lung Volume including TLC, RV& FRC by multi-breath closed circuit Helium Dilution/ Nitrogen wash out.
3.2 Should be able to perform diffusion studies.
3.3 Broncho Provocation/ Histamine Challenge Test Software
3.4 System should incorporate Precision Dry Rolling Seal Spirometer (11-13 Litres)/ heated Pneumotech for highest accuracy and reproducibility and Flow Volume Differentiator (Resistance less than 1 cm of H2O / Litre/Sec
3.5 Volume resolution < 8ml
3.6 Accuracy < 0.5%
3.7 Flow Range+/- 15 Litre / Sec.
3.8 Should have linear analyzers for
3.9 Helium/Methane analyser: Range 0-15% Helium accuracy +/- 0.1 % or Methane analyzer-Range 0-0.35% CH4, accuracy +/- 0.1%
3.10 "Carbon Monoxide Analyzer: Range0- 0.350%CO, Accuravy+/- 0.1%
3.11 Oxygen Analyzer: Range: Range 0-100% Accuracy +/- 0.1%
3.12 Gas Control Module with Automatic Filling circuit.
3.13 System should have automated O2 compensation during FRC test.

3.14 System should also have fully automated Calibration/Test procedure with computer.
3.15 Computer specification :CPU corei5 2GB RAM;150 GB Hard Disk Drive;High Speed DVD/CD Rom , Serial and parallel ports ;Keyboard, Mouse and Mouse Pad, Monitor size 15" and printer"
4 Accessories , Spares and Consumables
4.1 System as specified
4.2 Helium/oxygen cylinder -01
Helium Cylinder-01 b) Cylinders Diffusion Mixtures-02
5 Standards, Safety and Training
5.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
5.2 The quoted model should have US FDA/ European CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
5.3 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual
6 Documentation
6.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English.
6.2 Certificate of calibration and inspection from factory.
6.3 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 171

Bicycle Ergometerwith digital display

1 Should have LCD display with programmable protocols.
2 Should provide feedback for speed, time, distance calories and pulse
3 Tension control: Manual 8 level resistance with adjustable wheel
4 Fly wheel: Approximately 6 kg magnetic wheels
5 Handle bar: adjustable
6 Belt transmission: Bearing one way, flat belt, 3 PCS crank
7 Transportation: 2 front end cap
8 Seat: adjustable height front and back
9 Maximum user weight: Approximately 150 kg
10 Dimensions: Approximately 96 X 49 X 138 cm
11 Weight: Approximately 27 kg
12 Gross weight: 29.5 kg

Item Sl. No. 172

Digital Reaction Time Apparatus

1 Description of Function
1.1 Reaction Time System is a multi-operational apparatus for measuring a subject‟s reaction time.
2 Technical Specifications
2.1 Should perform a wide range of tests including reaction time, choice reaction time, reaction/movement time, and tapping tests.
2.2 Should have state-of-the-art touch sensitive keypads for ultra-accurate reaction time
2.3 System should have Reaction/Movement Time Panel. Control Unit for Psychomotor Devices,

2.4 Should have Psychomotor Experiment Software, Single Touch Key with Stimulus, Foot Switch and Push Button Remote.
2.5 Low Tone should be 200Hz
2.6 High Tone should be 1kHz
2.7 Tone Volume should be 75-85 dB max
2.8 Headphone should be 90-105 dB max depending on style
2.9 Stimulus should be 9 tri-colour lights, high or low tone
2.1 Keys should be Touch sensitive with dual accuracy zones
2.11 Cue should be Tri-colour light, high or low tone
2.12 Cue Time should be Fixed, random or none
2.13 Cue Time Range should be 0-25.5 seconds, 0.1 second resolution
2.14 Response Timeout should be 0-25.5 seconds, 0.1 second resolution
2.15 Tapping Duration should be 0-120 seconds, 1.0 second resolution
2.16 Timing Resolution should be 0.001 seconds +/- 0.005%
3 Standards, Safety and Training
3.1 The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4 Documentation
4.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English (Soft copy & Hard copy).
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 173

Multiple Choice Apparatus(with digital display)

1 Description of Function
1.1 Multiple choice Apparatus are used to test the visual perception and motor performance in humans.
2 Technical Specifications
2.1 Should provide four different types of stimulus -- four different colour glowing indicator.
2.2 Should be micro-processor based circuitry.
2.3 Should have individual controls for each stimuli.
2.4 Should have 4 digit display of time, maximum counting 99.99 second with resolution of 0.01 second.
2.5 Should have power ON-OFF Switch & Indicators.
2.6 Should have reset to Zero Switch.
2.7 Should have removable Screen partition.
2.8 Should be supplied with a Chronoscope
3 Standards, Safety and Training
3.1 Manufacturer should have ISO certification
4 Documentation
4.1 User/Technical/Service manual should be provided
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 174

Critical flicker fusion apparatus

1 Description of Function
1.1 The Flicker Fusion System provides the user with a variety of versatile controls to perform accurate and timely measurements of Critical Flicker Frequency (CFF).
2 Technical Specifications
2.1 Frequency: 1.0 - 100.0Hz in 0.1Hz increments with an error of .05%
2.2 Analog Input: 3.5mm mono phone plug with voltage range from 0.1 - 10 V for 1.0 - 100.0Hz flicker rate 5 – 50 flashes/ second
2.3 Absolute Maximum Input: 14V
2.4 Typical Luminance: 58Cd/m2
2.5 Viewing Angle: 1.9°
2.6 Light/Dark Ratio: 1:1
2.7 Stimulus Colour: White
2.8 Should have minimum five modes of operation
2.9 Should have a control over the stimulus luminance, sweep rates, and stimulus selection.
2.1 Should have RS-232 interface
3 Standards, Safety and Training
3.1 Manufacturer should have ISO certification
3.2 Product should be US FDA/European CE/BIS approved
4 Documentation
4.1 User/Technical/Service manual should be provided
4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page / para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 175

Isolated organ bath

1 Technical Specifications
1.1 The isolated organ bath (Single chamber) should provide accurate recording of isometric or isotonic tissue contraction / release
1.2 The complete compartment should be transparent for easy visualization
1.3 It should have easy and quick attachment of tissues
1.4 Diffusion between chambers and temperature equilibrating coils should be prevented by syringe valves
1.5 System should have precision water temperature control
1.6 The tissue washing should be achieved by without exposing tissue to the air
1.7 The water jet bath stirring should be provided by a noiseless vibration free centrifugal pump
1.8 A precise thermostat should maintain the temperature with an accuracy of +/-0.1 deg
1.9 The system should be supplied with all essential accessories like one muscle chamber with stimulator, temperature equilibrating coil, holder, supporting rod, isometric (tension 0-50g) and isotonic (Range: 0.1 – 2cm) transducers.
1.10 "Should be supplied with 4 channel data acquisition system
Stimulator- constant voltage range- 0- 10V
Dose response curve should be ploted automatically compatible computer, printer & printing paper"
1.11 System should work with 230 V,50 Hz power supply.
2 Standards, Safety and Training
2.1 Should be CE / BIS approved product
2.2 Calibration/Acceptance test certificate from the factory required.
2.3 Manufacturer/Supplier should have ISO certification for quality standards.
3 Documentation
3.1 User/Technical/Service manual should be provided

3.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 176

Multi Channel Pipette(Manual)

1 Light weight electronic Pipette for high Professional Standards that provide optimal support in work
2 Only one multi function rocker for liquid aspiration & dispensing.
3 To provide thermal, mechanical and chemical stability piston should manufactured with the combination of Fortron and PEEK material
4 Spring loaded tip cone that provide maximum tightness with minimal attachment force.
5 Provision to autoclave the lower parts
6 Should have provision for removing individual channels to adjust the distance between channels.
7 Should have adjustable volume range from 15 -300ul
8 Should have adjustable volume range from 0.5 - 10ul set
9 Should have Documentation Certificate of calibration and inspection from factory.
10 Five Channel pipette
11 Approved by USFDA or European CE Certificate

Item Sl. No. 177

Bioelectric Impedance Body Composition Analyzer

1 Description of Function
1.1 Body composition readings including: Weight, Fat %, Fat Mass, Total Body Water, Muscle Mass, Basal Metabolic Rate, Bone Mass, a unique Visceral Fat indicator, Body Mass Index etc.
2 Technical Specifications
2.1 Should have LCD display
2.2 Should be based on bioelectric impedance principle
2.3 Should have direct printout of assessment result and data logging with computer interface facility. Branded Computer with latest configuration to be supplied with necessary software and Laser Printer.
2.4 Should have multiple operating frequency : 5KHz,50KHz,500KHz
2.5 Power supply 230V 50Hz AC
2.6 Should have battery back up
2.7 Should have indicator for low battery
2.8 Impedance range : 5-1100Ω
2.9 Should have data storage and data transfer facility
3 Standards, Safety and Training
3.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
3.2 The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along with the technical bid.
4 Documentation
4.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English (Soft copy & Hard copy).

4.2 Certificate of calibration and inspection from factory.
Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Item Sl. No. 178

Vortex Mixer

1 Should be lightweight and portable
2 Should have speed range of 200-3000 rpm with provision of speed change of at least 50 rpm
3 Orbit: 2-4 mm
4 Should operate in pulse mode and continuous mode/auto mode
5 Should have display to show speed and time remaining
6 Should have timer (0-9999 min) with increment/decrement of 1 sec
7 Should have provision to be adopted for single or multiple tubes (1-100) of varying sizes (microtubes – 25 ml tubes)
8 Should have auto-cut off function
9 Should operate at 220-265 V and 50 – 60 Hz
10 Manufacturer/Supplier should have ISO certification for quality standards.

Item Sl. No. 179

Pharmaceutical Refrigerator

1 Capacity: 325- 400 litres
2 Temperature 2-8 C.
3 Preferably roller or caster mounted.
4 Adjustable shelves.
5 Battery backup for display and alarms
6 Durable rust free exterior.
7 Durable interior.
8 Control panel with temperature alarm, on/off switch and digital thermometer.
9 Interior lighting, auto or manual defrosting arrangement
10 Adequate circulation of air to ensure even cooling
11 Door with lock.
12 Control panel with temperature alarm, ON /OFF switch with power on indicator, digital thermometer, temperature display.
13 Electronic automatic temperature control,
14 Operable at 220 V, 50 Hz, single phase AC supply.
15 Compressor unit to be hermetically sealed with guarantee for at least five years.
16 Should have all the accessories required for the functioning of the equipment.
17 All electrical peripherals required for smoothes functioning e.g. voltage stabilizer provided with the equipment.
18 System should be US FDA or European CE or BIS approved.

Item Sl. No. 180

Automated tissue grinder (Homogenizer)

Specifications:

1 Should be useful for disrupting a broad range of tissue.
2 It should be used for homogenizing the volumes of 250ul to 10 ml (H2O) and speed upto 24000 rpm
3 Should provide gentle disruption of tissues without damaging the subcellular structures. The stirrer motor should have electronic speed controller
4 The pestles and tubes should be chemically inert, resilient and autoclavable. They should have smooth and non-wettable surface
5 It should have pulse mode to process heat-sensitive samples; accelerate chemical and enzymatic reactions 0 to 15-minute timer
6 Power 220V AC/ 50Hz
7 Should include all accessories including support stand, replacement interface washers, and tip wrenches: Should include sets of different pestles and tubes.

Item Sl. No. 181

WEIGHING MACHINE FOR DEAD BODIES

a. Length of floor scale should be 4 feet to 6 feet.
b. Platform for keeping the body – should be sturdy, made of stainless steel, 18 gauge – size 6 feet x 2.5 feet x 4 inch.
c. Should have a digital meter (dial) to display the weight rapidly and measurements can be calibrated to adjust the weight of the platform.
d. The digital meter (dial) should be enclosed dust proof and water tight stainless steel enclosure mounted on a wall. AC or DC operated.
e. Should be able to perform under the most rigorous conditions of a mortuary conducting 15 post-mortem examinations per day measuring dead body weight ranging from 0 kg to 200 kg. Accuracy should be ±200 grams.
f. Rechargeable battery back-up pack provided for usage in power failure.
Standards, safety and Training:
Should be CE or BIS or ISO approved product.

Item Sl. No. 182

Digital Weighing Machine for organs/foetus

Specifications:
1. Description of function:
To measure weight of organs during Autopsy and for weighing the foetus
2. Operational Requirements:
a. Organ weights of each organ documented during autopsy
3. Technical specifications:
a.Stainless steel 304 grade construction
b. Platform minimum 350 mm x 350 mm (14” x 14”), easy to clean and anti-staining
c. Maximum of 15 kg can be measured with accuracy of about 2 gm.
d. Digital display
e. Rechargeable battery back-up pack provided for usage in power failure.
4. Environmental factors:

a. The unit shall be capable of operating continuously in ambient temperature of 20 – 30 deg C and relative humidity of 15 – 90%.
b. The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg C and relative humidity of 15 – 90 %.
5. Standards, safety and Training:
a. Manufacturer should have ISO certification for quality standards
6. Documentation:
a. User / Technical / Maintenance manuals to be supplied in English.

Item Sl. No. 183

Cadaver / Autopsy Carrier (Non-elevating)

Specifications:
1. Technical specifications:
Should be able to transport dead bodies from cold storage to autopsy table and then to the relative waiting area.
Dimensions:
Length: 75 inches to 85 inches
Width: 25 – 35 inches
Height: 30 – 35 inches
Chassis should be made of SS 304. It should have a covering made of SS 304/ Heavy duty high impact PVC totally covering the dead body with non-transparent doors opening on the top side.
Casters should be rubber edged with total lock wheel locking in-built system.
Navigation should be possible in all directions
Should be able to bear the weight of the dead body (up to 200 kg).
Can be easily cleaned with ordinary detergent after each transportation and should be resistant to fumigation chemicals and cold temperature.
Should be durable and have bumpers to protect the carrier from accidental bumping on the walls of autopsy hall and body storage racks.
2. Standards, safety and Training:
Manufacturer should have ISO certification for quality standards

SECTION – VIII

Quality Control Requirements

(Proforma for equipment and quality control employed by the manufacturer(s)

Tender Reference No.
Date of opening
Time
Name and address of the Tenderer:
Note: All the following details shall relate to the manufacturer(s) for the goods quoted for.

01 Name of the manufacturer
- a. full postal address
- b. full address of the premises
- c. e-mail address
- d. telephone number
- e. fax number

02 Plant and machinery details
03 Manufacturing process details
04 Monthly (single shift) production capacity of goods quoted for
- a. normal
- b. maximum

05 Total annual turn-over (value in Rupees)
06 Quality control arrangement details
- a. for incoming materials and bought-out components
- b. for process control
- c. for final product evaluation

07 Test certificate held
- a . type test
- b . BIS/ISO certification
- c . any other

08 Details of staff
- a. technical
- b skilled
- c unskilled

Signature and seal of the Tenderer

SECTION – IX

Qualification Criteria

01. The Tenderer must be a Manufacturer or its authorized Agent.

02. (a) The manufacturer should have successfully executed at least 2 Supply orders/ contracts during last **Three** years from the date of Tender Opening,for the similar equipment performing similar functions and meeting major specification parameters of the quoted item, which is functioning satisfactorilyin India

(b) The Tenderers quoting as authorized agent of the manufacturer meeting the above criteria 02 (a) should have executed at least 1 Supply order/ contract on behalf of the same manufacturer during last **Three** years from the date of Tender Opening,for the similar equipment performing similar functions and meeting major specification parameters of the quoted item, which is functioning satisfactorily in India.

Note

1. In support of 2 (a) & 2(b), the Tenderer shall furnish Performance statement in the enclosed Proforma 'A'.The manufactureras well as the Tenderer/ Indian Agent shall furnish Satisfactory Performance cum installation Certificate in respect of above, duly translated in English and self-certifiedalongwith the tender.

2. The Tenderer shall furnish a brief write-up, packed with adequate data explaining and establishing his available capacity/capability (both technical and financial) to perform the Contract (if awarded) within the stipulated time period, after meeting all its current/present commitments. The Tenderer shall also furnish details of Equipment and Quality Control in the enclosed Section VIII.

3. Notwithstanding anything stated above, the Purchaser reserves the right to assess the Tenderer's capability and capacity to perform the contract satisfactorily before deciding on award of Contract, should circumstances warrant such an assessment in the overall interest of the Purchaser.

4. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre-determined place acceptable to the purchaser for technical acceptability as per the tender specifications, before the opening of the Price Tender.

5. i. The bidder should be in business of manufacturing/supplying and after sale services of product(s) similar to that of the quoted item under the 'List of Requirement' during the last 3 (three) years prior to bid opening.

ii. The bidder is incorporated in Country of manufacture of goods. Furnishing documentary proof for the legal status, place of registration and principal place of business of the company or firm or partnership, etc.

iii. The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the purchaser or his representative for inspection.

PROFORMA 'A'

PROFORMA FOR PERFORMANCE STATEMENT
(For the period of last five years from the date of tender opening)

Tender Reference No. : _____

Date of opening : _____

Time : _____

Name and address of the Tenderer : _____

Name and address of the manufacturer : _____

Order placed by (full address of Purchaser)	Order number and date	Description and quantity of ordered goods and services (Model details, if any)	Value of order (Rs.)	Date of completion of Contract		Remarks indicating reasons for delay if any	Have the goods been functioning Satisfactorily (attach end user certificates as per format annexed)**
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the Tenderer

**** The documentary proof will be certificate(s) from the consignee(s)/end user(s) with cross-reference of order no. and date in the certificate duly self certified by the bidder authenticating the correctness of the information furnished. If at any time, information furnished is proved to be false or incorrect, the earnest money furnished will be forfeited.**

FORMAT OF PERFORMANCE CERTIFICATE

To whom it may concern

Date_____

Certified that M/s_____(name & address of manufacturer) supplied us _____Nos(indicate quantity) of equipment,_____ (indicate name of the equipment) along with model details, if any against our order no_____dt_____(please indicate order no & date as figuring in the performance statement).The equipment was installed,commissioned and handed over to us _____(indicate date) & since then the equipment is has been working to our entire satisfaction.

Place:_____ **Name & Designation of the**

Date:_____ **officer with seal_____**

(in capital letters)

SECTION – X

TENDER FORM

Date_____

To

HLL Infra Tech Services Ltd,,
B-14A, Sector-62, Distt.
Gautam Budh Nagar, Noida – 201307, UP

Ref. Your TE document No. _____dated _____

We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. _____, dated _____ (*if any*), the receipt of which is hereby confirmed. We now offer to supply and deliver_____ *(Description of goods and services)* in conformity with your above referred document attached herewith and made part of this tender.

If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery schedule specified in the Supply Order placed against the Rate Contract.

We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract.

We agree to keep our tender valid for acceptance as required in the GIT clause 20, read with modification, if any in Section - III – "Special Instructions to Tenderers" or for subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period.

We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.

We confirm that we do not stand deregistered/banned/blacklisted by any statutory Authorities as per govt. rules/procedures.

We confirm that we fully agree to the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum if any

(Signature with date)

(Name and
designation) Duly authorised to sign tender for and on behalf of

SECTION – XI PRICE SCHEDULE

A) PRICE SCHEDULE FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN LOCATED WITHIN INDIA

1	2	3	4							5
Schedule	Brief Description of Goods	Country of Origin	Price per unit (Rs.)							
			Ex - factory/ Ex -warehouse /Ex-showroom /Off - the shelf (a)	Excise Duty (if any) [%age & value] (b)	Sales Tax/ VAT(if any) [%age & value] ©	Transportation Charges (d)	Insurance charges for a period including 3 months beyond date of delivery, loading/ unloading and Incidental costs till consignee's site (e)	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site (f)	Unit Price (at Consignee Site) basis (g) =a+b+c+d+e+f	Total Price (at Consignee Site) basis (Rs.) 4 x 5(g)

Unit Tender price in Rupees: _____

In words: _____

Note: -

1. The charges for Annual CMC after warranty shall be quoted separately as per Section – XI – Price Schedule C

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

SECTION – XI PRICE SCHEDULE

B) PRICE SCHEDULE FOR GOODS TO BE IMPORTED FROM ABROAD

1	2	3	4										
Schedule	Brief Description of Goods	Country of Origin	Price per unit (Currency)										
			Gross FOB price at sea/air port of Lading (inclusive of Agency Commission)	Amount and percentage of Agency Commission **	Net FOB (excluding Agency Commission) (a-b)	Insurance & Freight	Net CIP by Air/ Sea at the port of entry (c+d)	Custom Duty amount as % of Net CIP (amount with CDEC as applicable) **	Custom Clearance & Handling Charges **	Loading/ unloading, inland transportation, insurance as per Clause 11 of GCC & incidental cost till consignee's site **	Installation commissioning, supervision. Demonstration & training at the consignee's site **	Unit price on DDP basis at consignee's site	
												(i) In Indian Rupees (b+f+g+h+i)	(ii) In foreign currency (e)
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	

Unit price at Consignee's site

** (i) In Indian Rupees Rs_____(In figures and words)

(ii) In foreign currency _____ (In figures and words)

_____ _____

Note: -

1. The Tenderer will be fully responsible for the safe arrival of the goods at the consignee site in good condition as per terms of DDP and INCOTERMS

2. The bidders break up of prices under various columns are for comparison of prices up to delivery of goods at consignee's site for tender evaluation.

3. The quoted price should be supported with original proforma invoice from the foreign manufacturers. The proforma invoice should indicate the percentage of agency commission included in the FOB prices. Indian Agent to be paid in Indian Currency.

4. All the components of the DDP price will be paid by the tenderer. The purchaser will make the payment of DDP price after receipt of goods at consignee's site in good condition as per payment terms in the contract.

5.The prices quoted in foreign currency in column (e) shall be converted in Rupees at the selling rate of exchange applicable on the date of tender opening .The customs duty amount so worked out as percentage of net CIP value in rupees will be taken for evaluation and comparison of tenders

Name_____

Business address_____

Place:_____

Signature of Tenderer_____

Date:_____

Seal of Tenderer_____

SECTION – XI PRICE SCHEDULE

PRICE SCHEDULE FOR COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD TO BE QUOTED FOR 5 YEARS

1	2	3	4					5
Item SI. No.	**BRIEF DESCRIPTION OF GOODS**	**QUANTITY. (Nos.)**	**Comprehensive Maintenance Contract Cost for Each Unit year wise*.**					**Total Comprehensive Maintenance Contract Cost for 5 (or as specified) Years [3 x (4a+4b+4c+4d+4e)]**
			1st	**2nd**	**3rd**	**4th**	**5th**	
			a	**b**	**c**	**d**	**e**	

- *** After completion of Warranty period**

NOTE:-

1. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual, labour and spares, after satisfactory completion of Warranty period may be quoted for the required period (as specified in Section VI, List of Requirements) on yearly basis for complete equipment.
2. 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.
3. Cost of CMC will **NOT** be added for Ranking/Evaluation purpose.
4. The payment of CMC will be madeas per clause GCC clause 21.1 (D).
5. All software updates should be provided free of cost during CMC period.
6. 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 Tenderer_____

Date: _____

Seal of the Tenderer_____

SECTION – XII

QUESTIONNAIRE

Fill up the Section XX – Check List for Tenderers and enclose with the Tender

1. The tenderer should furnish specific answers to all the questions/issues mentioned in the Checklist. In case a question/issue does not apply to a tenderer, the same should be answered with the remark "not applicable"

2. Wherever necessary and applicable, the tenderer shall enclose certified copy as documentary proof/ evidence to substantiate the corresponding statement.

3. In case a tenderer furnishes a wrong or evasive answer against any of the question/issues mentioned in the Checklist, its tender will be liable to be ignored.

SECTION – XIII

BANK GUARANTEE FORM FOR EMD

Whereas _____ (hereinafter called the "Tenderer") has submitted its quotation dated _____ for the supply of _____ (hereinafter called the "tender") against the purchaser's tender enquiry No. _____ Know all persons by these presents that we _____ of _____ (Hereinafter called the "Bank") having our registered office at _____ are bound unto _____ (hereinafter called the "Purchaser) in the sum of _____ for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20____. The conditions of this obligation are:

(1) If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.

(2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-

a) fails or refuses to furnish the performance security for the due performance of the contract.

or

b) fails or refuses to accept/execute the contract.

or

c) if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty-five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorised officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch

SECTION – XIV

MANUFACTURER'S AUTHORISATION FORM

To

HLL Infra Tech Services Ltd,

B-14A, Sector-62, Distt. Gautam Budh Nagar,

Noida – 201307, UP

Dear Sirs,

Ref. Your TE document No _____, dated _____

We, _____ who are proven and reputable manufacturers of_____(*name and description of the goods offered in the tender*) having factories at_____, hereby authorise Messrs_____(*name and address of the agent*) to submit a tender, subsequently negotiated and process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

We further confirm that no supplier or firm or individual other than Messrs. _____ (*name and address of the above agent*) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us. Agency agreement with them giving details of agency commission shall be provided.

We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorised agent.

We also confirm that the price quoted by our agent shall not exceed than that which we would have quoted directly.

Yours faithfully,

[*Signature with date, name and designation*]

for and on behalf of Messrs_____

[*Name & address of the manufacturers*]

Note: 1. This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

2. Original letter may be sent.

SECTION – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

To
Head of Hospital/Institute/Medical College

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of supply order no_____ dated _____ to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of. _____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid up to 30 (thirty) months from the date of Supply Order i.e. up to ---------- (indicate date)

……
(Signature with date of the authorised officer of the Bank)
……
Name and designation of the officer
……
……
Seal, name & address of the Bank and address of the Branch

SECTION – XVI

CONTRACT FORM – A

HLL Infra Tech Services Limited
B-14A, Sector-62
Distt. Gautam Budh Nagar
Noida – 201307, U.P.

Telefax No:-
Email id:-
Telephone No:-
Rate Contract No.

To
Name of the firm
Address

Sub: Rate Contract for supply of …….
Valid upto ……

Ref: (I) This office Tender Enquiry No._____
(ii) Your Quotation No. _____ and subsequent letters.

Dear Sir,

You are hereby informed that your above referred tender read with subsequent letters mentioned above for the stores specified in the Schedule annexed has been accepted. This Rate Contract will be governed by the General Conditions of Contract (GCC) brought in the Section IV. The Rate Contract and the Schedules annexed hereto shall be the sore repository of this Rate Contract/Transaction.

SCHEDULES ANNEXED

1. Schedule "A" Description of Stores, prices, Duties/Taxes
2. Schedule "B" 1. Special Conditions of Contract Section-V
   2. List of Requirement
   3. Technical Specifications
3. Schedule "C" List of Parallel Rate Contracts

Yours faithfully

Schedule "A"

1. RATE CONTRACT NO._____ DATED_____ FOR THE SUPPLY OF _____
(Nomenclature of Stores)
2. ADVACNE RATE CONTRACT NO.
3. (a) NAME AND FULL ADDRESS OF THE FIRM — Supplier's Code No._____
Telephone No._____
FAX No._____
3. (b) NAME AND ADDRESS OF MANUFACUTRER _____
4. VALIDITY OF RATE CONTRACT: _____
5. DESCRIPTION OF ITEM, SPECIFICATION, UNIT RATE

Store code no.	Description of Item	Specification Drawing No.	Unit	Rate per Unit
1	2	3	4	5

6. TERMS OF DELIVERY : _____
7. EXCISE DUTY : _____
8. SALES TAX/VAT : _____
9. CMC : _____
10. DELIVERY PERIOD : _____
11. SLAB DISCOUNT, IF ANY : _____
12. PRICES : Prices are Firm and Final
13. MINIMUM QUANTITY IN SINGLE SUPPLY ORDER : _____
14. STATUS OF RC HOLDING FIRM : LST/MSE/PSU

15. PAYMENT AUTHORITY :

16. INSPECTION AGENCY :

17. PAYMENT TERMS :

18. PAYTING AUTHORITY :

19. PERFORMANCE SECURITY :

20. PLACE AT WHICH THE STORES ARE TO BE TENDERED FOR INSPECTION : (FULL ADDRESS)

SCHEDULE “B”

(SPECIAL CONDITIONS APPLICABLE TO THE RATE CONTRACT)

SCHEDULE "C"

LIST OF PARALLEL RATE CONTRACT

Sr. No	Name of the Parallel R/C Holder	Parallel R/C No. and date

Received and accepted this contract

(Signature, name and address of the supplier's executive duly authorised to sign on behalf of the supplier)
For and on behalf of _____
(Name and address of the supplier)

(Seal of the supplier)
Date: _____

Place: _____

CONTRACT FORM – B

CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT

Annual CM Contract No._____ dated_____
Between

(Address of Head of Hospital/Institute/Medical College)
And

(Name & Address of the Supplier)

Ref: Contract No_____ dated_____ (Contract No. & date of Contract for supply, installation, commissioning, handing over, Trial run, Training of operators & warranty of goods)

In continuation to the above referred contract

2. The Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

1	2	3	4			5
Schedule No.	**BRIEF DESCRIPTION OF GOODS**	**QUANTITY. (Nos.)**	**Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.**			**Total Annual Comprehensive Maintenance Contract Cost for 3 Years [3 x (4a+4b+4c)]**
			1st	**2nd**	**3rd**	
			a	**b**	**c**	

Total value (in figure) _____ (In words) _____

b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from_____ (date of expiry of Warranty) and will expire on _____ (date of expiry of CMC)

c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 3 years as contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacummatic parts, _____ & _____) and Turnkey (if any).

d) 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.

e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's

manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.

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

g) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. _____ [(fill amount) equivalent to 2.5 % of the cost of the equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of 21 (twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Purchaser/Consignee.

h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.

i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the Consignee. The payment will be made in Indian Rupees.

j) **Paying authority:** _____ (name of the consignee i.e. authorised official)

_____

(Signature, name and address of Institute official)

For and on behalf of_____

Received and accepted this contract

(Signature, name and address of the supplier's executive duly authorised to sign on behalf of the supplier)
For and on behalf of _____
(Name and address of the supplier)

(Seal of the supplier)
Date: _____
Place: _____

SUPPLY ORDER AGAINST RATE CONTRACT- FORM – C

M/s –

Supply Order No: Date:

Rate Contract No: Dated:

Period of Rate Contract:

This order which is intended for the supply of the stores detailed in the schedule below in accordance with the terms and conditions of the Rate Contract mentioned above and in the manner specified herein, shall operate to create a specific contract between the contractor (with whom the contract referred to and the requisition are placed) on the part and the President of India on the other part.

1. Name of Indentor:
2. Name & address of A/C officer of Indenting Office:
3. Indent No. & Date:
4. Details of Stores order:

Item Sr. No	Store Description	Accounting Unit	Unit Price (Rs)	Ordered Qty.	Ordered Value

5. Excise Duty:
6. Central Sales Tax/VAT:
7. Total Value (Rs):
   (Words):
8. Terms of Delivery:
9. Delivery Period
10. Inspection Agency:
11. Paying Authority:
12. Mode of Dispatch:

13. Consignee Details:

Signature with

Name & Designation

Copy to:

SECTION – XVII

CONSIGNEE RECEIPT CERTIFICATE

(To be given by consignee's authorized representative)

To,
M/s

This is to certify that the goods as detailed below have been received duly inspected in good condition:

1) Contract No. & date :_____

   LC No: & date (for LC shipments) :_____

2) Supplier's Name :_____

3) Consignee's Name & Address with telephone No. & Fax No. :
   _____

4) Name of the item supplied :_____

5) Quantity Supplied :_____

6) Date of Receipt by the Consignee :_____

7) Name and designation of Authorized Representative of Consignee
   :_
   _____

8) Signature of Authorized Representative of Consignee with date, Designation & Tel. No
   :_
   _____

9) Seal of the Consignee :_____

Copy to,

1. M/s HITES
2.

SECTION – XVIII

Proforma of Final Acceptance Certificate by the Consignee

No_____ **Date_____**

To
M/s _____

_____

_____

Subject: Certificate of commissioning of equipment/plant.

This is to certify that the equipment(s)/plant(s) as detailed below has/have been received in good conditions along with all the standard and special accessories and a set of spares (subject to remarks in Para no.02) in accordance with the contract/technical specifications. The same has been installed and commissioned.

(a) Contract No_____ dated_____

(b) Description of the equipment(s)/plants:_____

(c) Equipment(s)/ plant(s) nos.:_____

(d) Quantity:_____

(e) Bill of Loading/Air Way Bill/RailwayReceipt/ Goods Consignment Note no_____ dated _____

(f) Name of the vessel/Transporter:_____

(g) Name of the Consignee:_____

(h) Date of commissioning and proving test:_____

Details of accessories/spares not yet supplied and recoveries to be made on that account.

Sl. No.	Description of Item	Quantity	Amount to be recovered No.

The proving test has been done to our entire satisfaction and operators have been trained to operate the equipment(s)/plant(s).

The supplier has fulfilled its contractual obligations satisfactorily ## or

The supplier has failed to fulfil its contractual obligations with regard to the following:

He has not adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specifications'.

He has not supervised the commissioning of the equipment(s)/plant(s)in time, i.e. within the period specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).

The supplier as specified in the contract has not done training of personnel.

The extent of delay for each of the activities to be performed by the supplier in terms of the contract is
The amount of recovery on account of non-supply of accessories and spares is given under Para no.02.
The amount of recovery on account of failure of the supplier to meet his contractual obligations is_____ (here indicate the amount).
Signature
Name
Designation with stamp

Explanatory notes for filling up the certificate:
He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.
He has supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the time specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).

Training of personnel has been done by the supplier as specified in the contract
In the event of documents/drawings having not been supplied or installation and commissioning of the equipment(s)/plant(s) having been delayed on account of the supplier, the extent of delay should always be mentioned in clear terms.

SECTION – XIX

CHECKLIST

Name of Tenderer:
Name of Manufacturer:

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
1. a.	Have you enclosed EMD of required amount for the quoted schedules?			
b.	In case EMD is furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	In case Bank Guarantee is furnished, have you kept its validity of 165 days from Techno Commercial Tender Opening date as per clause 19 of GIT?			
2. a.	Have you enclosed duly filled Tender Form as per format in Section X?			
b.	Have you enclosed Power of Attorney/Partnership Agreement in favour of the signatory attested by a Notary Public.			
3.	(a) Are you a MSE unit, registered with NSIC under Single point registration Scheme or registered with DGS&D for the quoted items? If so, have you enclosed a copy of the registration certificate? (b) Are you enlisted with DGS&D as Indian Agent under the compulsory Enlistment Scheme of Ministry of Finance, Govt. of India? If so have you enclosed a copy of the enlistment certificate?			
4. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			
5. a.	Have you submitted satisfactory performance certificate from the end users in respect of all orders mentioned in the Proforma for performance statement in Sec. IX of TE document.			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
b.	Have you submitted copy of the supply order(s) and installation report?			
6.	(a) Have you submitted manufacturer's authorization as per Section XIV? (b) Have you submitted a copy of the agreement between you and your Principal as per clause 14 of GIT?			
7.	(a) Have you submitted prices of goods, turnkey (if any), CMC etc. in the Price Bid as per Section XI? (b) Have you submitted with your Price Bid your Principal's /Manufacturer's Original proforma invoice indicating FOB value, CIP value, Indian Agent Commission etc. As per price schedule format .			
8.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
9. a.	In case of Indian Tenderer, have you furnished permanent Account No (PAN). as allotted by the Income Tax Department of Government of India?			
b.	In case of Foreign Tenderer, have you furnished Income Tax Account No. of your Indian Agent as allotted by the Income Tax Department of Government of India?			
10.	Have you intimated the name an full address of your Banker (s) along with your Account Number			
11.	(a) Have you fully accepted payment terms as per TE document? (b) Have you accepted "terms of delivery" as per TE document?			
12.	Have you quoted delivery period and lead time required for supply of stores?			
13.	Have you confirmed that the terms of delivery shall be "Delivery at Consignee Site"?			
14.	Have you accepted the warranty as per TE document?			
15.	Have you accepted all other terms and conditions of TE document?			
16.	(a) Have you furnished documents establishing your eligibility & qualification criteria as per TE documents? (b) Have you given "write up" as asked for in Qualification Criteria (Section IX) under Note 2 ?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
17	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening?			
18	Have you submitted the certificate of incorporation?			
19	Whether the firm is LIS or MSE. In case of LSI whether percentage of purchase from MSE indicated?			

N.B.

1. All pages of the Tender should be page numbered and indexed.

2. The Tenderer may go through the checklist and ensure that all the documents/confirmations listed above are enclosed in the tender and no column is left blank. If any column is not applicable, it may be filled up as NA.

3 . It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any. Non submission of the above information/documents makes the bid liable to be ignored without any further reference to the Bidder.

(Signature with date)

(Full name, designation & address of the person duly authorised sign on behalf of the Tenderer)
For and on behalf of

(Name, address and stamp of the tendering firm)

SECTION XX

FORM OF INTEGRITY PACT

(To be given on letter head of the Supplier/OEM as the case may be duly signed by the authority having legal power of attorney to bind the firm)

This Integrity Pact (hereinafter called the IP) is a fidelity agreement between the Supplier (which include all their employees, agents, consultants and also their OEM, if any), who are awarded/seeks Contracts/Rate Contract(s) (RCs) on one hand and M/s HLL Infra Tech Services Limited (hereinafter called the Purchaser) which include all its employees/officials/officers working on the other.

2. Under this IP, it has been agreed, accepted and undertaken to use, practice and observe all the best, clean, ethical, honest and legal means & behaviour maintaining complete transparency and fairness in all activities concerning Bidding, Contracting/Rate Contracting and performance thereto. Neither the Supplier nor the Purchaser which also includes indentors, inspection officials shall demand or pay or accept any illicit gratification/bribe or hospitality or consideration/favour of any kind whatsoever and shall not use nay corrupt practices including fraud, misrepresentation, misleading or forged/false documents concealing/supressing facts, undue pressures or influences from anyone (written or verbal/telephonic), bribery, rigging, cartelization, collusion, which are not limited to, but also include the following:

a) **Collusive bidding:** Collusive bidding can take form of an agreement among firms to divide the market, set price, or limit production. It can involve "wage fixing, kickbacks, or misrepresenting the independence of the relationship between the colluding parties". In legal terms, all acts affected by collusion are considered void.

b) **Bid rotation:** In bid-rotation scheme, conspiring firms continue to bid, but they agree to take turns being the winning (i.e. lowest qualifying) bidder. The way in which bid-rotation agreements are implemented can vary.

c) **Cover bidding:** Cover (also called complementary, courtesy, token, or symbolic) bidding occurs when individuals or firms agree to submit bids that involve at least one of the following: (1) a competitor agrees to submit a bid that is higher than the bid of designated winner, (2) a competitor submits a bid that is known to be too high to be accepted, or (3) a competitor submits a bid that contains special terms that are known to be unacceptable to the purchaser.

d) **Bid suppression:** Bid-suppression schemes involves agreements among competitors in which one or more companies agree to refrain from bidding or to withdraw a previously submitted bid so that the designated winner's bid will be accepted.

e) Market allocation: Competitors crave up the market and agree not to compete for certain customers or in certain geographic areas. Competing firms may, for example, allocate specific customers or types of customers to different firms, so that competitors will not bid (or will submit only a cover bid) on contracts offered by a certain class of potential customers which are allocated to a specific firms etc.

3. The party hereby agrees that he will not indulge in any such activity and will inform Purchaser in any such activity is on. The party further agrees that he will not give bribe, speed money & gifts to any Purchaser official of and will not commit any offence in contravention of relevant IPC/PC ACT or any Indian law in force.

4. The party hereby agrees that which canvassing order, they will not provide any inducement to the indentor, whether directly or indirectly including cash & non cash, both pre and post procurement action and inform the Purchaser if any such event Is holding for which Purchaser on assessment of the issue, will refer the matter to CBI, CVC and the concerned administrative authority.

5. In case of failure or default in terms of this IP, the officials will be subjected to actions prescribed under penal actions and prosecution, while the Supplier will bear any or a combination of following penalties:

a) Cancellation of Contract/Rate Contracts (RCs)
b) Forfeiture of all securities and performance Bank Guarantees
c) Refusal to grant Contract/RCs for further period of 3 years
d) Suspension and /or banning the business dealings for period upto 3 years.
e) Any other administrative or penal actions as deemed fit.
f) Actions under IPC/PC Act and other relevant laws of the country.

6. It has been further agreed that the actions as aforesaid except that at 5(f) above will not require any criminal conviction from any court of law or arbitration but will be based on 'Non-contest' basis, upon satisfaction of M/s HLL Infra Tech Services Limited, B-14A, Sector – 62, Distt. Gautam Budh Nagar, Noida – 201307, U.P. who will be the competent authority to finally decide the matter on strength of such materials/evidence of default/reach of the terms under this IP.

7. IT has been also agreed prescribing that within 30 days of such orders passed by Purchaser the aggrieved party shall have the right to appeal to M/s HLL Infra Tech Services Limited, B-14A, Sector – 62, Distt. Gautam Budh Nagar, Noida – 201307, U.P. and till the time a decision is taken on such appeal, the decision of Purchaser would be in-force unless otherwise specifically ordered by the Secretary, MoHFW.

8. Agreed, accepted and signed on behalf of Supplier on this day and year mentioned belwo

Place:

Date:

Signature on behalf of Supplier firm…….

Name and designation / capacity of signatory……..

Full address of the Supplier Firm……..

Seal & Stamp of the Supplier Firm……

SECTION-XXI

(Notice-cum-Cancellation Letter)

HLL Infra Tech Services Limited
B-14A, Sector-62
Distt. Gautam Budh Nagar
Noida – 201307, U.P.

(Application where the Purchaser decided to short-close the R/C)

No……..
To
M/s……
…….

Sub: Rate Contract for supply of …….
Valid upto ……

Dear Sir,

(a) It has been observed that there has been notable downfall in the prices after conclusion of the R/C and that the stores are now obtainable on much lower rates (if it is possible to indicate a definite price at which the stores are now obtainable, the same can be counter offered to the R/C holder for their acceptance).
(b) The quantity of goods supplied against R/C so far have not been to the requisite standard in as much as there have been complaints from the user Departments in this regard, and
(c) Your conduct in performance of the R/C has not been satisfactory in respect of
(d) Any other reasons which can be indicated.

Note: Purchaser Officer has to assign any one or the other reasons as relevant.

3. In view of the above, it has been decided to short-clause the subject Rate Contract after ……. (allow 15 days from the date of issue of the letter). The Rate Contract may be treated as cancelled/withdrawn after…… (date given for the withdrawal of the R/C). Any order placed by the Direct Demanding Officers after the expiry of the notice period shall not be executed by you.

Your faithfully

For and on behalf of the Purchaser

SECTION XXIII

REVOCATION-CUM-CANCELLATION

(Application where R/C is revoked by the R/C Holder)

To,
M/s HLLInfra Tech Services Limited
B-14A, Sector-62
Distt. Gautam Budh Nagar
Noida-201307
U.P.

Sub: Rate Contract for supply of …….
Valid upto ……

Sir,

It is not possible for us to continue to supply against the subject Rate Contract for the following reasons:-

(a)
(b)

In terms of Clause--- of GCC, I/We hereby revoke the Rate Contract which will take effect 15 days from the date of receipt of this communication by your office. Formal Cancellation letter may be issued at the earliest.

Yours faithfully

(M/s……)

Note for Purchase Officer:-

The Purchase Officer is expected to issue the cancellation letter counting 15 days from the date revocation letter is received in the DGS&D stating that:-

> "In view of your letter dated ……the Rate Contract is hereby treated as short-closed/withdrawn with effect from ……..
>
> All orders placed prior to this cancellation are, however, to be executed at the earliest.