Government of India
Ministry of External Affairs

Tender for
Supply, Installation and Maintenance
of Medical Equipment at Indira Gandhi Institute of Child Health(IGICH), Kabul in Afghanistan

Development Partnership Administration

Ministry of External Affairs Jawaharlal Nehru Bhawan,

Janpath, New Delhi, INDIA

Ministry of External Affairs
(Development Partnership Administration-III)

Subject: Tender for Supply, Installation and Maintenance of Medical Equipment for Indira Gandhi Institute of Child Health (IGICH), Kabul in Afghanistan.

Contents

Acronyms used in the tender document: MEA:
Ministry of External Affairs
GoI: Government of India
OSPL: Octavo Solutions Private Limited
IGICH: Indira Gandhi Institute of Child Health
ITB: Instruction to Bidders
IFB: Invitation for Bidders
CMC: Comprehensive Maintenance Contract
PAO: Pay & Accounts Officer
DPA: Development Partnership Administration
PO: Purchase Order
BG: Bank Guarantee

Ministry of External Affairs
(Development Partnership Administration-III)

Tender Notice

Subject: Tender for Supply, Installation and Maintenance of Medical Equipment for Indira Gandhi Institute of Child Health, Kabul (Tender No. : J-II/239/19/09)

Ministry of External Affairs on behalf of the President of India invites sealed bids from eligible and qualified Bidders for supply, installation, commissioning & maintenance of Medical equipment at Indira Gandhi Institute of Child Health (IGICH), Kabul, Afghanistan. Eligible bidders are requested to submit their bid along with complete technical details & commercial bids as per **"**List of Requirements" given in Annexure-I and Technical Specifications given in Annexure-II.

SECTION I: Invitation for Bids (IFB)

1. General

Original Equipment Manufacturers or their Authorised agents or dealers can participate in this tender. It is mandatory for bidders to quote for all medical equipment. Proposals having quoted for partial list of medical equipment shall be summarily rejected. The bidders, who fulfil the eligibility criteria as mentioned in Clause 6 under Section-II of this tender document, can participate in the tender.

2. Contact Information

Proposal(s) and subsequent Correspondence(s) should be submitted / sent to the address given below:

SO (DPA-III)
Room No. 3119, B Block,
Ministry of External Affairs,
Jawaharlal Nehru Bhawan
23-D, Janpath-110011

3. Submission, Sealing and Marking of Proposals

i. Each bid should have Bid Security, Tender Document Fee (if downloaded from Website) and other documents required to be submitted as per EMD requirement and other eligibility conditions defined in the tender document. List of documents is given below at 3-x.

ii. Bid is to be submitted on "Two Bid System" comprising of "Technical Bid" and "Financial Bid" both of which should be submitted in sealed cover separately and then put together in another sealed cover. The outer envelope should bear the name of the Project like "Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul. One complete set of Bids is to be submitted to SO (DPA III), Room No 3119, B Block, Jawaharlal Nehru Bhawan, 23-D, Janpath, New Delhi. The Proposals and Technical Bids thereof will be opened as per the time schedule given in the tender document and Financial Bids of the technically qualified bidders will be opened on a later date after due intimation. Bidders or its duly authorized representative may attend the proposal and technical-bid opening process.

iii. Technical Bid should be a complete document bound as a volume separately.

iv. All pages of the Technical & Financial bid should be duly signed with seal by duly authorized representative of the bidder.

v. All pages of the Technical bid should be signed with seal, serially numbered and an index is required to be attached at the beginning of the Technical Bid. Separators are to be placed between each category of the document. Any deficiency in documentation may result in rejection of the Technical Bid.

vi. The "Technical Bid" shall contain Tender Fee (if downloaded from website), Bid Security and all other technical details/documents in support of the offer.

vii. Bid Security amount has been defined in Annexure V of the tender document.

viii. There will be no mention of prices anywhere in the Technical Bid. However a copy of the "Price Schedule" without price must also be provided with the Technical Bid.

ix. The bidder should clearly mention the following information on the face of all the envelopes:

- Tender No.
- Tender name
- Contents of the envelope
- Bidder's name and contact details

x. The following documents must also be submitted in the technical bid of the proposal:

a. The bidder must sign each page of this tender document and submit the complete document without detaching any page.

b. The bidder must attach a certificate conveying acceptance of all the terms and conditions of the tender document.

c. All documents related with Partnership Deed / Articles of Memorandum of Association or Proprietorship Deed as the case may be attached.

d. Certificate of Incorporation of the firm (if the bidder is a Company).

e. Power of Attorney/General Power of Attorney or proper authorisation to the person empowered by the firm to sign the documents on its behalf. Three specimen signatures duly attested and two latest photographs of the person authorised to sign, execute and act in respect of this tender should be included.

f. Turnover certificate of the firm certified by the auditor/CA/CS indicating the turnover in area of medical equipment procurement related works must be attached.

g. Audited balance sheets of the last three financial years.

h. VAT/Service Tax Registration number and attested copy of Registration Certificates.

i. Details of desirable past experience of the bidder as defined under clause 6 under Section-II of the tender document with supporting documents. **Copy of Purchase/Supply/Work Orders alone will not be sufficient. It should be supported by satisfactory installation/completion report from the user/client. In the absence of such installation/completion report, bidder's experience would not be considered while determining the eligibility.**

j. Manufacturer Authorization certificate(s) for all medical equipment (Refer Annexure VIII)

k. Any other information, documentary evidence in support of suitability of the offer.

l. Vendors to give details Brochures, Manuals, etc in support to the Technical Specifications

m. Photocopy of the "Price Schedule" along with Terms & Conditions with prices

hidden.

n. Duly filled and signed Statement of Applicant (Annexure-III)
o. Duly filled and signed Bid-Form (Annexure-VII)
p. Demand Draft of Rs. 5000/- (Rs. Five Thousand Only) against tender document fee (in case of download from website) in favour of "**Pay and Accounts Officer, Ministry of External Affairs**" payable at New Delhi.
q. Duly filled and signed Compliance checklist for the items to be supplied (Annexure X).
r. Documentary evidence to establish BIS/CE/USFDA certification/approvals for the medical equipment offered by the bidder. Please refer to technical specifications for details.

4. Late Bids

Any Bid received by MEA after the deadline for submission of Bid prescribed in this Bid document, will be rejected.

5. Important Dates

- Pre-bid meeting: at 1500 hrs on 30-06-2015
- Sale of tender: upto 1600 hrs on 09-07-2015
- Deadline for submission: upto 1300 hrs on 10-07 -2015
- Opening Date of Technical Bid: at 1500 hrs on 10-07 -2015

End of Section-I

Section II: Instruction to Bidders (ITB)

1. General Definitions

a. "Services" means services ancillary to the supply of equipment i.e. such as transportation and insurance, and any other incidental services;
b. "The purchaser" means the organisation purchasing the equipment i.e. Ministry of External Affairs, Govt. of India.
c. "The supplier" means the individual or firm supplying the equipment and services under contract;
d. "The Contract" (or "this contract") means a legally binding written agreement entered into between the Purchaser and Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto all documents incorporated by reference therein and includes the Instructions to Bidder (ITB).
e. "Consignee" means where the equipment are requested to be delivered at the destination, i.e. President, Indira Gandhi Institute of Child Health, Kabul, Afghanistan(IGICH)
f. The "Consultant" means the Agency i.e. **Octavo Solutions Private Limited (OSPL),** New Delhi which will work on behalf of MEA to supervise, monitor and assist the process of tendering, procurement, installation, commissioning and maintenance of the medical equipment.

2. Location for Supply, Installation, Commissioning, Training & Warranty Services Location for Supply:

It is the responsibility of the bidder to ensure timely delivery of the ordered medical equipment to Indira Gandhi Institute of Child Health, Kabul, Afghanistan and also to ensure installation and satisfactory commissioning and relevant training of the supplied equipment at specified locations of Indira Gandhi Institute of Child Health, Kabul, Afghanistan. Supplied medical equipment would be maintained by the bidder during warranty period of one year from the date of successful installation.

3. Warranty Services:

a. All the medical equipment would be warranted for a period of one year from the date of successful installation and handover to the IGICH authorities.
b. The Supplier shall be responsible to replace the material free of cost at site in whole or in part if found defective in any respect after receipt at site or during normal & proper usage or storage/maintenance for which the Purchaser shall give prompt written notice. Such replacements shall be effected by the Supplier within a reasonable time actually required to do so which in no case shall be more than 20 days.
c. The above provisions shall also equally apply to the material replaced by the Supplier under this Clause, in case the same is again found to be defective after its replacement. If the Supplier fails to act with requisite promptness and thereby entails avoidable loss to the purchaser/consignee, it shall be liable to suitable action as deemed fit during the operative Warranty period including encashment of Bank Guarantee as decided by MEA.

4. Release of payment:

The price quoted by bidder under column E and F of the price schedule on Annexure-IV, should be lump-sum price which includes cost of medical equipment, cost of Warranty, all taxes, etc. Payment shall be released to the bidder, on the basis of lump-sum price, in the following manner:

On Dispatch: 70% of the ordered value shall be paid on Dispatch of medical equipment. However bidders would be seeking Dispatch Clearance Certificate from MEA prior to dispatch of medical equipment. The following documents would be required to be submitted for issuing Dispatch clearance certificate by MEA:

i. Country of Origin Certificate
ii. Quality & Quantity Certificate
iii. Packing List
iv. Internal and Factory Inspection Report
v. Warranty Certificate
vi. Insurance certificate for transit
vii. Invoice
viii. Certificate by ISO certified third party inspection agencies for specifications, quality and quantity.

On installation, commissioning/training: 30% of the ordered value shall be paid on submission of proof of successful installation, training & handover of relevant documents such as:

i. Satisfactory installation Certificate duly signed & sealed by President, Indira Gandhi Institute of Child Health, Kabul and EOI Kabul (Annexure-IX)
ii. Warranty Certificate

5. Payment Procedure:

i. 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.
ii. The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to the purchaser.
iii. While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the PO and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the terms & conditions.
iv. Terms & Conditions not covered in the tender document shall be mentioned during the Procurement Order (PO). Though such conditions will be general but will be binding to the bidders.
v. Exemption on Custom Duty charges at Kabul will be provided to the bidders.

6. Eligibility Criteria:

i. Bidder must be a Company/firm incorporated in India.
ii. The bidders should have minimum average annual turnover of Rs 3 Crore during the last 3 financial years.
iii. The bidder should have experience of supply and satisfactory installation of medical equipment to the Government of India/State Government or Hospitals/Institutes run by Central/State Government. The bidder must have successfully executed at least one such supply order of value not less than Rs. 72 lakh or two such orders of value not less than Rs. 36 lakh each during last 7 years.
iv. Bidder should be authorised by the Original Equipment Manufacturers or their authorized dealers for the offered medical equipment for supply and support during warranty period. **Supporting documents regarding OEM/authorized dealer credentials must be submitted along with the technical bid**.

v. Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices.
vi. Bidder should be registered with Sales Tax/ Income Tax Department of Government of India and should hold a valid VAT registration certificate, as applicable.
vii. All the equipment offered by the bidder should have BIS/CE/USFDA approvals/certification (Please refer to the technical specifications of the medical equipment defined in the tender document for specific approvals requirement).

7. Cost and availability of tender document

Interested Bidders may submit their proposal(s) as per the tender Document which can be obtained from SO(DPA-III), Room No 3119, Jawaharlal Nehru Bhawan, 23-D, Janpath, New Delhi, India on payment of INR Rs. 5000/- (Rupees Five thousand only) **upto 1600 Hrs on 09/07/2015** between 1000 hrs and 1600 hrs on any working day. The payment will be accepted in the form of crossed demand draft in favour of **"Pay and Accounts Officer, Ministry of External Affairs"**; drawn on any scheduled bank, payable at New Delhi. The Tender document can also be downloaded from MEA website http://www.mea.gov.in or Central Procurement Portal http://eprocure.gov.in, in which case the tender fee of Rs.5000/- (non-refundable) as stated above, must be submitted with the bid through Demand Draft.

8. Opening of Proposals and bids

a. The purchaser will open the Technical bid, in presence of Bidder's representatives who choose to attend, on the due date and time. The Bidder's representatives who are present shall sign a register evidencing their attendance.
b. The Bidders' representatives shall furnish letter of Authority from their principals to attend the Bid opening.
c. Financial Bids of bidders whose Technical Proposal are found Technically suitable and comply with the tender documents will only be opened on a date to be intimated later to those bidders.

9. Amendment of Tender Document

a. At any time prior to the deadline for the submission of the proposals, MEA may, for any reason, whether at its own initiative or in response to clarification requited by the prospective bidder modify the tender document by amendments.
b. The amendment will be notified on the website- www.mea.gov.in.
c. In order to afford prospective bidders reasonable time to take the amendment in account in preparing their proposals, MEA may, at its discretion, extend the deadline for the submission of the proposals.

10. Language of Bid

The proposals prepared by the Bidder and all correspondence and documents relating to the proposal(s) exchanged by the bidder and MEA/OSPL, shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long as it is accompanied by an English translation of its pertinent passages in which case, for purposes of interpretation of the Bid, the English translation shall govern.

11. Transit Insurance

Rates quoted being door delivery basis, the Supplier shall be fully responsible till full material is received in good condition at consignee's site. As such the Supplier shall despatch the material duly insured (for 100% value of goods) & expenses on this account shall be borne by the Supplier.

12. Bid Security

a. Bidder shall furnish along with its tender, the Bid Security for an amount of Rs. 7, 20,000.

b. The Bid Security can be furnished in the form of Account Payee Demand Draft (DD) or Bank Guarantee (BG). In case of a Bank Guarantee, it should be valid for 180 days from the date of tender opening.
c. The DD shall be drawn on any Scheduled / Nationalised Bank in India, in favour of "Pay and Accounts Officer, Ministry of External Affairs, payable at New Delhi".
d. Proposals received without requisite Bid Security shall be rejected out rightly.
e. In case of submission of Bid Security in the form of Demand Draft, Bid Security of unsuccessful bidder will be returned to them without any interest not later than thirty days after finalization of the resultant contract. Bid Security of successful bidder will be returned without any interest on submission of Performance Guarantee.
f. In case of submission of Bid Security in the form of Bank Guarantee (BG), BG of unsuccessful bidder will be released not later than thirty days after finalization of the tender.

13. Validity of bids

The Rates should be valid for 180 days from the date of submission of the proposal(s).

14. Evaluation of Bids

Bids having complete documents as mentioned in Clause 6 (Eligibility criteria) under Section II and the Bid security shall only be considered for Technical evaluation.

A. **Technical Evaluation** shall be based on:
   a. Responsiveness of the bidder on account of furnishing the documents mentioned in eligibility criteria.
   b. Satisfactory installation certificate from the previous clients regarding experience of past supplies is required to be submitted. Submission of Purchase/work/supply orders, etc. would not be sufficient to establish the experience. MEA reserves the right to ignore all such experience documents, which are not supported by satisfactory installation/completion certificate from the client.
   c. Client details (Name, Contact details)
   d. Other evidences of Supply & Installation of similar equipment inside and outside the country
   e. Matching up the specification as mentioned in the tender document. Submission of Compliance sheet indicating Make and Model No. of the medical equipment is mandatory.

B. **Financial Evaluation**
   a. Only the bidders who would qualify in Technical Evaluation shall be invited for opening of Financial Proposal
   b. Total composite price of all the medical would be the criteria to determine the Lowest (L-1) bidder and the work would be awarded to the L-1 bidder.
   c. Proposals having quoted for **partial list of medical equipment or not complying with the specifications requirement for all the medical equipment** shall be summarily rejected.

15. Award of Contract

a. MEA will place the Purchase Order on the successful bidder whose bid has been determined to be techno-commercially acceptable and lowest, provided further that the bidder is determined to be qualified to perform the assignment.
b. Terms & Conditions not covered in the PO but part of the tender document shall be binding on the bidders.
c. MEA will notify the successful bidder by e-mail/registered post/FAX.

16. Purchaser's Right to Vary Quantities at time of Award

The Purchaser reserves the right at the time of award of contract to increase/decrease the total quantity of Goods and services for which bids have been invited by up to 25% of their value (rounded to the next whole number).

17. Purchaser's Right to accept or Reject any or all Bids

The Purchaser reserves the right to accept or reject any Bid and annul the Bidding process and reject all Bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds of the purchaser's action. The purchaser is not bound to accept the lowest or any bid.

18. Corrupt or Fraudulent Practice

It is required by all concerned namely Consignee /Bidders /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 purposes of this provision, the terms set forth below as follows:
    i. "corrupt practice" means the offering, giving, receiving or soliciting of anything 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 bidders (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 bidders 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.

19. Interpretation of the clauses in the Tender Document/Contract Document

a. Unless specifically mentioned to the contrary in their offer itself, it will be assumed that all terms and conditions mentioned in this enquiry are acceptable to the bidder.
b. Any clarifications intending towards understanding the clauses shall be addressed in Pre-bid meeting.
c. The tender quotation of the Supplier not in conformity with the above conditions is liable to be rejected.
d. Ministry of External Affairs reserves the right to reject or accept any or all tender(s) without assigning any reason or to place the order for part or full quantity.

End of Section-II

SECTION III: GENERAL CONDITIONS OF CONTRACTS (GCC)

1. Scope of Work

Supply, Installation, Testing, Commissioning & maintenance of medical equipment at Indira Gandhi Institute of Child Health, Kabul, Afghanistan. All civil alterations, cabling, flooring, safety protective furnishings, signage, interiors shall be responsibility of the vendor. The hospital has sufficient capacity for additional electricity load for the newer equipment.

2. Price

a. The price quoted by bidder under column E and F of the price schedule on Annexure-IV, should be lump-sum price which includes cost of medical equipment, cost of Warranty, all taxes, etc.
b. Prices quoted should be 'Firm & final' as per Price Schedule given in Annexure-IV.
c. Freight charges, local transportation, Excise duty, other levies and all taxes should be included in the quoted rates.
d. Proposals having quoted for partial list of medical equipment shall be summarily rejected.
e. Bidders must take into consideration in it's bid, costs to be incurred for any additional work pertaining to civil, electrical, plumbing, sanitary, radiation protection as per govt regulation; furniture, servo stabilizers, U.P.S etc.

3. Performance Guarantee

On award of work, the bidder would be required to submit a Performance Guarantee(PG) equal to 10% of the ordered value valid for 18 months from the date of issue of purchase order. The Bank Guarantee should be submitted within 15 days from the issue of purchase order, failing which, the purchase order can be cancelled by MEA.

4. Delivery Timelines

In the event of placement of Supply order, the bidder shall dispatch the medical equipment/items at IGICH, Kabul within 60 days from the date of release of the Supply Order by MEA. Further, the bidder shall install & commission the medical equipment/items within 120 days from the date of release of Supply Order by MEA.

5. Penalty for delayed services

a. In the event of placement of an order, if the Supplier fails to deliver, install and commission the equipment in full or part thereof within the delivery period as stipulated in Clause 4.0 under Section III, the Purchaser reserves the right to levy Liquidated damages @ 0.5 % (half percent) per week of the amount of the undelivered stores for delay in supplies subject to maximum of 10% value of the supply Order.
b. Once the maximum is reached, the purchaser may consider termination of the contract and purchase the same from elsewhere, at the risk and cost of the Supplier.

6. Jurisdiction

a. If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations
b. If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, 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. Such dispute

or difference shall be referred to the sole arbitration of an officer, appointed to be the arbitrator by the Director, Ministry of External Affairs, New Delhi. 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/-)

7. Force Majeure

If at any time, during the currency of the contract, the performance in whole or in part by either party or any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of public enmity, civil commotion, sabotages, fires, floods, explosions, epidemics, quarantines, restrictions, strikes, lock outs or acts of God (herein after referred to as 'the events') then provided, neither party has any claim for damage against the other in respect of such non-performance or delays in performance, deliveries under the contract shall be resumed as soon as possible if any of the events have ceased to exist . 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.

8. Termination and Suspension

Unless specifically mentioned to the contrary in their offer itself, it will be assumed that all terms and conditions mentioned in this enquiry are acceptable to the bidder.

The tender quotation of the Supplier not in conformity with the above conditions is liable to be rejected.

9. Arbitration

a. In the event of any question, dispute or difference arising under this agreement or in connection therewith except as to the matter the decision to which is specifically provided under this agreement, the same shall be referred by either party (MEA or the bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act 1996. The award of the arbitrator shall be final and binding on both the parties to the agreement.

b. The arbitrator may from time to time with the consent of both the parties enlarge the time for making and publishing the award. Subject to aforesaid Arbitration and Conciliation Act 1996, and the rules made there under any modification thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

END OF SECTION-III

Annexure I: LIST OF REQUIREMENTS

Scope of Work: Supply, Installation, Testing, Commissioning & maintenance of various \ Equipment at Indira Gandhi Institute of Child Health, Kabul, Afghanistan.

Scope of Work: Supply, Installation, Testing, Commissioning & maintenance of various \ Equipment at Indira Gandhi Institute of Child Health, Kabul, Afghanistan.

GROUP -X

X.1. Histopathology

S.No.	Product description	Quantity
1.	Tissue embedding system	1
2.	Automatic tissue processor	1
3.	Open tip Cryostat	1
4.	Rotary Microtome (Semi-Automatic)	1
5.	Cyto-centrifuge	1
6.	Automatic Slide Strainer	1
7.	Backup Microtome	1
8.	Balance for grossing room	1
9.	Instrument tray for grossing	1
10.	Slide trays	1
11.	Grossing station	1

X.2. Blood Bank Equipment

S. No.	Product Description	Quantity
1.	Blood Bank refrigerator	2
2.	Oven(Hot Air)	1
3.	Elisa Reader/Washer	1
4.	Cell Separator for Apheresis	1
5.	Di electric Tube Sealer	1
6.	Deep Freezer (-80 Deg.)	1
7.	Deep Freezer (-40 deg C)	1
8.	Blood Transport Box(Insulated)	2

9.	Blood collection monitor	1
10.	Blood Donor Chair	2
11.	Blood Weighing Scale with Monitor	1
12.	Cross Matching System with ID System (Gel Technique)	1
13.	Plasma Thawing System(Water Bath)	1
14.	Plasma Extractor	1
15.	Platelet Incubator with Agitator	1
16.	Test Tube Centrifuge	1
17.	Cryo Centrifuge --Blood Bag	1
18.	Double Weighing Balance	1
19.	Reagent Storage Cabinet /Refrigerator	1

X.3. Biochemistry & Haematology

S. No.	Product Description	Quantity
1.	Blood Gas and Electrolyte Analyser	1
2.	Osmometer	1
3.	Micropipettes (of assorted sizes)	2
4.	Dispensers (of assorted sizes)	1
5.	pH Meter	1
6.	BOD Incubator	1
7.	Electrophoresis- complete set	1
8.	Cabinet for 5000 slides	5
9.	Coagulometer	1
10.	Syringe Needle destroyer	3
11.	ESR Vacationers	2
12.	Electronic Balance of 0.1mg accuracy/ capacity 200mg	2
13.	Haematology Analyser(8 parameter)	1
14.	Biochemistry semi auto analyser	1
15.	Haemocytometers with red and white pipettes	1
16.	Urine analyser	1

X.4. Microbiology

S. No.	Product Description	Quantity
1.	Centrifuges (Electro Rotofix)	3
2.	Binocular Microscopes with inbuilt illumination	4
3.	Hot air oven (100-300^{O}C	1
4.	Freezer 1-20^{O} C (12cu.ft) with stabilizers	1
5.	Roto mix mixer	1
6.	Water baths 37^{O}C with Racks	1
7.	Incubators 37^{O}C (250 1t)	2
8.	Automated Microbiology System	1
9.	Myo-bacterial cultural system	1
10.	Hotplate Electric	1
11.	Desiccator Large & Small	2
12.	Elisa Reader and Washer (Microbiology)	1
13.	Rapid Culture System	1
14.	Automated Identification analyzer	1
15.	VDRL Rotator	1
16.	Deep Freezer -20 C	1
17.	Sterile Hood (Bio safety cabinet class II)	1
18.	Autoclave vertical type	1
19.	Flotation Bath	1

X.5. Endoscopes

S. No.	Product Description	Quantity
1.	Video Bronchoscope (Paediatric)	1
2.	Gastroscopy	1
3.	Cystoscope	1
4.	Colonoscope	1
5.	Arthroscope	1

X.6. Diagnostics

S. No.	Product Description	Quantity
1.	EMG/NCV	1
2.	EEG	1
3.	ENG	1
4.	Pure Tone Audiometer	1
5.	Brain Stem Evoked Audiometry (BERA)	1
6.	Complete ENT set	1
7.	ECG Machine	1
8.	Lung Function Test System	1

Annexure II: TECHNICAL SPECIFICATIONS

GROUP X.

X.1. HISTOPATHOLOGY

1. Tissue embedding system

Technical Specification;

- Unit to comprise a stainless steel processed tissue storage tank, which can be
- easily removed for tissue collection and reuse of wax.
- The heated base mould storage area to be large enough to allow a wide range of base moulds to be stored separately.
- To have a 5.2 L wax storage reservoir with a removable filter to ensure purity of wax.
- The reservoir to be thermostatically controlled between 45-60 degrees C.
- The dispensing system to be controlled either by finger switch or footplate.
- The illuminated hot plate to be controlled between ambient and 90 degrees C.
- The cold plate to give a good working area.
- To be supplied complete with illuminator, forceps warmer and magnifier.
- To be supplied with a starter set of base moulds and lids to include 40 various size moulds.

2. Automatic tissue processor

Technical Specification;

- Unit to be an enclosed tissue-processing centre, to be supplied in modular form to allow the unit to expand as the laboratory needs enlarge.
- To consist of a "command" module, a reaction module and a storage module.
- The command module to operate the original units and up to 4 further units. The command module to have a user friendly VDU display with a choice of 9 programmes in up to 6 languages. To be able to programme in real time and to have various alarm conditions to be displayed on the screen.
- The reaction chamber to have a capacity of 200 cassettes with two individually heated wax baths.
- The storage module to hold 12 2.25 litre polypropylene reagent bottles all to plug directly into the rear of the module.
- To be supplied with a complete start-up kit to allow the machine to be demonstrated and set up on site.

3. Open tip cryostat

Technical Specification;

- Automatic open top rotary retracting cryostat microtome with a temperature range of ambient to 35 degrees C with automatic programmable defrosts.
- Cabinet to be manufactured of rust proof steel finished in a special PVC coat.
- The inner chamber to be polished stainless steel.
- Quick freezing of specimens to be accommodated by thermal switch.
- Rotary microtome to give sections of 0.5 to 30um thickness with a block size of 50 x 70mm, to incorporate a self-aligning anti-roll plate with micro adjustment to give

constant sections. The retraction to be incorporated in the return stroke of the microtome, the unit to be sealed with lubricant impregnated bearings for minimum maintenance.

- The refrigeration unit to be hermetically sealed.
- The window to incorporate a de-mist system to allow excellent visibility at all times.

4. Rotary Microtome (Semi-Automatic)

Technical Specification;

- Rotary shaker with durable steel body which provides gentle and adjustable angle rocking suitable for blotting or staining and distaining gels.
- With Non-skid platform and edge on all four sides.
- Background of the platform should be preferably white in color for easy viewing of test material.
- Adjustable rocking angle from 10-15 degrees from horizontal.
- Electronic speed control from 0 to 100 cycles/min.
- The instrument should operate on 230±10 volts 50Hz power supply.

5. Cyto-centrifuge

Technical Specification;

- 24 place rotor, semi-automatic, microprocessor controlled.
- RPM 2950, swing out rotor
- Instructions entered by keypad
- Self-diagnosis of program faults
- Wash cycles selectable 1 to 4
- Volume saline 0.5 to 5.5ml
- Timer 1 to 999 seconds
- Auto agitation
- Integrated cleaning system

6. Automatic slide strainer

Technical Specification;

- Slide staining trough glass with lid.
- Slide staining rack to hold 25 slides of 76x26mm size.

7. Backup microtome (Manual)

Technical Specification;

- Manual microtome. Sturdy, compact design, adjustable block holder, easy to operate and clean.
- With counter balancing wheel, aluminium hinged cover .Base plate to be fitted with heavy rubber pads for better grip. Uniform serial sectioning adjustable from 1 to 50 microns.
- To be supplied with microtome knife, having back and handle in wooden box, 6 block holders, one bottle of lubricating oil and Rexene cover. Knife sharpener to be quoted as optional

8. Balance for grossing room

Technical Specification

- Stainless steel table, Sink & Tap, metric ruler, shelf, drawers and storage compartment under the table. Towel/Tissue paper stand must be included along with waste bin. Work area sides to be made from acrylic.
- Built in blowers for sucking out vapours. Size: 4' 3'x 3' (LxWxH). To be supplied with the following accessories: Built in germicidal UV Light; Exhaust duct up to 6'.

9. Instrument tray for grossing

Technical Specification

- Made of stainless steel grade 304. With cover. Size: 310 x 195 x 63 cm (Approx.)

10. Slide trays

Technical Specification

- Made of anodized aluminium for keeping twenty slides 75 × 25 mm in flat position

11. Grossing Station

Technical Specification

- 2 ventilation options
- High-quality stainless steel construction
- Vacuum breaker-protected water supply
- ½ horsepower disposal
- Polyethylene dissecting board
- Magnetic instrument holder
- Dissecting area rinse
- Shelving
- Spray hose assembly

X.2. BLOOD BANK

1. Blood Bank Refrigerator

Technical Specification

1.	Capacity	Should be able to accommodate 300 standard blood bags for each of 450 ml capacity.
2	Temperature rating	2°C to 6°C with setting accuracy ± 10°C.
3	Should have provision for air circulation.	

4	Digital temperature, display and controller seven days graphic inkless temperature recorder with rechargeable battery backup including charger and audio visual alarm system. Details of battery No.; V.; AH, and battery charger shall be fully explained.	
5	Technical data	Input voltage 220/240 volts, 50cycles, single phase AC.
6	Weight	To be indicated by the bidder.
7	Construction	Outside CR sheet at least 1 mm thick and inside stainless steel of at least 22 G. it should have 5 – 6 rolled out type drawers of stainless steel of 22 G.
8	A line voltage corrector of appropriate rating will form part of standard configuration.	

Line voltage corrector:		
Copper wound single phase automatic line voltage corrector conforming to IS:9815/89 with latest amendment fitted with a voltmeter and switch to indicate		
1	Capacity/rating	As per the requirement of the equipment.
2	Input voltage	160 to 260 volts, 50 cycles, Phase AC.
3	Output voltage	220 to 240 volts adjustable.
4	The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 Amp.)	
5	Make of line voltage corrector shall be indicated.	

2. Oven (Hot Air)

Technical Specification;

- Internal size: 45x45x45 cms.
- Single door with 2 shelves
- Door fitted on heavy brass cast and chrome plated hinges
- Cabinet double walled MS
- Insulation: minimum thickness 2” of glass wool
- Finish: Inside of the cabinet painted with heat resistant silver and outside with silver Grey
- Inner & outer chamber of steel
- Maximum temperature up to 200 deg cel.
- Temperature knob to be graduated in centigrade degree.

3. Elisa Reader/Washer

Technical Specification:

The ELISA System consisting of ELISA Reader with built-in Printer with Automatic Washer

Hardware Specification	Software Specification

Optical System: Digital Light Control	Operating modes
8 - 12 measurement channels including 1 reference channel	0 - 15 user programmable tests permanently stored.
Measurement time: Single or Dual wave length - maximum 8 seconds	Single or dual wave length measurement with facility for kinetic measurement. Storage of immediately preceding measurement.
Measurement range 2.500 abs(400 - 70 nm)	Plate shaking mode for sample mixing 0 - (selectable speed and time)
Indication Range: 0 - 2.999 abs.	Blank Modes Flexible blank mode setting.
Accuracy(0.000-1.000 abs) Plus Minus 2% and Plus Minus	Evaluation modes:
Resolution: 0.001 abs.	Table of optical densities replicates.
Grating/Filters:* Narrow band interference. Essential: 405, 450, 492 and	Matrix Modes: Matrix -/x/t
Light Source: Halogen Lamp 20W - 40W with a pre-failure lamp	Difference Mode: Absorbance of each well in even numbered column subtracted from those of odd numbered
Display: 16 digit alphanumeric fluorescent.	Curve fit modes
Key board: 19 membrane	3 - 8 standard in single or duplicate wells.
Interface: Bi-directional 300 - 9600 baud with inbuilt printer and having facility for external printer, with RS 232 interface. Two printer parallel	LIN/LIN. LIN/LOG, LOG/LOG, or Auto curve transformation with ability to edit the standard curve. 8 to 12 way string orientation or Kinetic modes
Power voltage: 220 - 240 voltage, 50 Hz. UPS: Uninterrupted Power Supply system of 30 minutes back-up with	

Filters to be provided in closed result modes: Compartment dust free Table of optical densities. Delta DD Graphic Reaction Rate/V - max. Adjustable for different microplate geometrics.

4. Cell Separator for Aphaeresis
Technical Specification;

For collecting and separating blood components from patients and donors for cell therapy, therapeutic

apheresis, and transfusion medicine applications with procedural flexibility including,

- Peripheral blood stem cell collection (PBSC),
- Mononuclear cell collection (monocytes, lymphocytes, dendritic cells),
- Polymorpho nuclear cell collection (granulocytes),
- Bone marrow processing (stem cell),

- Therapeutic plasma exchange,
- Red blood cell exchange and depletions,
- Platelet and white blood cell depletions,
- Lymph plasma exchange,
- Leukocyte-reduced platelet and plasma collections, Double/single platelet product collection, ensuring complete patient/donor safety while allowing the operator freedom to control the procedure.
- Automatic prime, clear alarm information, and automatic rinse back,
- Complete with 50 Sets of consumables

5. Di electric Tube Sealer

Technical Specification;

- Heavy Duty radio frequency sealer
- Capable of doing 500+sealings in 8 hrs.
- Electrically operated,
- 1000-1200 seals/battery charge,
- Compatibility with the tube thickness of any size.
- Electrical safety class II Type,

6. Deep Freezer (-80°C.)

Technical Specification;

- Application- Storage of Blood, Capacity- Min 100 bags of 450ml.
- Operating temperature -50 deg C to -86 deg C Vertical model with internal capacity 500 to 600 liters
- Constant Temperature control with digital display, continuous recording of temp.
- Power Supply 220V +/- 10%, 50 Hz. Unbreakable glass door,
- CFC Free refrigerants,
- Special Insulation to maintain temperature control, Interior of stainless steel,
- Exterior-Powder Coated steel,
- Facility for preventing moisture condensation around mouth of cabinet, Audio visual alarm with adjustable high and low alarm limits, Should be supplied with min 30 min battery backup.
- Energy saving consumption, Key operated power switch,
- Auto Defrosting, Door opening alarm,
- Facility for Self-diagnostics, Safety thermostat, Memory storage.

7. Deep Freezer (-40°C)

Technical Specification;

- Application- Storage of Blood, Capacity- Min 100 bags of 450ml.
- Operating Temperature –20 deg C to -40 deg C Constant Temperature control with digital display, Continuous recording of temp.
- Power Supply 220V +/- 10%, 50 Hz. Unbreakable glass door,
- CFC Free refrigerants,
- Special insulation to maintain temperature control, Interior of stainless steel,
- Exterior-Powder Coated steel,

- Facility for preventing moister condensation around mouth of cabinet, Audio visual alarm with adjustable high and low alarm limits
- should be supplied with min 30 min battery backup.
- Energy saving consumption, Key operated power switch,
- Auto Defrosting, Door opening alarm, Facility for Self-diagnostics, Safety thermostat, Memory storage.

8. Blood Transport Box (Insulated)

Technical Specification;

Application- Safe transport of blood and blood products, Blood storage capacity: 8 bags of 450ml, Digital temperature display, Thermometer to monitor the temperature, Durable & scratch proof exterior, with Carry handles, Specify weight and dimensions, CFC free Polyurethane Insulation, Transit carry bag

To be supplied with standard accessories.

9. Blood Collection Monitor

Technical Specification;

- Should have facility to preset total volume of blood to be collected & accordingly monitor& display amount collected.
- Battery backup should be > 8 hours with continuous work load.
- Should have a facility for gentle and uniform mixing of blood and anticoagulant.
- Should have facility to view the collection time
- Should have detachable tray for easy cleaning
- Should have motor activated clamping system and automatic clamping for low rate, <20 ml/mt for more than 2 mts
- Should have protection against Electrical shock.
- Oscillation details: 12+2 RPM, Motor driven
- Should have volume setting ranges from 50ml to 500ml in steps of
- 5ml, Automatic storage and recall of set volume.
- Should have a LCD display with backlight.
- Accuracy: + 2% of programmed volume
- Should have the following alarm indications
  a. LCD/LED indication and audible alarm for debit flow when flow rate goes below 20 ml/mt or high flow rate above 180 ml/mt.
  b. LCD / LED indications and audible alarm at the end of collection
  c. LCD /LED indications & audible alarm during power failure, LED blinking when battery low.
  d. LCD/LED indications and audible alarm during power failure

2. Should be operated on 200-240Vac, 50Hz supply and have an inbuilt maintenance free lead acid battery with charger and a battery having a minimum of 5 hours backup.

10. Blood Donor Chair

Technical Specification;

- Comfortable chair type with soft padding for cushioning and rexin cover.
- Seat, back rest and leg rest size designed for donor comfort. Seat height approximately 58 – 60 cm.

- Adjustable arm rest for donor's comfort and phlebotomist friendly. Easily tilted to head low position, electrically operated. To be operational on 220 to 240 V at 50 Hz

11. Blood Weighing Scale with Monitor

Technical Specification;

- Application-Blood and Blood Component Weighing, Input supply - 220+10%~V, 2.9W, 50Hz
- Transducer-Load Cell, Weighing range-Up to 1 Kg, Resolution upto 1 gm, Inter phase facility with plasma expresser, Display-16X1 Line LCD Display, Switches / keyboard, Power ON / OFF, Weight/Volume Conversion, Zero Set, Components selection, Volume selection, Bag Weight comparing, Setting the selections, Weighing & weight to volume conversion for 4 components-RBC,WBC, Platelets & Plasma.
- To be supplied with standard accessories.

12. Cross Matching and Blood grouping System with ID System (Gel Technique)

Technical Specification;

- Walk away system, capable of doing blood grouping cross matching& bantibody screening in a completely automated manner with latest Model.
- Application- ABO RH, Cross Matching and Antibody Screening Gel Card based system. Saline level detection/alarm system, Automatic Washing of Red Cells during Cross Matching, Quiet operation, Microprocessor control, Fast acceleration & deceleration, Check stops at end of each step in cycle, LED display lights/audio signal at end of run, Digital displays of time & wash cycles,
- Should agitate automatically after each decant; Compact & lightweight, Rotor can also serve as incubator rack, Brushless system-no need to replace worn brushes, Lifetime lubrication of all moving parts, Easy-to-clean housing, High-impact, corrosion-resistant housing, Specify whether Closed or open system, Software should be upgradable. Reagent and saline consumption should be minimal, please specify.
- To be supplied with latest generation Computer and printer.

13. Plasma Thawing System (Water Bath)

Technical Specification;

- Insulated chamber,
- Capacity of 4-8 bags,
- Leak detection sensors should be present,
- Fully Automated system, Independent control of the Basket Assembly,
- Human intervention during procedure should not be required, Alarms- Audio / visual alarm at the end of procedure, High / Low alarm,
- Thawing completing cycle alarm, Programming of thaw time should be possible,
- Bag size-system should accept any bag size, auto times display and should be supplied with standard accessories.

14. Plasma Extractor

Technical Specification;

- Manual /automatic system, spring activated pressing plate, Facility for Clamping, Detection of red cells, Detection of buff coat, Audio alarm, Specify Detection method, Facility for automatic calibration.
- Air flow vertically from top to bottom, Thick ply board bench reinforced with Teak wood, mounted on top of tabular frame with acrylic side panels and used as a work bench, The back of frame should be covered with laminated board of aluminium sheet, Visible surfaces should be are laminated, Interior surfaces painted with air drying epoxy paint,
- Filter seat should have rubber padding for perfect sealing, Perspex sheet side panels framed in Anodized Aluminium frame.

15. Platelet Incubator with Agitator Specifications of cell Platelet Incubator:

Technical Specification;

- Stainless steel chamber with adjustable shelves and a tough ended glass inner viewing door.
- The outer cabinet is to be rust resistant.
- Temperature Control detail required:-
- An LED display to show the chamber temperature, Indicator
- Lamps to show when the heater is active and if an over temperature condition exists.
- The over temperature safety cut-out to be set by the user.
- Fitted with circulation fan.
- Temperature Range : At least 5°C above ambient to +60°C
- Control (fan) : ±0.1°C at +37°C
- Variation (fan) : ±0.25°C at +37°C
- Chamber Capacity: : 200 Litres
- Shelves: : 4

16. Test Tube Centrifuge

Technical Specification;

- Bench top centrifuge with Stainless steel chamber, lid locking and holding facility, Emergency lid lock release.
- Facility for motor overheating protection. Must conform to National and International safety and quality standards. Speed range of 300-15000 rpm. RCF more than 5000. Capacity: Up to 4 X 250 ml or 160 X 5 ml blood collection tubes.
- Run time 0-9 h. Control panel should be ergonomically designed and water protected. To be supplied with standard accessories.

17. Cryo Centrifuge -Blood Bag

Technical Specification;

- Application: Blood Component separation, Power supply-220 Volts/1 Ph, Frequency- 50 Hz
- Capacity- min 12 Blood Pack Systems of 800 ml each, Speed / RCF 4240 rpm, 6010 g
- Stainless Steel Centrifuging chamber, Temperature range - From - 20 to + 40 C, with overheating protection. Automatic rotor recognition, Dimensions-117.8 x 80 x 90.5 cm

- Memory-32 programs or More, Acceleration-9 Profiles, Braking- 9 + 1 Profiles,
- Control & drive High Performance- Induction drive with Micro Processor, Safety features- interlock, imbalance cut-out, steel armored chamber, Blood bag inserts- Four different sizes
- Lid lock and Rotor 6 place, Accessories- Tarring weights, balancing plates, Display- LED display, Compressor -of adequate power, Optional- Hook Adapters, Centrifuging data report, Software for data documentation, Visual indication when rotor is stationary
- Chaining of programmers, Second independent techno system

18. Double Weighing Balance

Technical Specification;

- Electrically operated, centrifuge counter balance. To accommodate one bucket with blood bag on each side.
- With two independent weight sensors and LED displays to indicate weight of each bucket/blood bag. Power: 220-240 V AC. Accuracy up to 2 %

19. Reagent Storage Cabinet /Refrigerator

Technical Specification;

- Should Use CFC- free refrigerants
- Temperature range 2 to 8 Degree Celsius. Should be supplied with digital temperature recorder and display. Inkless 24x7 temperature recording. Should provide uniform cooling throughout.
- Stainless steel body with powder coated exterior. Flexible shelf option. With glass door.
- Audio / Visual Alarm for Power Failure / Temperature Variation beyond Permitted Tolerance / Door Opening, Power: 220v, 50 Hz AC supply. To Be Supplied With Stabilizer

X.3. BIOCHEMISTRY & HAEMATOLOGY

1. Blood Gas and Electrolyte Analyser

Technical Specification;

- Should be fully automatic, upgradeable fast and latest blood gas and electrolyte combo analyser.
- Simultaneously measured following parameters: pH, pCO2, pO2, SO2, tHb, Na+, k+, Cl- and Haematocrit (HCT) in one single machine with one single aspiration of blood sample. 3 fast analysis time maximum 3 to 5 minute to results.
- Calculated parameters which includes BE, BEecf, BB, HCO3, Tco2, stHCO3, stpH, ctO2, aH+, AaDO2, MCHC, Anion Gap with COHb & MetHb flagging.
- Sample volumes -95 micro lit max.
- Sample throughout- 30 samples/hour
- Fast analysis time-maximum 50 sec to results
- Maintenance free electrodes with individual electrodes ON/OFF facility.

- Should not require Electrodes Membranes.
- Should not be cartridge based.
- Fully automatic liquid calibration of all parameters at user- defined intervals without the use of gas equilibrated reagents, external gases, tanks & regulators. Reagents should be in separate bottle which can be individually replaceable (not one pack system)
- Continuous reagent level monitoring with graphic display.
- Automatic sample device recognition.
- Upgradeability for auto QC.
- Data display on well illuminated 5" LCD color touch screen display
- Data printout on in built graphic printer
- Storage facility of measured data in case of power failure.
- Built in data storage facility for at least 25,000 patient results.
- Built in barcode reader
- Built in optional Auto QC facility
- RS 232 interface facility
- Built in voltage stabilizer for the range of 100 – 240 V/ 50 Hz with 601-1 compliance
- Should be FDA/TUV/CE approved.
- Should be true liquid calibration and no gas required.
- System should not use cartridge based technology.
- UPS should be provided for proper functioning

2. Osmo-meter

Technical Specification;

- Sample volume: 50µl to 30µl; Duration of measurement: approx. one minute
- Reproducibility:<± 0.5% for 50µl, <± 1% for 30µl ; Display : 4 digits
- Measuring range: up to approx. 3000mOsmol / kg.
- Resolution: 1mOsmol / kg. over the entire measuring range
- Initiation of the crystallization process: by means of the tip of a stainless steel needle covered with ice crystals, which should be controlled automatically.
- Cooling: two separate pettier cooling systems with heat dissipation by air
- Lower cooling system: electronic temperature regulation, deviation <± 0.1°C
- Ambient temperature:10°C to 45°C; Power supply:220V (±30V), 50 / 60 Hz,120VA, alpha – numerical matrix – printer, 5 x 7 matrix, Digits: 4 – digit for sample number, 4 – digit for result, Paper: normal paper, 43 mm, Paper feed: automatically after each print and with pushbutton Ink ribbon: endless ink ribbon cassette, ex-changeable

3. Micropipettes (of assorted sizes)

Technical Specification;

- Slice thickness 1 to 25 MUE micron
- Lowest slice adjusting graduation 1/MUE micron
- Maximum slice section 35x25mm
- Horizontal specimen stroke 35mm
- Vertical specimen stroke 46mm
- Dimensions 300x280mm approx.

- Net weight 22.5 kg approx.
- Complete with razor & manual

4. Dispensers (of assorted sizes)

Technical Specification;

- Universal-Dispenser
- 0.4 2 ml
- 2 10 ml
- Amber Glass Flask, 500ml Qty 2
- Amber Glass Flask, 1000ml Qty 2
- Adapters, Polypropylene, GL 45 Set of 10

5. pH Meter

Technical Specification;

- pH range : 0-14, Resolution : 0.1, 0.01, 0.001, Accuracy : ± 0.02
- Temperature range: -5°C to + 150°C,
- Resolution: 0.1, Accuracy: ± 0.1mV: ± 2000, Accuracy: ±0.01°C, Resolution: 0.1, Accuracy: ± 0.2
- Automatic temperature compensation with slope correction
- Three point calibration
- Buffer solution of pH 4, 7 and 10 for calibration.
- Spare set of electrode with washing bottle.
- Simultaneous measurement of pH, mV and temperature.
- Calibration data with date and time.
- Calibration reminder alarm.
- Audible beep indication during valid key operation.
- Combined pH and conductivity measurement.
- Power : AC adapter, optional AA batteries
- Water proof Interface : USB or RS 232
- Display : 4 Digit LCD
- With automatic temperature controller probe,
- Automatic temperature compensation with slope correction
- Temperature range - -5°C to + 100°C

6. BOD Incubator

Technical Specification;

- Double walled construction, inner chamber stain less steel, inner glass/ transparent door
- Facility for adjustable shelves to convenient heights, 10 removable shelves of stainless steel/ anodized aluminium to be supplied.
- Interior lighting facility, insulated door fitted with heavy hinges handles locking, mechanical door lock.
- Temperature range 0o to 80oC with accuracy 0.5oC high quality, environment

friendly refrigerant.

- Independent temperature measuring through PT 100 sensor with indicator LCD display.
- Recovery time short, precise regulation of temperature and acoustic alarm.
- Digital safety thermostat (class 3)
- Adjustable ventilation rate 10 – 100% thin form air circulation.
- Size of inner chamber approximately 50x60x50 cm.
- All consumables required for installation and standardization of system to be given free of cost.
- The unit shall be capable of operating continuously in ambient temperature of 10 - 45oC and relative humidity of 15-95%.
- Power Supply:
    a. Power input to be 220-240VAC, 50Hz fitted with plug compatible with local electrical socket.
    b. Resettable over current breaker shall be fitted for protection c. Suitable Stabilizer/CVT
    c. Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system. Tender Equipment for Microbiology Laboratory

2. Standards and Safety:-
    a. Comprehensive onsite training for lab staff and support services till familiarity with the system.

7. Electrophoresis - complete set

Technical Specification;

- Basic unit with Platinum electrode assembly, glass plates notched & rectangular, 4 Gel vertical electrophoresis system
- 10 well 1.0 mm thickness, Spacers - 1 mm,
- Dual gel casting stand, Metal clips, Clamp & screws
- Companion running module
- Total buffer volume 250 ml to 500 ml
- Power card to connect power pack
- Indestructible moulded polycarbonate construction throughout
- Power Pack specifications :
    - Output specifications: 500V, 2.5A,500 W
    - Input power nominal: 100–120/220–240 VAC, 50/60 Hz, auto switching
    - Constant voltage, constant current, or constant power with automatic crossover
- Output range (Programmable) 10–500 V, fully adjustable in 1 V steps 0.01–2.5 A, fully adjustable in 0.001 A steps 1–500 W, fully adjustable in 1 W steps
- Timer control :fully adjustable
- Automatic recovery after power failure
- LCD display
- Safety features: No-load detection, sudden load change detection, ground leak detection, overvoltage detection, input the protection, auto power-up after power failure

8. **Cabinet for 5000 slides**

Technical Specification;

- Steel construction with a solvent resistant paint finish.
- 12 drawers capable of holding approximately 5000 blocks.

9. **Coagulometer (semi-automatic 4 channels)**

Technical Specification;

- Twin channel coagulometer for routine tests: PT, a PTT, TT, Fibrinogen and clotting factors.
- To have 30 sample capacities 37 deg C dry incubation block.
- To have automatic counter, to grig off when starter reagent is added to sample and to stop when clot is formed. Results to be displayed and printed.
- To have recorder output for platelet aggregation
- Number of channels 2
- Measuring system Photometric
- Beam source Infra-red LED
- Incubation 37 deg C + 0.2 deg C
- Capacity 30 cuvette and 3 reagent bottles
- Display twin 3 digit 00.0 to 99.9 seconds.
- Keyboard 6 keys
- Printer 20 column, 64 characters.

10. **Syringe Needle Destroyer**

Technical Specification;

- Able to cut the needle along with hub of any size.
- Syringe i.e. glass or plastic should get destroyed by cutting the needle, device should be connected to a secure sharps disposal container.
- The system should be manually operated so that it can be used inside the biological safety cabinets.
- Needle hub container should be multi-use reusable.

11. **ESR Stand**

Technical Specification;

- Blood Sedimentation Apparatus access to Westerngren, metal support made of stainless steel, stable construction with special springs with pipettes and specimen tube with rubber stopper (also for rapid method) for 10 examinations

12. **Electronic Balance of 0.1mg Accuracy/Capicity 200mg**

Technical Specification;

- Capacity: 50-200 gm

- Readability: 0.01 mg
- Repeatability, (s): ± 0.01 mg
- Linearity: ± 0.02 mg
- Stabilization time: 5-10 seconds
- Operating temperature: 10-30°C
- Fully automatic Internal – calibration with built in instrument should be there
- Should be operable at 220 V, 50-60 Hz
- Should be ISO certified
- Warranty should be for minimum two years
- AMC: Five years AMC after expiry of two years warranty

13. Biochemistry Semi Auto Analyser

Technical Specification;

- Analysis Mode Absorbance, Kinetic, Fixed time, End point, Bi-chromatic, Endpoint with sample blank, with standard or K factor. It should be microprocessor controlled programmable, semi auto analyser to perform routine biochemistry tests with Multi-standard curve calibration & memorisation etc.
- Light Source Halogen Lamp Filter Type Interference Filter.
- Wavelength 7-Filters-340, 405, 500, 546, 578, 620, 670 nm with an accuracy of + 2nm band width and 10nm band width.
- One free position for optional filter Photometer Accuracy 0.006A, from 0.0 to 1.5A Clock It should have built –in real time clock.
- Resolution 0.001 Optional Measurement Silicon photodiode. Flow Cell / Cuvettes Supports Flow cell as well as cuvettes.
- Aspiration Mode Automatic by Peristaltic Pump.

Temperature Control

- Peltier Element Temperature 25, 30, 37°C, ambient Display LCD (640 x 240 pixels, 256 colours) User Interface Key board Printer Inbuilt Thermal printer, External printer (Optional) Programme Memory More than 130 Test memory
- There should be facility to store Reagent Blank O.D. in the memory.
- QC Results 365 days QC data Patient Memory 600 patient results Computer Interface RS 232 serial port Operating Condition Temperature: 18-35°C, Relative humidity 85%

UPS should be provided for proper functioning

- Instrument Company should be marketing and functioning since past 5 years
- The manufacturer / supplier should have a full-fledged service force and installation base for the quoted equipment.

14. Haematology Analyser - Blood Cell Counter (5 part Differential)

Technical Specification;

- Parameters: WBC, RBC, Hgb, Hct, MCV, MCH, MCHC, Plt, Pct, RDW
- MPV, Ly%, Ly#, Mo%, Mo#, Gr%, Gr#, Eosinophil Screening, PDW, RDW%
- All in pre-diluted mode, LPLT, Option of test, CBC / Diff., CBC, Hgb,
- Through put-50 or more, Cycle time and start up time to be specified

- Bar code reading-Optional, Reagents- should be available locally.
- Cost per test and shelf life of reagents to be mentioned.
- Display- LCD Monitor, Histogram, Scatterogram, Flag message for abnormal results, Printer- inbuilt.
- Data management- Data storage capacity to be specified, Data archiving. Specify technology used for calculating various parameters and also specify linearity and precision parameters.
- Should be upgradable. Blood controls with 21 d stability

15. Haemocytometers with Red and White Pipettes

Technical Specification;

- Neubar Counting Chamber –made of toughened glass, Size approx. 3" x 1.2"
- With central ridge and two furrows of depth 0.1mm, 1/400mm2 should be supplied with RBC pipette and WBC pipette and cover slips.

16. Urine Analyser

Technical Specification;

- Analyser must have capability of reading more than 200 strips per hour.
- Strips must have at least following parameters –
    a. Glucose
    b. Protein
    c. Ketone Bodies
    d. Bilirubin
    e. Leucocytes
    f. Nitrate
    g. Urobilinogen
    h. pH
    i. Specific gravity
    j. Blood
- Analyser with greater through put (number of strip read per hour) would be preferred.
- Regular supply of the required consumables will be responsibility of supplier; no extra payment will be made for this.
- Supplier should quote of strip for urine samples: 100x100 for the calculation of expenditure.

X.4. MICROBIOLOGY

1. Centrifuges (Electric Rotofix)

Technical Specification;

- Bench Top Centrifuge Machine using brush less system. The body made of CRC sheet, finished in power coating.
- Fitted with digital speedometer, Digital timer of range 0-59 minutes and variable speed regulator through rheostat for long life.
- Speed range 2500-5000 rpm.
- Supply is completed with 8x15ml Swing out head, dust cover, instruction manual 2 spare fuses, cord, a separate rotor for microfuge tube & a plug to work on 220 volts 50 HZ A.C.

2. Binocular Microscopes with inbuilt Illumination

Technical Specification;

Binocular Microscope Stand and Ergonomically designed rugged stand for long time comfortable usage

Illumination

- Built-in transmitted illumination system with Koehler system. 6V 30W Tungsten halogen lamp. LED illumination if available may be quoted optionally. Tilting mirror attachment should be included in the main unit
- Focusing Stage movement in Z axis should be 15 mm to 20 mm stroke in coarse movement and 2 to 2.5 µm stroke in fine focus graduation Stage
- Mechanical stage should have coaxial X and Y movement with the size 120 to 130 mm x 132 to 140 mm
- Traveling range: 75mm (X) X 30mm (Y) with good quality ball-bearing specimen holder

Observation Head

- 30° inclined ergonomic Binocular tube, side on top design, suitable for eyepieces upto field of view 20mm. Inter Papillary Distance range 48-75 mm and eyepiece tubes can be swivelled either way for easy viewing angle of the operator.
- Condenser Abbe type with iris diaphragm N.A.: 1.25

Objective Lens

- Fully Plan Achromatic objectives (anti-fungus)
- 4 X N.A.: 0.10
- 10 X N.A.: 0.25
- 40 X N.A.: 0.65
- 100 X N.A.: 1.25 (with polarizing mirror attachment) Eye Pieces 10 X anti-fungus / 18 mm Field of View (FOV) Nose Piece Quadruple Nose piece revolving

The microscopes should be complete with blue filter, power cord and dust cover.

3. **Hot air oven (100-300°C)**
   Technical Specification;
   - Digital Controls with Stainless Steel Inside.
   - Heat Circulation: Horizontal Fan Assisted
   - No. of Shelf's: 2 Stainless Steel Shelves (Detachable)
   - Maximum Temperature: Ambient to 250 °C
   - Least Count: 1 °C
   - Accuracy: + 2 °C
   - Heater Capacity: 750 watt x 2 Heaters = 1500 Watt
   - Electric Supply: 220 + 10%Volt. 50 Hz Single Phases. AC.

4. **Freezer 1 -20°C (12cu.ft) with stabilizers**
   Technical Specification;
   - It should have a capacity more than 430 ltrs.
   - The dimensions should be around 600 x 600 x 1300
   - It should have insulated inner doors to minimized air loss
   - It should be well insulated with 130 mm non CFC, foamed in place polyurethane
   - It should be hermetically sealed cooling system with durable compressors
   - It should have easy to clean condenser filter
   - It should have pressure equalization port to allow easy to access to cabinet after door closer.
   - It should have heated door seals (hot gas) to prevent ice build up
   - It should have minimum of 15 (2 ") cryo boxes per rack
   - It should have minimum of 10 (3 ") cryo boxes per rack
   - It should be able to run at 220 Volts and 60 Hz
   - with safety alarm
   - All accessories& electric fitting to be included
   - Automatic voltage stabilizer has to be provided as essential accessories

5. **Roto-mix Mixer**
   Technical Specification;
   - Variable Shaking Speed Action
   - Degree Of Agitation: Gentle To Violent, Controlled By Speed Regulator
   - Full Torque Application To Oscillating Mechanism Irrespective Of Speed Setting
   - Fraction H.P Motor, 220 Volts,1phase, 50 Hz AC Supply

6. **Water Baths 37 °C with Racks**
   Technical Specification;
   - Temperature range from ambient temperature 0° to 100°C.
   - Thermostatic control with an accuracy of plus minus 0.5°C
   - Double walled inside stainless steel and outside mild steel sheet painted in epoxy powder coating.
   - Bath consists of two pilot lamps, temperature control knob and ON/OFF switch to work on 220/230 volts AC supplied with or without stirring arrangement without racks

and thermometer.

- Lid of water bath is made of stainless steel 304 Qlty.
- SBS-1 300mm 250mm 175mm Suitable for 2 racks 14 Ltrs
- Audible warning safety signals should be there for high/low temperature warnings, and dry running protection.
- Instrument should have lift up bath cover; Carrier racks should be given for flasks and test tubes racks.
- A cock should be provided to facilitate draining of bath contents.
- Water bath protective media should be there to prevent contamination and formation of algae.
- Heating capacity - 2 KW; should have all the accessories required for the functioning of the equipment.
- All electrical peripherals required for smooth functioning e.g. voltage stabilizer should be provided with the equipment

7. Incubators 37 °C (250 lt)
Technical Specification;

- Universal Incubator Temperature range up to 70 Deg C.
- Heating elements are placed in ribs at the bottom and sides double walled.
- Inside stainless steel 304 quality.
- The door has synthetic rubber gasket. Outside mild steel painted in epoxy powder coating with perforated adjustable shelves of Stainless steel.
- Two incubators and on/off switch. Fitted with air circulating fan and digital temperature controller cum indicator inside size 605 x 605 x 910 mm for work on 230 Volts A.C.
- Specifications for BOD Incubator Chamber Volume: 250-280 liters.
    - Temperature range : 0° to 60° C
    - Temperature accuracy : + 0.1° C
    - Digital timer : 1 minute to 99hr 59 minutes
    - Refrigerator: 1/6 Hp (HBP compressor)
    - Material: Internal – stainless steel (0.6t); External – Steel
    - (0.8t power coating)
    - Shelves: Stainless steel wire, electro polished and separable.
    - Number of shelves: Three
    - Safety device: CLS (custom logical safe) – control system
    - Microprocessor PID control
    - Auto-tuning /Calibration with shell level adjusters
    - Digital LED display (0.1° C resolution) using touch sensitive key pads,
- Forced air convection with an optimal cross flow type fan to maintain excellent temperature uniformity inside the incubator and fan speed can be controlled in three steps.
- Optimized sample inspection through tempered inner glass door without affecting chamber temperature
- Over temperature limiter and door opening alarm, nine steps of temperature

profiles programmable, three different temperatures memorable.

8. Automated Microbiology System
Technical Specification:

- The system should be for minimum of 400 positions.
- The system should be fully automated and should be capable of detecting growth of the pathogenic micro-organisms from blood & sterile body fluids
- The system should be able to detect fungal, aerobic and anaerobic organism from the blood.
- The system should have the capability to process samples of adult and paediatric patients and should have dedicated media for paediatric samples
- The system should have the capability of continuous monitoring of the clinical samples.
- It should have in built automated instrument quality check facility.
- The system should be provided with printer and UPS and should be able to display growth kinetics on the screen. The system should be modular and upgradeable for future requirements. Cost of additional module needs to be mentioned in the commercial bid
- The system should have the capability of analysing and detection of delayed entry of specimens at growth, stationary and decline stage (both log & lag Phase)
- Detection principle of the system should not have any bottle puncturing during sample analysis and thus no dangerous aerosols formation.

9. Myco-bacterial cultural system
Technical Specification;

- Should Performs blood (and other sterile body fluids) and Myco- bacteria culture in the same system.
- Should have Flexible design allows for different 60-bottle cabinets to be configured for either blood culture and/or myco-bacteria culture.
- Should perform Fungal Culture in same blood culture bottle.
- It should perform Rapid results with high sensitivity – Detects 75% of isolates within 24 hours.

10. Hotplate Electric
Technical Specification;

- Temperature range ambient to 120°C with Digital display
- Material of construction – Aluminium plate
- Temperature control panel for uniform temperature distribution. Timer : 0 to 99 (hr) or 59 (min.) continuous
- Rates voltage: 220 V
- Heating power: 200 W
- Safety device : Leak proof heating chamber over temperature

11. Desiccators Large & Small
Technical Specification;

- Desiccators with cover, Knob Top, made of toughened medical grade glass
- Heat resistant with strain point of approx. 500 degrees C. Resistant to water, neutral and acid solutions.
- Internal Diameter 100mm—Qty 1
- Internal Diameter 150 mm-- Qty 1
- Internal Diameter 200 mm, Qty 2
- Internal Diameter 250mm, Qty 1
- Desiccators Vacuum with tabulated cover, stopcock and PTFE Spindle, Internal Diameter 300mm, Qty 1

12. Elisa Reader and Washer (Microbiology)

- Range of working wavelength should be from 400nm to 700nm.
- It should have 4 filters: 405nm, 450nm, 492nm, 630nm for reading 24, 48 or 96-well plates
- Speed: 30 seconds for 96 wells
- Absorbance range: 0.000-3000 Abs
- Resolution: 0.001 Abs
- Accuracy: +/-1% +/- 0.0010 Abs from 0 to 2.000 Abs
- Linearity: +/-1% from 0 to 2.000 Abs, +/-3% from 2.000 to 3.000 Abs
- Repeatability: +/- 0,5% +/- 0.005 Abs from 0 to 2.000 Abs

Stability:

- Detection modes: single wavelength or dual wavelengths;
- Display: 240x128 pixels LCD screen;
- Print: external printer;
- Data Link: RS232 serial port;
- Dimensions: 420x290x180mm
- Net Weight: 10Kg.
- Gross Weight: 14Kg.

Extensive curve fitting: linear, cubic, quadratic, 4-P, log-logit, cubic- spline, point to point

- Auto or manual plate layout for blanks, controls, standards and samples
- Control and assay validation
- Transformation and Formula Applications
- Cut-off and Call Criteria
- Up to 75 assay programmed memory which can be recalled instantly
- Up to 8 micro plates test results saved in the readers' memory
- Panel assay capable
- Store 25 standard curves
- Printer: HPTM or EPSONTM compatible printer

Technical Specifications for ELISA Washer

- Should have 8 channels or 12 channels interchangeable co-axial wash heads.
- Should have inbuilt vacuum pump with auto shut off mode.
- Should have Programmable cards for washes, Soak times volume and pause

time.

- Should have fully automated micro plate washer for rapid and effective washing of all types of ELSA Flat, U or V bottom plates and coated assays.
- Residual volume should be less than 5µl/well.
- Precision should be 5%.
- Operating cycle should be continuous.
- Volume of waste bottle should be minimum of 2 litres each.
- Warranty should be 2 years for the whole unit.
- Original literature should be supplied along with quotation.

13. Rapid Culture System

Technical Specification;

- Integrated Blood and Sterile Body Fluid Culture System. TB Culture, TB drug sensitivity 1st &

  2nd line.
- Anonymous bottle loading facility, Plastic bottles, Touch screen, Data management capacity,

  Tests: Standard Aerobic, Standard Anaerobic, MB Bottle.

14. Automated Identification Analyser

Technical Specification;

- Fully automated, reliable and rapid system for identification of bacteria and yeast and their drug sensitivity.
- Should work with ID 32 strips with international references to identify most of the microorganisms (over 550 different types) including wide and relevant range of fastidious bacteria and yeast.
- Antibiotic susceptibility strips with resistance marker and therapeutic molecules to give rapid reports within 4 – 24 hrs and confirmation of ESBL also.

15. VDRL Rotator

Technical Specification;

- For VDRL and other agglutination tests, blood grouping test etc. Platform size 300x300mm

  should be able to accommodate concave slides, blood bottles and flasks by use of a spring holder.

  RPM 180.
- Timer built in to control shaking duration. Power- 220 V, 50 Hz AC supply. To be supplied with cord

  and plug.

16. Deep Freezer -20 C

Technical Specification;

- It should have a capacity more than 450 ltrs.
- The dimensions should be around 600 x 600 x 1300

- It should have insulated inner doors to minimized air loss.
- It should be well insulated with 130 mm non CFC, foamed in place polyurethane
- It should be hermetically sealed cooling system with durable compressors
- It should have easy to clean condenser filter
- It should have pressure equalization port to allow easy to access to cabinet after door closer.
- It should have heated door seals (hot gas) to prevent ice build up
- It should give refrigeration 1 x ½ HP
- It should have a minimum of voice level not exceeding ± 50 dBa
- It should have minimum of 15 (2 “) cryo boxes per rack
- It should have minimum of 10 (3 “) cryo boxes per rack
- It should be able to run at 220 Volts and 60 Hz

17. Sterile Hood (Bio Safety Cabinet Class II)

Technical Specification;

- Microprocessor controlled Class-2 type A2 biological safety cabinet suitable for working with microorganisms assigned to biological safety levels 1, 2 & 3, providing full protection to personnel, specimens and environment.
- NSF International standard 49 / EN 12469 certified and tested. Certificate is to be provided along with.
- HEPA H14/ULPA filters on inflow as well as exhaust with an efficacy of 99.999% for equal or more than 0.3 µ size particles (DOP test Certificate to be produced).
- 30% exhaust air via high performance exhaust filter and 70% air should be re-circulated.
- Dimensions of work chamber in the range of 1100-1300 mm (Length), 500-700 mm (Width), 550-800 mm (Height).
- Main body made up of rust proof stainless steel single piece (sides and back wall).
- Safe and ergonomic design for movement in all directions in the chamber (Comfort for users while working).
- Sliding front window, electrically operated, made up of safety (UV) glass, completely tight sealed while closed for complete protection against contamination and fumigation.
- Independent fans for impulsion and exhaust.
- UV lamp with auto regulatory mechanism to work only when the front panel is fully closed.
- Display of the following parameters:
    a. Optical & acoustic notification of alarms.
    b. Low exhaust flow.
    c. Low down flow air velocity.
    d. Impulsion/exhaust fan malfunction.
    e. Cabinet information (with digital display).
    f. Exhaust air flow in m3/hr.
    g. Laminar flow air velocity in m/sec.
    h. Elapsed hour meter for UV.
    i. Cabinet Temperature
- Stainless steel pan under working surface to allow safe collection of spilled fluid.

- Low noise level <65dBA
- Service ports with stopcock at both ends for gas.
- Minimum one electrical socket inside the chamber.
- Light intensity in the working chamber should not be less than 1000 Lux.
- Working aperture 200 - 220 mm.
- It should have an adjustable chair and a foot rest.
- Cabinet should be mounted on a compatible wheel trolley.
- Power supply of 220V, 50 Hz.
- One compatible UPS of the requisite KVA should be provided along with the each cabinet for uninterrupted work for at least three hours as a backup.

Essential Accessories

One inflow HEPA H14/ULPA filter and (Original & compatible to the cabinet, DOP tested) should be supplied in addition by the firm with each of the cabinets as spare accessories.

Other Terms

- Warranty of minimum two years from the date of successful installation.
- Installation should be on turnkey basis.

18. Autoclave Vertical Type

Technical Specification;

- Should be a fully automatic Dual PLC microprocessor based High pressure, high vacuum autoclave for sterilizing hospital materials including agars, sterilization of solutions in open & closed bottles, disinfection of materials and waste decontamination.
- Should be front loading, have Rectangular, horizontal chamber with well insulated jacket, Chamber Volume minimum 450 litres or more. Approx. Internal Chamber Dimension: 700 x 650 x 990 mm approx. (W x H x D)/ External Dimension: 1900 x 1300 x 1300 m approx. (W x H x D).
- Should have single vertical sliding door to have a pass through system. Door should be electrically controlled having fully automatic function with multiple safety arrangements. Sealing system should be based on silicone seal.
- Should have at least 50 mm thick insulation materials on jacket and in doors to ensure low thermal losses. Working temp. of the door should be less than 45 deg. C.
- Should be high grade Stainless steel construction inside and outside including all internal piping and external panels. Chamber & Door Material: Stainless steel 316 L. Jacket Material: Stainless steel 316 Titanium. All Steam Piping components and connection Stainless steel AISI 316L grade, External Panel & Frames S.S. 304 grade.
- Should have a built in color touch screen of size minimum 8.2" user's interface cum Display for control & display of sterilization cycles, parameters values, clear text messages and alarm history preview etc.
- Should have audio visual alarms in case of undesired situation. All alarms should be with full explanatory Text messages on the display.
- Should have programmable Operators access level.
- Should have at least 8 pre-programmed standard cycles plus 5 or more user programmable cycles and provision of Chip card port for loading of new programs through chip cards.
- Should have temperature adjustable from 121 Deg. to 135°C.

- Safe Working pressure range should be from 15 to 32 PHI (1.1 bar – 2.2 bar)
- Should have complete monitoring of cycle operation and provided with at least two pressure sensors and two Temp. Sensors (PT-100 type) in addition to Analog for chamber pressure, jacket pressure and steam generator pressure indication.
- The unit should be equipped with multiple safety mechanisms for Emergency Stop over. Pressure safety valves for chamber and jacket, over temp safety, steam traps and electrical safety.
- Should have maintenance menu for quick trouble shooting by touch screen display interface. All service access should be preferably from the front for space saving.
- Should have provision of getting Printout with positions of components in case of failure and should have integrated schematic diagrams with indications of positions components and with possibility to change positions of components by touch.
- Should have possibility to view the schematic diagrams in service mode during running process with observation of functions of components and progress of values.
- Should have possibility of forced digital increase of pressure for testing of safety components (Function of control system, pressure switch, and safety valve), Minimum 5 access levels: unauthorized user, authorized user, administrator, service engineer, designer and possibility to print the calibrations and other software settings in service mode.
- The unit should include Non fade Built in thermo-recorder for step by step progress values during the cycle with time and date and alarm condition if any.
- Should have High efficiency Double water ring type Vacuum Pump.
- All Valve Operation on warm pipes is Pneumatic type
- Should have 0.02µm HEPA Filter for atmosphere air entry in the chamber.
- Should be offered within built electric steam generator made of Stainless Steel AISI 316l grade or better. It should have automatic water level control function.
- Should have built in feature of Water Saving System for water conservation.
- Should be supplied complete with high quality stainless steel trolleys and sterilization baskets: external trolley = 01 no. Internal trolley with steel roller and shelves = 01 no. and 2 sets of Sterilization baskets.
- Should be offered complete with digital interface facility and software for remote supervision & data storage with provision to enable user make modifications of already programmed sterilization programs. Installation should be on turnkey basis following will be the terms and conditions:
    a. Only water, electricity and drain outlet will be provided available by the department within the room at a distance of maximum five meters from the location of installation. The supplier shall be responsible for arranging rest of the things for installation and smooth functioning of the equipment.
    b. Following shall be provided by the supplier along with machine;
        i. Two sets of operating manual.
        ii. Two sets of circuit diagram.
        iii. Service manual.

19. Floatation Bath

Technical Specification;

- Double Walled outside should be made up of epoxy powder coated MS Sheet, Black Anodized Aluminium Sheet inside to facilitate viewing of sections, Gap between the walls fitted with superfine glass wall, Black anodized aluminium lid to protect bath contents from dust and to reduce evaporation, Durable ring type heating element mounted on the base to heat the bath quickly,
- Temperature controlled by Hydraulic Thermostat ranging from room temp. to 80° C with ± 0.5° sensitivity, Clamp for thermometer, Power Supply 220/230 volts AC - 50 Hz,. Size :- : 250mm (Dia) x 125 (Depth)

X.5. ENDOSCOPE

1. Video Bronchoscope (Paediatric)
Technical Specification:

Diagnostic Laryngo /Pharyngoscope with Fiber Optic Cable & Light Source

One Biopsy Cable Should Be Provided With The Set

- Field of View- 120 degree
- Depth of field- 3-100mm;
- Distal end Outer Dia: 3.8 mm or less,
- Insertion Tube, Outer Dia: 3.8mmor less;
- Bending section : Angulation Up 180 degree, Down 130 degree; Working Length 600mmm or more;
- Minimum visible distance 3mm. Inner diameter of instrument channel- 1.2mmor less.
- Should include the following accessories: Biopsy forceps- 1, Cytology brush- 1 Pk; Cannula standard type- 1; Mouth piece- 2; Semi-disposable biopsy valve- 30 pcs; Semi disposable suction valve- 10 pcs; Cleaning and maintenance kit- 1
- **Should be US FDA approved product**.

2. Gastroscope
Technical Specification;

- Outer diameter : 9.8mm
- Depth of field : 3-100 mm
- Angle of view : 100 deg.
- Working length : 1050mm
- Up/Down Bending : 210/100 deg.
- Right/Left Bending : 100/100 deg.
- 3400 k, heat filter to provide cold light
- **Should be US FDA approved product**.

STANDARD SET OF ACCESSORIES:

- Biopsy forceps : 1 no.
- Channel cleaning brush : 1 no.
- Cytology brush : 1 no.
- Infusion tube : 1 no.

- Biopsy valve : 3 nos.
- O-rings : 3 nos.
- Mouth Guards : 03nos.
- Water Bottle : 1 no.
- HALOGEN COLD LIGHT SOURCE 15V/150W : 1 no.

3. Cystoscope

Technical Specification;

Specifications	
HPIS Classification	730_40_10_0
Inner Diameter Inches	0.19 in, 0.28 in
Latex Free	Yes
Length Inches	90 in
Number of Leads	1, 2, 4
Roberts Clamp	0, 2, 4
UNSPSC code	42142707

- **Should be US FDA approved product**.

4. Colonoscope

Technical Specification;

- Direction of view should be zero degree.
- Minimum of 140 degree of field of view.
- Range of observation from 5 mm to 90 mm.
- Angulations of tip not less than 180º with right to left movement of minimum 150 degree.
- Insertion tube diameter of less than 12 mm with a working length of
- not less than 1600 mms.
- Distal end of less than 12 mm.
- Instrument channel of more than 3.0 mm.
- Compatible with the video system specified.
- **Should be US FDA approved product**.

5. Arthroscope

Arthroscopy equipment system, cart mounted, consisting of:-

- Shaver unit complete with set of blades for large, medium & small joints
- CO2 insufflator
- Pump irrigation Arthroscopy
- Suction pump (with footswitch)
- H/F surgery unit (with footswitch)

- H/F surgery set consisting of wire snare (2), knife electrode (2), ball electrode (2), needle electrode (1) and flat electrode (2)
- Camera 3 chip
- Camera control unit
- Monitor colour 36cm
- Video-recorder VHS/PAL
- Video colour printer
- Light source Xenon lamp 175 watt (colour temp 6000k)
- Cart mobile Qty 2

Basic instrument set for arthroscopic surgery consisting of:

- Telescope (Autoclave able) 4mm wide angle incl.
- Universal sheath, trocar, obturator, inflow canula, inflow tube with obturator and trocar and light guide cable
- forceps sponge holding x 2
- clip towel (non-invasive) x 5
- arthroscope 30 deg (25 deg) (4 mm)
- arthroscopic sheatg and obdurator (5 mm)
- no 3 BP handle with size 15 blade
- scissors hooked (3.5 mm)
- rongeur straight (4mm)
- forceps grasping arthroscopic (3.5 mm)
- punch (basket) forceps (3.5 mm)
- retractable knife (4 mm)
- aspiration needle 18 gauge
- **Should be US FDA approved product**.

X.6. DIAGNOSTICS

1. EMG/NCV

Technical Specification;

EMG/EP/NCS system should have following specifications.

- Should have Nerve Conduction Studies MCS, NCS, F wave, H reflex, Collision, Blink reflex, RNST, Inching studies & CCV with temperature probe.
- Main Unit should be connected to the Computer through the latest and powerful USB 2.0 Interface.
- Must have 18 bit A/D conversion for high fidelity waveforms.
- Must have Compact operation panel for easy management of waveforms and latency marking.
- 12 channel system with head montage junction box with user configurable channels.
- Two channel monophasic/biphasic constant current electrical stimulator; It should be upgradable to 4 electric stimulator with artefact compensation and temperature measurement for CCV.
- Input impedance: above 200 M ohms differential mode
- Sensitivity 1 micro volt per division to 10 milli volt per division

- Noise < 0.6 micro volt RMS
- Common mode rejection ratio: above 112 dB isolation mode
- Low filter settings: 0.01 Hz to 3 KHz and high filter settings: 10 Hz to 20 KHz with AC interference notch filter 50 Hz
- Amplitude calibration 1 micro volt to 10 milli volt
- Average: 18 bits, number of averaging 9,999,
- Electrical Stimulator: 2 channels monophasic / biphasic, constant current with artefact compensation
- 8 Channel External input and External Output and Line I/O
- Should have option of configuring up to 42 different protocols in NCV/EMG
- Should have option of connecting stimulation pods with multiple output ports.
- Should have compact stimulating electrode with convenient dials for stimulation intensity adjustment and delivery of electric stimulation with two user configurable switches.
- System should have at least 1 triggers input / output, upgradable to 6 Triggers.
- Must have Single Fibre EMG, Macro EMG, Stimulated SFEMG, and QEMG with the system.
- User should be able to open at least 8 test protocols simultaneously.
- Programmable measurement conditions up to 300 or more examination conditions
- Should have EMG (Free run needle EMG, MUAP analysis, Interference pattern, Auto MUP detection and classification, and real time turn amplitude analysis) with continuous storage of live EMG for minimum10 minutes up to 99 sites. The system should have QEMG, Single fibre EMG, Stimulated SFEMG and Macro EMG.
- EMG play back with waveform and sound for minimum 10 minutes should be possible in any PC.
- Must have Single Fibre EMG, Macro EMG, Stimulated SFEMG, and QEMG with the system.
- Should have Brain stem auditory evoked potentials with click, burst & tone pip stimulation (ABR, MLR, and SVR & EcochG).
- Should have automatic separation of AP and CM waveforms in EcochG.
- Should have Visual Evoked Potentials with Pattern and LED goggles (ERG, EOG PRVEP & LEDVEP) – EOG velocity waveform display with original EOG signal.
- Should have Somatosensory Evoked potentials with signal triggering and back averaging (SEP, SSEP, ECG triggered SSEP and ESCP) simultaneous SSEP and SEP measurement.
- Must have user friendly Data base management software and study schedule program for easy data management.
- Should have provision of EEG data review in the EMG system.
- Should have Microsoft SQL Server based report generator for strong data base management.
- On-screen examination guide / Neuro navigator.
- Should be able to perform Skin electrode impedance check at both junction box and console 2 to 20 K ohm
- Should have option of directly interfacing high voltage stimulator in future without additional hardware

- Should have option of P-300, MRCP & CNV.
- Should have provision of setting up more than 10 user accounts for more than 50 user setting protocols.
- Should have autonomic Nervous System testing with SSR, RR interval & Micron urography.
- Should have facility of exporting data to csv or any other suitable format for analysis with MATLAB or any other third party software.
- Branded PC with strict in-house quality checks by manufacturer to comply with medical equipment standard .
    a. PC Should be with 3rd generation i7 processor, 4 GB RAM, 500 GB Hard Disk, 8 USB ports or better
    b. Built in DVD Super Multi Drive
    c. With 22" color TFT LCD display
    d. Suitable latest Windows operating system
    e. Supplied with Monocolour Laser Printer
    f. Supplied with online UPS with min 30 minutes back up

- Stimulus software
    a. Should be supplied with a stimulus presentation software with pre-configured Stimulus lists
    b. Should be Capable of playing movies
    c. Should Support for JPEG, GIF, PNG, and TIFF files
    d. Should have Trial variables for user configurable protocols e. Conditional branching (if/then/else)
    e. Should be Unicode compliant
    f. Should be supplied with response pads

2. Should be supplied with following accessories
    a. Shielded EP electrodes – 2 sets
    b. Conductive paste (3 Jars of 300 gms) - 2 sets c. Skin preparation gel (Set of 2 tubes) - 2 sets
    c. EMG disposables needles (Box of 25) - 1 boxes (Pead size)
    d. EMG disposables needles (Box of 25) - 2 boxes (adult size)
    e. Single fibre EMG needle - 2 Nos. g. Temperature probe - 1 no.
    f. Acoustically shielded Head Phones - 1 no. i. Insert Ear Phones - 1 No.
    g. 17" VEP Monitor - 1 No. k. LED Goggles - 1 No.

2. EEG

Technical Specifications

- Should be a 32 Channel digital EEG Machine, where 24 Channels for acquisition and storage, 5 Polygraph Channels and 3 DC Channels.
- Frequency response should be 0.05 Hz to 70Hz.
- Should have facility to view all channels in different montages during acquisition and review.
- Should have split screen facility to study and even carefully during acquisition, where data storage should be on going in hard disk.

- 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.
- Should have the facility for simultaneous acquisition and review of same record.
- Should have the facility to mark pages / important events for printing in review.
- Should have user definable photic stimulator protocol execution with display of photic marks on screen using LED or Xenon flash lights
- Should have unlimited Montage Reformatting.
- 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.
- Should have the facility for sweep speed selection.
- Should have the facility to display traces with limit trace.
- Should mark and annotate standards events such as Eyes open, Eyes closed, Hyperventilation on, Hyperventilation off, Artefact, and other user defined events of max. 50.
- Should have separate sensitivity control for each channel as well as for all channels.
- Should have the facility to enter patient details such as ID, Name,
- Referred By, Sex, Age, Patient History, Address, and Doctor Name etc.
- 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.
- 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.
- Should have user definable protocols for acquisition.
- 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.
- 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.
- Should have the facility for spike detection with amplitude greater than or equal to the specified amplitude and within specified duration.
- Should have the facility to print all marked EEG pages / Brain map pages in queue.
- Should have the facility to edit and print summary report, EEG page and Brain map page.
- Should have Acquisition Hot keys for Sensitivity for all traces, Eyes open, Eyes close, Hyperventilation ON, Hyperventilation OFF, Mark page, Artefact, Annotated event, Toggle pause / Release pause, Snap shot mode, photic stimulation etc.
- Should have Review Hot Keys for page mode, scroll mode, flip mode, next page, increase speed, mark page for printing, forward direction, reverse direction, previous page, decrease speed etc.
- Should have an efficient data base management including Hospital details, Reference doctors list, standard comments for summary report etc.

- Photic frequency should be 1-30 Hz, Stimulating time 1-16 sec and pause time 1-16 sec.
- CMRR should be greater than 100 db and input impedance should be greater than 10 M Ohms.
- Should operate from 200 to 240Vac, 50 Hz input supply.
- Should have a high resolution low light video camera.
- Should have infra-red camera for night VEEG recording facilities.
- Should have facility to upgrade EEG to sleep system in future.
- Should be supplied all necessary accessories including EEG Disc Electrodes reusable – 1 set, EEG Paste – 5 Jar/sufficient quantity for 100 EEG Cases,
- Head Cap for Adult, & Infant – 1 each.
- Should be supplied with a PC of adequate configuration having HDD of storage not less than 360 GB HDD, DVD/CD writer and a Colour Printer.
- Monitors provided along with PC should be LCD / TFT and Colour Printer should be Colour Laser Printer.
- Should supply online UPS of sufficient capacity with 1 hour backup to connect all the equipment supplied.
- Should be supplied with a suitable Table for keeping the equipment, PC, Printer and all the accessories.

3. ENG

Technical specifications

- Pre-amplifier and A/D converter
- Number of channels 2
- Time constants: 1, 2 or 4 sec.
- Upper limit frequencies - 7.5; 15 and 30 Hz
- Amplification- 80 dB (pre-amplifier)
- Common-mode rejection- 120 dB
- Resolution, A/D converter 12 bit
- Scanning rate, A/D converter 50/sec. per channel
- Power supply AC 50-60 Hz, 115/230 V, 5 W
- Dimensions 321 x 300 x 121 mm (W x D x H) 11.8” x 12.6” x 4.8”
- Weight 4.3 kg, 9.5 lbs. (excl. accessories)
- Protection Class I, unit type BF, complies with EN 60601-1 Software
- CNG Analyser software Tests: spontaneous, caloric, user-defined tests (e.g. position and positioning)Vest lab software Tests: same as CNG Analyser, with the following additions: opt kinetic, smooth pursuit, saccadic and rotational chair tests, post urography

4. Pure Tone Audiometer

Technical Specification;

- Digital audiometer, TDH-39 headphones, CPU with monitor, software.
- AC: 250 to 8000 Hz -10 to 120dB.
- BC : 250 to 8000 Hz -10 to 80 dB
- ABLB

- SISI
- On line computer connection
- Micro-processor controlled
- NOAM/S/W compatible
- Direct access to hearing aid fitting software
- Two separate channels for binaural speech tests
    - o Tone decay tests
    - o Facility for free field option- optional accessories in two room setup Synchronised automated masking
- Talk forward/talkback system two way communication-optional acc. In two room Setup microphone for speech test
- Desktop-pure tone, masking, speech audiometry, speakers, facility for special tests, plain paper printer to be supplied with voltage stabilizer with tables for the printer and for the audiometer.

5. Brain Stem Evoked Audiometry (BERA)

Specifications:

- 2 channels.
- Windows based.
- Bone Conduction.
- Integrated database.
- Pre-programmed auto tests.
- Waveform reproducibility indication.
- Split left/right recordings.
- Simultaneous recording of condensation rarefaction stimuli.
- Normative data indication.
- Soft attenuator.
- Wave editing during testing
- Digital filter application (during and after test).
- Add, subtract curves
- Low noise amplifier

Upgraded with OAE, ASSR and VNG, NCT

- Medical CE-mark
- Easy portability
- E coch G recordings with markers
- Middle Latency
- Late Latency (P300, MMN etc.)
- Cochlear Implant Stimulator Control

ASSR:

- Pre-Amplifier
- 2 channels
- Gain 80 dB
- Frequency Response upto 8000Hz
- Noise 6.0 nV Hz
- CMR Ratio > 115 dB at any frequency between 0.1Hz & 10Hz.

- Input Impedance > 10M
- Accepted electrode offset > 300mV.
- Power from main unit.
- Impedance Check
- Measuring Current 25uA.
- Ranges 0.5k – 25k.

6. Complete ENT set

- Rust free top with powder coating housing on lockable heavy duty castors.
- Transparent acrylic cover cabinet with OPD instruments Concealed powerful suction unit with foot control switch.
- Electronic temperature controlled water jet system with 0.1 deg. Setting range up to 100 deg. Cent. Universally adjustable Bull's Eye Lamp
- Foot operated, powerful spray system with micro-switching
- Solid state, fine cautery with different electrodes, with cutting & coagulating system. Convenient heat laryngeal mirror warmer system
- X-ray viewing box with CFL lights
- Space for instruments trays
- Medicine bottles and gauze box stand
- Storage drawers with locking facility
- Space for cold light source.
- Sino scope 0deg. With stand. Approximate dimensions: HxWxL- 150x60x70cm
- Optional items: Operating microscope, Fibre optic Headlight

7. ECG Machine

Description of Function

ECG Machine is a primary equipment to record ECG Signal in various configurations. 12 channels with interpretation are required for recording and analysing the waveforms with inbuilt software.

Operational Requirements

- The ECG Machine should be able to acquire all 12 Leads simultaneously and interpret them.

Technical Specifications

- Should acquire simultaneous 12 lead ECG for both adult and paediatric patients.
- Should have Artefact, AC, and low and high pass frequency filters.
- Should have a storage memory of at least 100 ECGs with easy transfer by modem and data card.
- Should have full screen preview of ECG report for quality assessment checks prior to print.
- Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and paediatric patients.
- Should have alphanumeric Keyboard for patient data Entry. (Virtual or hard keys).
- Should have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer.

- Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.
- Should have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge.
- Should be able to be connected to HIS /LAN/Wireless LAN.
- Should display ECG on LCD/TFT Display of 640x480 pixel resolution.
- USB Support for Storage on external portable memories.
- Multimode of ECG Storage capability, 150 ECG on Internal Flash Memory.

System Configuration Accessories, spares and consumables

- ECG Machine 12 Leads with Interpretation – 01
- Patient Cable -02
- Chest Electrodes Adult-(set of six) -02 sets.
- Chest Electrodes Paediatric-(set of six) -02 sets
- Limb Electrodes(set of 4)- 02 sets of Adult and 02 sets of Paediatrics
- Thermal Paper A4 Size for 500 patients

Environmental factors

- The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
- The unit shall be capable of operating continuously in ambient temperature of 10 -50deg C and relative humidity of 15-90%

Power Supply

- Power input to be 220-240VAC, 50Hz fitted with Indian plug

Standards, Safety and Training

- User Manual in English
- Service manual in English
- List of important spare parts and accessories with their part number
- and costing
- Certificate of calibration and inspection.
- Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
- List of Equipment available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.

8. Lung Function Test System

Description of Function

Pulmonary function tests are a group of procedures that measure the function of the lungs, revealing problems in the way a patient breathes. The tests can determine the cause of shortness of breath and may help confirm lung diseases, such as asthma, bronchitis or

emphysema. The tests also are performed before any major lung surgery to make sure the person won't be disabled by having a reduced lung capacity.

Operational Requirements: Complete with all hardware and software is required

Technical Specifications

- 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 multibreath closed circuit Helium Dilution.
- Should be able to perform diffusion studies.
- Broncho Provocation/ Histamine Challenge Test Software
- 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 /Liters/Sec
  a) Volume resolution < 8ml
  b) Accuracy < 0.5%
  c) Flow Range+/- 15 Liters/Sec.
- Should have linear analyzers for
  Helium Analyzer: Range 0-15% Helium Accuracy+/- 0.1 %
  Carbon Monoxide Analyzer: Range0- 0.350%CO, Accuravy+/- 0.1%
  Oxygen Analyzer: Range: Range 0-100% Accuracy +/- 0.1%
- Gas Control Module with Automatic Filling circuit.
- System should have automatred O2 compensation during FRC test.
- System should also have fully automated Calibration/Test procedure with computer.
- Computer specification :CPU Pentium IV 2.7 GHz and above;128/64 MB RAM;1.44 MB Floppy drive;80 GB Hard Disk Drive; High Speed DVD/CD Rom 52 X: Serial and parallel ports ;Keyboard (IOS) , Mouse and Mouse Pad; Preloaded latest MS Windows Versions; SVGA Monitor size 15”; Inkjet printer; Modem 56K;latest anti virus SOLOMAN & NORTON.

System Configuration Accessories, spares and consumables

- System as specified
- Should be supplied complete with Computer Interfacing package, cables, Trolley, PFT Software, Manual and standard accessories
- Should be supplied complete with Gas mixture cylinders(at least 2 cubic meters)

a) Helium Cylinder-01
b) Cylinders Diffusion Mixtures-02

Environmental factors

- Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. or should comply with 89/366/EEC; EMC-directive.
- The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
- The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

Power Supply

- Power input to be 220-240VAC, 50Hz fitted with Indian plug
- UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

Standards, Safety and Training

- Should be FDA , CE,UL or BIS approved product
- Manufacturer should have ISO certification for quality standards.
- Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
- Should comply with ATS/ ECCS Guidelines.
- 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.

Documentation

- User/Technical/Maintenance manuals to be supplied in English.
- Certificate of calibration and inspection.
- List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
- List of important spares and accessories with their part number and costing.
- 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.

Annexure-III: STATEMENT OF APPLICANT

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul

1.	Name of the bidder	
2.	Address:	
3.	Telephone	
4.	Fax No.	
5.	Email Address for communication:	
6.	Mobile number of the Contact Person	
7.	Address for communication (if different)	
8.	Legal Status	
9.	Place & date of incorporation/establishment/ registration	

Place: (Name & Signature of Authorized Representative)
Date:

Annexure IV: PRICE SCHEDULE FOR EQUIPMENT

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul

A	B	C	D	E	F	G =D x E
S. No.	Item Sl. No (X-1-1, etc.)	Name of the Equipment	Quantity (Nos.)	Price/ unit (INR)*		Total Price *
				Figures	Words	
	1					
	2					
	3.					
	Total Composite Price					

Total Composite price in Rs. (in words)_____

**** Note: -***

a) In case of discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
b) In case of discrepancy between the figures and words, the price quoted in words shall prevail.
c) The price quoted by bidder under column E and F above, should be lump -sum price which includes cost of medical equipment, cost of Warranty, all taxes, etc. Payment shall be released to the bidder, on the basis of lump -sum price quoted above.
d) The payment will be made as per Clause 4 & 5 under Section-II of the tender document.
e) The uptime warranty will be 95 % on 24 (hrs) x 7 (days) x 365 (days) basis.
f) 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.
g) Bidder is required to quote for all the items defined in the Group for which the bid is being submitted. **Partial proposals shall be summarily rejected**.

Annexure V: BID SECURITY

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul

Group name	Bid Security (in INR)
Group – X	Rs. 7,20,000.00

Annexure VI: PROFORMA OF BANK GAURANTEE FOR BID SECURITY

Ref:
To
The Director(DPA),
The Ministry of External Affairs
Jawaharlal Nehru Bhawan
23-D, Janpath, New Delhi, PIN-110011
Bank Guarantee No. ----------

Dear Sir,

1. Whereas the Director(DPA(, Ministry of External Affairs having its office at Jawaharlal Nehru Bhawan, 23-D, Janpath, New Delhi-110011 (hereinafter called the MEA) which expression shall, unless repugnant to the context or the meaning thereof, include all its successors, administrators, executors and assignees has on behalf of the President of India invited Tender No.---------- and M/s ---------- having Registered/head office at ---------- ---------- (Hereinafter called the "Bidder" which expression shall, unless repugnant to the context or the meaning thereof, mean and include alt its successors, administrators executors and assignees) have submitted a Proposal Reference No. ---------- ---------- and the bidder having agree to furnish as a conditions precedent for participation in the tender as unconditional and irrevocable bank guarantee of Rs---------- ----------(Rupees ---------- Only) for the due performance of Bidder's obligations as contained in the Tender Document supplied by the MEA specially the conditions that the bidder shall keep his Proposal open for a period of day i.e. from ---------- ---------- to ---------- or any extension thereof, and shall not withdraw or modify it in a manner not acceptable to the MEA. The Bidder has absolutely and unconditionally accepted these conditions. The MEA and the Bidder have agreed that Proposal submitted by the Bidder is an offer made on the condition that the Proposal, if submitted would be kept open in its original form without variation or modification in a manner not acceptable to the MEA for a period of ----------days i.e. from ---------- to ---------- or any, extension thereof and that submission of the Proposal itself shall be regarded as an unconditional and absolute acceptance of the conditions, contained in the Tender document. They have further agreed that the contract consisting of Tender document and submission of the Proposal as the ACCEPTANCE shall be a separate contract distinct from the contract which will come into existence when the Proposal is finally accepted by the MEA. The consideration for this separate initial contract preceding the main contract is that the MEA is not agreeable to sell the Tender documents to the Bidder and to consider the Proposal to be made except on the condition that the Proposal shall be kept open for the period indicated above and the Bidder desires to submit a Proposal on this condition after entering into this separate initial contract with the MEA promises to consider the Proposal on this condition and Bidder agrees to keep this Proposal open for the required period. These reciprocal promises form the CONSIDERATION for this separate initial contract between the parties.
2. Therefore, we ---------- registered (indicate the name of Bank) under the laws of ----------having head/registered office at (hereinafter referred to as the "Bank") which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators and executors hereby issue irrevocable and unconditional bank guarantee and undertake to pay immediately on first demand in writing Rupees all money to the extent of Rs---------- (Rupees---------- only) at any time immediately on such demand without any demur, reservations, recourse, contest or protest

and/ or without any reference to the Bidder and any such demand made by the MEA on the bank shall be conclusive and binding notwithstanding any difference between the MEA and the Bidder or any dispute pending before any court/arbitrator or any other matter whatsoever. We also agree to give that Guarantee herein the MEA in writing. This guarantee shall not be determined/discharged/affected by the liquidation, winding up, dissolution or insolvency of the Bidder and will remain valid, binding and operative against the bank.

3. The bank also undertakes that the MEA at the option shall be entitled to enforce this guarantee, against the Bank as a principal debtor, in the first instance, without proceeding against the Bidder.
4. The bank further agree that as between the bank and the MEA, purpose of the guarantee, any notice of the breach of the terms and conditions contained in the Tender Documents as referred above given to the bank by the MEA shall be conclusive and binding on Bank, without any proof, notwithstanding any other matter or difference or dispute whatsoever. We further agree that this guarantee shall not be *affected* by any change in our constitution, in the constitution of the MEA or that of the Bidder. We also undertake not to revoke, in any case, this Guarantee during its currency.
5. The bank agree with the MEA that the MEA shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms of the Tender or get extension of the validity period from time to time. We shall not be relieved from our liability by reason of any such variation or extension of the validity period or for any forbearance, act of omission and commission on the part of the MEA or any indulgence shown by the MEA to the said Bidder or by any such matter or thing whatsoever which under the law relating to sureties, would, but for this provision, have the effect of so relieving us.
6. Notwithstanding anything contained here in above our liability under his Guarantee is limited to Rs. ---------- (Rupees ---------- only) in aggregate and it shall remain in full force upto ---------- (225 days from the date of bid opening) unless extended further from time to time, for such period as may be instructed in writing by M/s ---------- on whose behalf this guarantee has been given, in which case, it shall remain in full force upto the expiry of extended period. Any claim under this guarantee must be received by us before----------(date of expiry of validity period) or before the expiry of extended period, if any. If no such claim is received by us within the said date/extended date, the rights of the MEA under this guarantee will cease. However, if sucha claim has been received by us within and upto the said date/extended date, all right of the MEA under this guarantee shall be valid and shall not cease until we have satisfied that claim.
7. In case contract is awarded to the Bidder here in after referred to as "Contractor" the validity of this Bank Guarantee will stand automatically extended until the Bidder furnished to the MEA a bank guarantee for requisite amount towards performance guarantee for satisfactory performance of the contract. In case of failure to furnish performance bank Guarantee in the format prescribed by the MEA by the required date the claim must be submitted to us within validity period or extended period, if any. If no such claim has been received by us within the said date /extended date, rights, of the Ministry under this guarantee will cease. However if such a claim has been received by us within the said date/extended date all rights of the MEA under this guarantee shall be valid and shall not cease until we have satisfied that claim,In witness where of the Bank, through its authorised officer, has sent its hand & stamp onthis ----------day of at_____of----------
--at----------of---------- (month & year).

(Signature of the Authorized Signatory of the Bank)

Seal of the Bank

Annexure VII: BID FORM

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul

Date: ……

To,
The Director (DPA)
Room No. 3121, B Block
Ministry of External Affairs
New Delhi

IFB Ref: ……

Having examined the Bid Document including amendments, the receipt of which is duly acknowledged, we, the undersigned, offer to supply, install, commission and maintain the list of equipment mentioned in our selected Groups in conformity with said bidding documents.

We, undertake, if our bid is accepted, to deliver the equipment in accordance with the delivery schedule specified.

We understand that you are not bound to accept the lowest or any bid you may receive.

We accept all your terms and conditions stipulated in this tender document without deviations, both technical & Financial

Dated this……. Day of…… 200……

(Signature)

(In the capacity of)

Duly authorised to sign Bid for and on behalf of

Annexure VIII: MANUFACTURER'S AUTHORIZATION FORM

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment for Indira Gandhi Institute of Child Health, Kabul.

To
(Name of the purchaser)

Dear Sirs,

Ref. your TE document no_____, dated ___

We, _____ manufacturers of ____who are proven and reputable (name and description of the goods offered in the tender) having factories at hereby authorize M/s._____ (name and address of the agent) 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.

We further confirm that no supplier or firm or individual other than M/s. _____ (name and address of the agent) is authorized to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred Tender documents for the above goods manufactured by us.

Yours faithfully,

[Signature with date, name and designation] For and on behalf of M/s_____

[Name & address of the manufacturers]

Note: 1. This letter of authorization 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.

Annexure IX: SATISFACTORY INSTALLATION CERTIFICATE

This is to certify that M/s. ……..has successfully delivered and installed the following medical equipment in Indira Gandhi Institute of Child Health, Kabul to the satisfaction of the hospital:

Purchase Order No.: …….

S. No.	Name of the medical equipment	S. No. as per PO (like X-1-1, etc.)	Quantity	Details (Make, Model No., Sr. No. of the product, etc.)	Details of accessories, spares, etc., if applicable	Whether brochures, user manuals have been provided **(Yes/No)**	Whether training has been provided to the user staff satisfactorily **(Yes/No)**	Whether contact numbers for warranty support have been provided. **(Yes/No)**	Whether Satisfactory installation and execution of the supplies been done. **(Yes/No)**

Date:

President
IGICH, Kabul

Countersigned by:

Name:

Designation:

Embassy of India, Kabul

Annexure X: Compliance Sheet

Subject: Tender for Supply, Delivery, Installation and Maintenance of Medical Equipment at Indira Gandhi Institute of Child Health, Kabul

Item No. as per list of requirement (like X-3-1, etc.)	Item Name	Make	Model	Whether complying with the specifications defined in the tender documents (Yes/No)	Deviation, if any

NOTE: Bidders should ensure that all the products being offered are complying with the specifications given in the tender. The technical bid would be rejected even if one product is found to be non-compliant and financial bid would not be opened.