DOMESTIC TENDER ENQUIRY DOCUMENT

FOR PURCHASE OF
MEDICAL EQUIPMENT
FOR SIX AIIMS LIKE INSTITUTIONS

UNDER PMSSY SCHEME
FOR

GOVT. OF INDIA

MINISTRY OF HEALTH & FAMILY WELFARE

HLL/PCD/PMSSY/AIIMS/05/12-13

BY

HLL LIFECARE LIMITED

(A GOVERNMENT OF INDIA ENTERPRISE)
Procurement & Consultancy Services Division
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SECTION I

NOTICE INVITING TENDERS (NIT)
For Domestic Tender from
HLL LIFECARE LIMITED

(A GOVT. OF INDIA ENTERPRISE)
Procurement & Consultancy Services Division
B-14 A, Sector-62, Noida-201 307
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FOR
GOVT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE

Tender Enquiry No.: HLL/PCD/PMSSY-AIIMS/05/12-13 **Dated 05.02.2013**

NOTICE INVITING TENDERS (NIT)

(1) Procurement & Consultancy Services Division of HLL Lifecare Limited, for and on behalf of Govt. of India, Ministry of Health & Family Welfare, invites sealed tenders from eligible and qualified tenderers for Supply, Installation & Commissioning of **Medical Equipment for departments of Anatomy, Biochemistry, Community Medicine & Physiology for six upcoming AIIMS like Institutes at BHOPAL, BHUBHNESHWAR, JODHPUR, PATNA, RAIPUR & RISHIKESH under PMSSY**:

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
1	Mortury Cooler/ Refrigerator	Anatomy	12	168,000
2	Embalming Machine	Anatomy	18	18,000
3	Meat cutting Machine (Bakon's slicer)	Anatomy	6	7,200
4	Binocular Microscope (Student)	Anatomy	300	180,000
5	Binocular Microscope (for faculty and teachers) with photographic attachment	Anatomy	6	72,000
6	Hot plate - Electrical	Anatomy	12	1,200
7	Incubator	Anatomy	12	12,000
8	Rotary Microtome	Anatomy	6	72,000
9	Analytical Balance	Anatomy	6	60,000
10	Dissection Table - Std	Anatomy	60	30,000
11	Dissection table small	Anatomy	60	12,000

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
12	X - Ray viewing Lobby	Anatomy	240	24,000
13	Water Purification System	Anatomy	6	60,000
14	Skeleton Articulated	Anatomy	60	1,200,000
15	Human Bones set disarticulated	Anatomy	180	1,080,000
16	Charts (in set)	Anatomy	6	6,000
17	Models (in set)	Anatomy	6	12,000
18	Lquid Nitrogen Drum	Anatomy	36	36,000
19	Sledge and freezing microtome	Anatomy	6	48,000
20	Refrigerator -330L (Laboratory type)	Anatomy	6	6,000
21	Dissecting Microscope	Anatomy	12	60,000
22	Centrifuge Machine (Table top centrifuge)	Anatomy	12	12,000
23	Laminar Air Flow Chamber	Anatomy	24	192,000
24	Deep freezer (-20 deg C)	Anatomy	12	72,000
25	Deep freezer (-80 deg C)	Anatomy	12	120,000
26	Paraffin water bath	Anatomy	12	2,400
27	Water bath serological	Anatomy	18	14,400
28	Paraffin embedding system	Anatomy	6	36,000
29	Plastination Equipment	Anatomy	6	12,000
30	Inverted Microscope	Anatomy	6	84,000
31	Blood gas analyzer	Biochemistry	12	168,000
32	Analytical balance(Hi end)	Biochemistry	24	124,800
33	Handheld Particulate counter	Biochemistry	12	24,000
34	Hot air oven	Biochemistry	18	18,000
35	Incubator	Biochemistry	24	48,000
36	Biosafety Cabinet	Biochemistry	6	42,000
37	Liquid Nitrogen Drum	Biochemistry	18	12,600
38	Ultra Sonicator	Biochemistry	12	120,000
39	Orbital shaker	Biochemistry	6	96,000
40	Gradient PCR Machine	Biochemistry	12	120,000
41	Real time PCR	Biochemistry	12	672,000

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
42	Chemiluminescence & Gel imaging & analysis system	Biochemistry	6	120,000
43	Vertical Laminar flow bench with Hepa filter	Biochemistry	6	48,000
44	Vertical gel electrophoresis	Biochemistry	24	120,000
45	Electrolyte analyzer	Biochemistry	12	43,200
46	HPLC system	Biochemistry	6	360,000
47	Random access high throughput fully automated chemistry analyzer	Biochemistry	6	840,000
48	Random access medium throughput fully automated chemistry analyzer	Biochemistry	18	1,620,000
49	Elisa reader with washer and shaker	Biochemistry	12	156,000
50	Laminar flow with PCR	Biochemistry	12	14,400
51	Vertical Laminar flow bench with Hepa filter	Biochemistry	12	84,000
52	UV Visible Double Beam Spectrophotometer	Biochemistry	6	96,000
53	Ultra Centrifuge	Biochemistry	6	300,000
54	Refrigerated centrifuge	Biochemistry	6	102,000
55	Refrigerated Microcentrifuge	Biochemistry	24	144,000
56	Water Purification System	Biochemistry	12	144,000
57	Cell counter and sizer	Biochemistry	6	84,000
58	Semiauto analyzer	Biochemistry	24	72,000
59	Laminar airflow for cell culture	Biochemistry	12	84,000
60	Top loading balance	Biochemistry	36	72,000
61	Binocular microscope	Biochemistry	72	72,000
62	Nano spectro bio photometer	Biochemistry	6	66,000
63	Flurescent microscope	Biochemistry	12	288,000
64	Inverted microscope with PC	Biochemistry	12	360,000
65	CO2 incubator	Biochemistry	6	60,000
66	ICE flaking machine	Biochemistry	6	42,000
67	Autoclave (vertical)	Biochemistry	12	24,000
68	Refrigerator (300-380L)	Biochemistry	48	48,000
69	BOD incubator	Biochemistry	12	12,000
70	All glass distillation apparatus	Biochemistry	6	12,000
71	Flowcytometer	Biochemistry	6	600,000

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
72	Peristaltic pump	Biochemistry	12	12,000
73	Agarose gel electrophoresis system	Biochemistry	24	12,000
74	Random access small through put fully automated clinical chemistry analyzer	Biochemistry	12	720,000
75	Vertical deep freezer -20deg	Biochemistry	24	24,000
76	Vertical deep freezer -80deg	Biochemistry	12	120,000
77	Fully automated chemiluminiscence immunoassay analyzer	Biochemistry	6	480,000
78	Elisa reader	Biochemistry	12	72,000
79	Microplate multimode reader	Biochemistry	6	156,000
80	HPLC based automated analyzer for HbA1c & hemoglobinopathy testing	Biochemistry	6	180,000
81	Fraction collection	Biochemistry	6	96,000
82	Lyophilizer	Biochemistry	6	36,000
83	Beta counter	Biochemistry	6	144,000
84	Transilluminator with UV stand and UV torch	Biochemistry	6	12,000
85	Western blot apparatus	Biochemistry	12	60,000
86	Comparator, Nessler	Community Medicine	24	4,800
87	Barometer - Precision, Fortin	Community Medicine	6	3,000
88	Barometer - Aneroid with thermometer	Community Medicine	6	1,200
89	Hygrometers, wet and dry bulb	Community Medicine	6	900
90	Binocular Microscope (For students)	Community Medicine	210	210,000
91	Binocular Microscope (For Teachers)	Community Medicine	30	300,000
92	Continuous Dichotomous Ambient Particulate Monitor	Community Medicine	12	180,000
93	Continuous Emissions Monitoring System	Community Medicine	12	240,000
94	SO3 Analyzer	Community Medicine	12	180,000
95	CO Analyzer	Community Medicine	12	90,000
96	Enhanced Trace Level SO2 Analyzer	Community Medicine	12	180,000
97	Dosimeter	Community Medicine	12	60,000

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
98	Dissecting Microscope (10 X)	Community Medicine	300	1,500,000
99	Analytical Balance 200 gm	Community Medicine	24	120,000
100	Centrifuge clinical	Community Medicine	12	12,000
101	Water Purification System	Community Medicine	6	12,000
102	CO2 incubator	Community Medicine	6	72,000
103	Auto analyser	Community Medicine	6	240,000
104	Fat Extraction	Community Medicine	6	240,000
105	Incubator, electric	Community Medicine	6	6,000
106	Biological safety cabinet	Community Medicine	6	4,800
107	Intra Uterine device insertion trainer	Community Medicine	24	60,000
108	Ultrasound machine	Community Medicine	6	180,000
109	Portable Flash Autoclave	Community Medicine	12	6,000
110	Binocular microscope - Students	Physiology	300	150,000
111	Trinocular microscope - Teaching	Physiology	12	72,000
112	Priestly Smith Perimeter	Physiology	120	48,000
113	Ophthalmoscope	Physiology	24	9,600
114	Olfactometer	Physiology	6	12,000
115	Thermal aesthesiometer - Digital	Physiology	6	9,000
116	Von frey Aesthesiometer	Physiology	6	18,000
117	Dales Organ bath	Physiology	120	6,000
118	Lab refrigerator	Physiology	6	9,000
119	Refrigerated centrifuge	Physiology	6	7,200
120	Electronic Muscle Stimulator	Physiology	18	1,260
121	Storage Oscilloscope - 4 channel	Physiology	6	120,000
122	Physiograph 3 channel	Physiology	72	216,000
123	Water purification system	Physiology	6	30,000
124	Lagendroff's Apparatus	Physiology	24	36,000

Sl. No	Short Description of the Items	Department	Total Qty for 6 AIIMS	EMD Amount (Rs.)
125	Single channel physiological recorder	Physiology	120	180,000
126	ECG machine 12 channel	Physiology	18	54,000
127	ECG machine single channel	Physiology	30	12,000
128	Algometer	Physiology	6	9,000
129	Kymograph with accessories	Physiology	120	360,000
130	EEG	Physiology	6	30,000

(2) **Tender No.: HLL/PCD/PMSSY/AIIMS-05/12-13**

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	06.02.2013 to 06.03.2013 (10:00 hrs to 16:00 hrs IST)
ii.	Place of sale of Tender Enquiry Documents	HLL Lifecare Limited Procurement & Consultancy Services Division, B-14 A, Sector-62, Noida-201 307
iii.	Cost of the Tender Enquiry Document	Rs. 5000/-
iv.	Pre Tender Meeting Date & Time	14.02.2013, 11:00 hrs IST
v.	Pre Tender Meeting Venue	Same as 2 (ii)
vi.	Closing date & time for receipt of Tender	07.03.2013, 14:30 hrs IST
vii.	Time and date of opening of Techno – Commercial tenders	07.03.2013, 15:00 hrs IST
viii	Venue of Opening of Techno Commercial Tender	Same as 2 (ii)

3. Interested tenderers may obtain further information about this requirement from the above office selling the documents. Tender Enquiry Documents may be purchased on payment of non-refundable fee of Rs 5000/- per set in the form of account payee Demand Draft/Pay Order/Cashier's Cheque/Banker's Cheque, drawn on a scheduled bank in India, in favour of **"HLL Lifecare Limited"** payable at New Delhi**.**

4. If requested, the Tender Enquiry Documents will be mailed by Registered Post/Speed Post to the domestic tenderers and by international airmail to the foreign tenderers, for which extra expenditure per set will be Rs 100/- for domestic post and Rs 500/- for international airmail. The tenderer is to add the applicable postage cost in the non-refundable fee mentioned in Para 3 above.

5. Tenderer may also download the tender enquiry documents from the web site www.lifecarehll.com or www.eprocure.gov.in and submit its tender by utilizing the downloaded document, along with the required non-refundable fee as mentioned in Para 3 above.

6. All prospective tenderers may attend the Pre Tender meeting. The venue, date and time indicated in the Para 2 above.

7. Tenderers shall ensure that their tenders, complete in all respects, are dropped in the Tender Box located at **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201 307,Uttar Pradesh** on or before the closing date and time indicated in the Para 2 above, failing which the tenders will be treated as late and rejected.

8. In the event of any of the above mentioned dates being declared as a holiday / closed day for the purchase organisation, the tenders will be sold/received/opened on the next working day at the appointed time.

9. The Tender Enquiry Documents are not transferable.

Head (P&CD)
HLL Lifecare Limited,
Procurement and Consultancy Division
B-14 A, Sector-62, Noida-201 307
Uttar Pradesh

SECTION - II

GENERAL INSTRUCTIONS TO TENDERERS (GIT)
CONTENTS

GENERAL INSTRUCTIONS TO TENDERERS (GIT)

A. PREAMBLE

1. Definitions and Abbreviations

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

1.2. Definitions:

(i) "Purchaser" means Ministry of Health & Family welfare Govt of India.
(ii) "Tender" means Bids / Quotation / Tender received from a Firm / Tenderer / Bidder.
(iii) "Tenderer" means Bidder/ the Individual or Firm submitting Bids / Quotation / Tender
(iii) "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract.
(iv) "Goods" means the articles, material, commodities, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, medical equipment, industrial plant etc. which the supplier is required to supply to the purchaser under the contract.
(v) "Services" means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service and other such obligations of the supplier covered under the contract.
(vi) "Earnest Money Deposit" (EMD) means Bid Security/ monetary or financial guarantee to be furnished by a tenderer along with its tender.
(vii) "Contract" means the written agreement entered into between the purchaser and/or consignee and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc. therein.
(viii) "Performance Security" means monetary or financial guarantee to be furnished by the successful tenderer for due performance of the contract placed on it. Performance Security is also known as Security Deposit.
(ix) "Consignee" means the Hospital (AIIMS)/Institute/Medical College/ person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as an interim consignee for the purpose of despatch to another person as provided in the Contract then that "another" person is the consignee, also known as ultimate consignee.
(x) "Specification" means the document/standard that prescribes the requirement with which goods or service has to conform.
(xi) "Inspection" means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.
(xii) "Day" means calendar day.

1.3 Abbreviations:

(i) "TE Document" means Tender Enquiry Document
(ii) "NIT" means Notice Inviting Tenders.
(iii) "GIT" means General Instructions to Tenderers
(iv) "SIT" means Special Instructions to Tenderers
(v) "GCC" means General Conditions of Contract
(vi) "SCC" means Special Conditions of Contract
(vii) "DGS&D" means Directorate General of Supplies and Disposals

(viii) "NSIC" means National Small Industries Corporation
(ix) "PSU" means Public Sector Undertaking
(x) "CPSU" means Central Public Sector Undertaking
(xi) "LSI" means Large Scale Industry
(xii) "SSI" means Small Scale Industry
(xiii) "LC" means Letter of Credit
(xiv) "DP" means Delivery Period
(xv) "BG" means Bank Guarantee
(xvi) "ED" means Excise Duty
(xvii) "CD" means Custom Duty
(xviii) "VAT" means Value Added Tax
(xix) "CENVAT" means Central Value Added Tax
(xx) "CST" means Central Sales Tax
(xxi) "RR" means Railway Receipt
(xxii) "BL" means Bill of Lading
(xxiii) "FOB" means Free on Board
(xxiv) "FCA" means Free Carrier
(xxv) "FOR" means Free On Rail
(xxvi) "CIF" means Cost, Insurance and Freight
(xxvii) "CIP (Destinations)" means Carriage and Insurance Paid up to named port of destination. Additionally the Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery.
(xxviii) "DDP" means Delivery Duty Paid named place of destination (consignee site)
(xxix) "INCOTERMS" means International Commercial Terms as on the date of Tender Opening
(xxx) "MOH&FW" means Ministry of Health & Family Welfare, Government of India
(xxxi) "Dte. GHS" means Directorate General and Health Services, MOH&FW.
(xxxii) "CMC" means Comprehensive maintenance Contract (labour, spare and preventive maintenance)
(xxxiii) "RT" means Re-Tender.

2. Introduction

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

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

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

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

3. Availability of Funds

3.1 Expenditure to be incurred for the proposed purchase will be met from the funds available with the purchaser/consignee.

4. Language of Tender

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

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

5. Eligible Tenderers

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

6. Eligible Goods and Services

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

7. Tendering Expense

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

B. TENDER ENQUIRY DOCUMENTS

8. Content of Tender Enquiry Documents

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

Section II – General Instructions to Tenderers (GIT)
Section III – Special Instructions to Tenderers (SIT)
Section IV – General Conditions of Contract (GCC)
Section V – Special Conditions of Contract (SCC)
Section VI – List of Requirements
Section VII – Technical Specifications
Section VIII – Quality Control Requirements
Section IX – Qualification Criteria
Section X – Tender Form
Section XI – Price Schedules
Section XII – Questionnaire
Section XIII – Bank Guarantee Form for EMD
Section XIV – Manufacturer's Authorisation Form
Section XV – Bank Guarantee Form for Performance Security/CMC Security
Section XVI – Contract Forms A & B
Section XVII– Proforma of Consignee Receipt Certificate

Section XVIII– Proforma of Final Acceptance Certificate by the consignee
Section XIX – Instructions from Ministry of Shipping/ Surface Transport (Annexure 1 & 2)
Section XX – Check List for the Tenderers
Section XXI – Consignee List

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

9. Amendments to TE documents

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

9.2 Such an amendment will be notified in writing by registered/speed post or by fax/telex/e-mail, followed by copy of the same by registered post to all prospective tenderers, which have received the TE documents and will be binding on them.

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

10. Clarification of TE documents

10.1 A tenderer requiring any clarification or elucidation on any issue of the TE documents may take up the same with the purchaser in writing. The purchaser will respond in writing to such request provided the same is received by the purchaser not later than fifteen days (unless otherwise specified in the SIT) prior to the prescribed date of submission of tender.

C. PREPARATION OF TENDERS

11. Documents Comprising the Tender

11.1 The **Two Tender System**, i.e. "Techno – Commercial Tender" and "Price Tender" prepared by the tenderer shall comprise the following:

A) <u>Techno – Commercial Tender (Un priced Tender)</u>

i) Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption from payment of earnest money.
ii) Tender Form as per Section X (without indicating any prices).
iii) Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if its tender is accepted.
iv) Tenderer/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form. **<u>While giving authorization to agent , to quote on their behalf, manufacturer has to give the reasons for not quoting directly against this tender.</u>**
v) Power of Attorney in favour of signatory of TE documents and signatory of Manufacturer's Authorisation Form.
vi) Documents and relevant details to establish in accordance with GIT clause 18 that the goods and the allied services to be supplied by the tenderer conform to the requirement of the TE documents.
vii) Performance Statement as per section IX along with relevant copies of orders and end users' satisfaction certificate.

viii) Price Schedule(s) as per Section XI filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices).
ix) Certificate of Incorporation in the country of origin.
x) Checklist as per Section XX.

B) Price Tender:

The information given at clause no. 11.1 A) ii) & viii) above should be reproduced with the prices indicated.

N.B.

1. All pages of the Tender should be page numbered and indexed.
2. It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.

11.2 The authorized signatory of the tenderer must sign the tender duly stamped at appropriate places and initial all the remaining pages of the tender. Individuals signing the tender or other documents connected with a contract must specify whether he signs as:

(i) A 'Sole Proprietor' of the firm or constituted attorney of such Sole Proprietor.
(ii) A partner of the firm ,if it be a partnership , in which case he must have authority to quote & to refer to arbitration dispute concerning the business of the partnership either by virtue of the partnership agreement or a power of attorney;
(iii) Constituted attorney of the firm if it is a company.

N.B.

(1) In case of (ii) above, a copy of the partnership agreement or general power of attorney, in either ,case, attested by a Notary Public should be furnished, or affidavit on stamped paper of all the partners admitting execution of the partnership agreement or the general power of attorney should be furnished.
(2) In case of the partnership firms, where no authority to refer disputes concerning the business of the partnership has been conferred on any partner, the tender and all other related documents must be signed by every partner of the firm.
(3) A person signing the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages

11.3 A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.
11.4 Tender sent by fax/telex/cable/electronically shall be ignored.

12. Tender currencies

12.1 **The tenderer supplying indigenous goods or already imported goods shall quote only in Indian Rupees.**
12.2 Deleted
12.3 Tenders, where prices are quoted in any other way shall be treated as non -responsive and rejected.

13 Tender Prices

13.1 The Tenderer shall indicate on the Price Schedule provided under Section XI all the specified components of prices shown therein including the unit prices and total tender prices of the goods and services it proposes to supply against the requirement. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a tenderer, same should be clarified as "NA" by the tenderer.

13.2 If there is more than one schedule in the List of Requirements, the tenderer has the option to submit its quotation for any one or more schedules and, also, to offer special discount for combined schedules. However, while quoting for a schedule, the tenderer shall quote for the complete requirement of goods and services as specified in that particular schedule.

13.3 Deleted.

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

13.4.1 For domestic goods or goods of foreign origin located within India, the prices in the corresponding price schedule shall be entered separately in the following manner:

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

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

c) charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery, Loading/Unloading and other local costs incidental to delivery of the goods to their final destination as specified in the List of Requirements and Price Schedule;

d) the price of Incidental Services, as mentioned in List of Requirements and Price Schedule;

e) the prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and

f) the price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.4.2 Deleted

13.5 Additional information and instruction on Duties and Taxes:

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

13.5.2 Excise Duty:

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

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

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

13.5.3 Sales Tax:

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

13.5.4 Octroi Duty and Local Duties & Taxes:

Normally, goods to be supplied to government departments against government contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. However, on some occasions, the local bodies (like town body, municipal body etc.) as per their regulations allow such exemptions only on production of certificate to this effect from the concerned government department. Keeping this in view, the supplier shall ensure that the stores to be supplied by the supplier against the contract placed by the purchaser are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the purchaser. The purchaser should issue the certificate to the supplier within 21 days from the date of receipt of request from the supplier.
However, if a local body still insists upon payment of such local duties and taxes, the same should be paid by the supplier to the local body to avoid delay in supplies and possible demurrage charges and obtain a receipt for the same. The supplier should forward the receipt obtained for such payment to the purchaser to enable the purchaser reimburse the supplier and take other necessary action in the matter.

13.5.5 Deleted

13.6 Deleted.
13.7 For insurance of goods to be supplied, relevant instructions as provided under GCC Clause 11 shall be followed.
13.8 Deleted
13.9 The need for indication of all such price components by the tenderers, as required in this clause (viz., GIT clause 13) is for the purpose of comparison of the tenders by the purchaser and will no way restrict the purchaser's right to award the contract on the selected tenderer on any of the terms offered.

14. Indian Agent

14.1 Deleted

15. Firm Price

15.1 Unless otherwise specified in the SIT, prices quoted by the tenderer shall remain firm and fixed during the currency of the contract and not subject to variation on any account.
15.2 However, as regards taxes and duties, if any, chargeable on the goods and payable, the conditions stipulated in GIT clause 13 will apply.

16. Alternative Tenders

16.1 Alternative Tenders are not permitted.
16.2 However the Tenderers can quote alternate models meeting the tender specifications of same manufacturer with single EMD.
16.3 Only one tenderer is permitted to quote for the same manufacturer irrespective of models

17 Documents Establishing Tenderer's Eligibility and Qualifications

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

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

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

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

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

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

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

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

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

19. Earnest Money Deposit (EMD)

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

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

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

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

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

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

19.6 Unsuccessful tenderers' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.

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

19.8 **Deleted.**

20. Tender Validity

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

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

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

21. Signing and Sealing of Tender

21.1 The tenderers shall submit their tenders as per the instructions contained in GIT Clause 11.

21.2 Unless otherwise mentioned in the SIT, a tenderer shall submit three copies of its tender marking them as "Original", "Duplicate" and "Triplicate". Duplicate & Triplicate tenders may contain all pages including Technical Literature/Catalogues as per in Original tenders.

21.3 The original and other copies of the tender shall either be typed or written in indelible ink and the same shall be signed by the tenderer or by a person(s) who has been duly authorized to bind the tenderer to the contract. The letter of authorization shall be by a written power of attorney, which shall also be furnished along with the tender.

21.4 All the copies of the tender shall be duly signed at the appropriate places as indicated in the TE documents and all other pages of the tender including printed literature, if any shall be initialled by the same person(s) signing the tender. The tender shall not contain any erasure or overwriting,

except as necessary to correct any error made by the tenderer and, if there is any such correction; the same shall be initialled by the person(s) signing the tender.

21.5 The tenderer is to seal the original and each copy of the tender in separate envelopes, duly marking the same as "Original", "Duplicate", "Triplicate" and so on and writing the address of the purchaser and the tender reference number on the envelopes. The sentence "NOT TO BE OPENED" before _____ (The tenderer is to put the date & time of tender opening) are to be written on these envelopes. The inner envelopes are then to be put in a bigger outer envelope, which will also be duly sealed, marked etc. as above. If the outer envelope is not sealed and marked properly as above, the purchaser will not assume any responsibility for its misplacement, premature opening, late opening etc.

21.6 TE document seeks quotation following **two Tender System**, in two parts. First part will be known as **'Techno - Commercial Tender'**, and the second part **'Price Tender'** as specified in clause 11 of GIT. Tenderer shall seal **'Techno - Commercial Tender'** and **'Price Tender'** separately and covers will be suitably super scribed. Both these sealed covers shall be put in a bigger cover and sealed and procedure prescribed in Paras 21.1 to 21.5 followed.

D. SUBMISSION OF TENDERS

22. Submission of Tenders

22.1 Unless otherwise specified, the tenderers are to deposit the tenders in the tender box kept for this purpose at **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201 307, Uttar Pradesh**. In case of bulky tender, which can not be put into tender box, the same shall be submitted by the tenderer by hand to **Head (P&CD)** or his nominee, **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201 307, Uttar Pradesh**. The officer receiving the tender will give the tenderer an official receipt duly signed with date and time.

22.2 The tenderers must ensure that they deposit their tenders not later than the closing time and date specified for submission of tenders. It is the responsibility of the tenderer to ensure that their Tenders whether sent by post or by courier or by person, are dropped in the Tender Box by the specified clearing date and time. In the event of the specified date for submission of tender falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be received up to the appointed time on the next working day.

23. Late Tender

23.1 A tender, which is received after the specified date and time for receipt of tenders will be treated as "late" tender and will be ignored.

24. Alteration and Withdrawal of Tender

24.1 The tenderer, after submitting its tender, is permitted to alter / modify its tender so long as such alterations / modifications are received duly signed, sealed and marked like the original tender, within the deadline for submission of tenders. Alterations / modifications to tenders received after the prescribed deadline will not be considered.

24.2 No tender should be withdrawn after the deadline for submission of tender and before expiry of the tender validity period. If a tenderer withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the tenderer in its tender.

E. TENDER OPENING

25. Opening of Tenders

25.1 The purchaser will open the tenders at the specified date and time and at the specified place as indicated in the NIT.

In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be opened at the appointed time and place on the next working day.

25.2 Authorized representatives of the tenderers, who have submitted tenders on time may attend the tender opening provided they bring with them letters of authority from the corresponding tenderers.

The tender opening official(s) will prepare a list of the representatives attending the tender opening. The list will contain the representatives' names & signatures and corresponding tenderers' names and addresses.

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

F. SCRUTINY AND EVALUATION OF TENDERS

26. Basic Principle

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

27. Scrutiny of Tenders

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

27.2 The Purchaser's determination of a Tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence

27.3 Deleted

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

27.5 The following are some of the important aspects, for which a tender shall be declared non – responsive during the evaluation and will be ignored;

(i) Deleted
(ii) Tender is unsigned.
(iii) Tender validity is shorter than the required period.
(iv) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
(v) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorisation Form as per Section XIV.

(vi) Tenderer has not agreed to give the required performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract. .

(vii) Deleted

(viii) Tenderer has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law.

(ix) Poor/ unsatisfactory past performance.

(x) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.

(xi) Tenderer is not eligible as per GIT Clauses 5.1 & 17.1.

(xii) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.

(xiii) Tenderer has not agreed for the delivery terms and delivery schedule.

28. Minor Infirmity/Irregularity/Non-Conformity

28.1 If during the evaluation, the purchaser find any minor informality and/or irregularity and/or non-conformity in a tender, , the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post/courier/e-mail/fax etc. asking the tenderer to respond by a specified date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

29 Discrepancies in Prices

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

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

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

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

30. Discrepancy between original and copies of Tender

30.1 In case any discrepancy is observed between the text etc. of the original copy and that in the other copies of the same tender set, the text etc. of the original copy shall prevail. Here also, the purchaser will convey its observation suitably to the tenderer by register / speed post and, if the tenderer does not accept the purchaser's observation, that tender will be liable to be ignored.

31. Qualification Criteria

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

32. Conversion of tender currencies to Indian Rupees

32.1 Deleted

33. Schedule-wise Evaluation

33.1 In case the List of Requirements contains more than one schedule, the responsive tenders will be evaluated and compared separately for each schedule. The tender for a schedule will not be considered if the complete requirements prescribed in that schedule are not included in the tender. However, as already mentioned in GIT sub clause 13.2, the tenderers have the option to quote for any one or more schedules and offer discounts for combined schedules. Such discounts wherever applicable will be taken into account to determine the lowest evaluated cost for the purchaser in deciding the successful tenderer for each schedule, subject to tenderer(s) being responsive.

34. Comparison of Tenders

34.1 Unless mentioned otherwise in Section – III – Special Instructions to Tenderers and Section – VI – List of Requirements, the comparison of the responsive tenders shall be carried out on Delivery Duty Paid (DDP) consignee site basis. The quoted turnkey prices and CMC prices will also be added for comparison/ranking purpose for evaluation. **Net Present value (NPV) of the comprehensive annual maintenance charges (CMC) quoted for 5 years after the warranty period shall be added to the bid price for evaluation and will be calculated at a discounted rate of 10% per year.**

35. Additional Factors and Parameters for Evaluation and Ranking of Responsive Tenders

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

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

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

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

35.3 The Purchaser reserves the right to give the price preference to small-scale sectors etc. and purchase preference to central public sector undertakings as per the instruction in vogue while evaluating, comparing and ranking the responsive tenders.

36. Tenderer's capability to perform the contract

36.1 The purchaser, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the tenderer, whose tender has been determined as the lowest evaluated responsive tender is eligible, qualified and capable in all respects to perform the contract satisfactorily. If, there is more than one schedule in the List of Requirements, then, such determination will be made separately for each schedule.

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

37. Contacting the Purchaser

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

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

G. AWARD OF CONTRACT

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

38.1 The purchaser reserves the right to accept in part or in full any tender or reject any or more tender(s) without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected tenderer or tenderers.

39. Award Criteria

39.1 Subject to GIT clause 38 above, the contract will be awarded to the lowest evaluated responsive tenderer decided by the purchaser in terms of GIT Clause 36.

40. Variation of Quantities at the Time of Award/ Currency of Contract

40.1 At the time of awarding the contract, the purchaser reserves the right to increase or decrease by up to twenty five (25) per cent, the quantity of goods and services mentioned in the schedule (s) in the "List of Requirements" (rounded of to next whole number) without any change in the unit price and other terms & conditions quoted by the tenderer.

40.2 If the quantity has not been increased at the time of the awarding the contract, the purchaser reserves the right to increase by up to twenty five (25) per cent, the quantity of goods and services mentioned in the contract (rounded of to next whole number) without any change in the unit price and other terms & conditions mentioned in the contract, during the currency of the contract.

41. Notification of Award

41.1 Before expiry of the tender validity period, the purchaser will notify the successful tenderer(s) in writing, by registered / speed post or by fax/ telex/cable (to be confirmed by registered / speed post) that its tender for goods & services, which have been selected by the purchaser, has been accepted, also briefly indicating therein the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. The successful tenderer must furnish to the purchaser the required performance security within thirty days from the date of dispatch of this notification, failing which the EMD will forfeited and the award will be cancelled. Relevant details about the performance security have been provided under GCC Clause 5 under Section IV.

41.2 The Notification of Award shall constitute the conclusion of the Contract.

42. Issue of Contract

42.1 Promptly after notification of award, the Purchaser/Consignee will mail the contract form (as per Section XVI) duly completed and signed, in duplicate, to the successful tenderer by registered / speed post.

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

42.3 The Purchaser/Consignee reserves the right to issue the Notification of Award consignee wise.

43. Non-receipt of Performance Security and Contract by the Purchaser/Consignee

43.1 Failure of the successful tenderer in providing performance security and / or returning contract copy duly signed in terms of GIT clauses 41 and 42 above shall make the tenderer liable for forfeiture of its EMD and, also, for further actions by the Purchaser/Consignee against it as per the clause 24 of GCC – Termination of default.

44. Return of E M D

44.1 The earnest money of the successful tenderer and the unsuccessful tenderers will be returned to them without any interest, whatsoever, in terms of GIT Clause 19.6.

45. Publication of Tender Result

45.1 The name and address of the successful tenderer(s) receiving the contract(s) will be mentioned in the notice board/bulletin/web site of the purchaser.

46. Corrupt or Fraudulent Practices

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

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

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

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

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

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

SECTION - III
SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

Sl. No.	GIT Clause No.	Topic	SIT Provision	Page No.
A	1 to 7	Preamble	No Change	28
B	8 to 10	TE documents	No Change	28
C	11 to 21	Preparation of Tenders	No Change	28
D	22 to24	Submission of Tenders	No Change	28
E	25	Tender Opening	No Change	28
F	26 to 37	Scrutiny and Evaluation of Tenders	No Change	28
G	38 to 45	Award of Contract	No Change	28

SPECIAL INSTRUCTIONS TO TENDERERS (SIT)

The following Special Instructions to Tenderers will apply for this purchase. These special instructions will modify/substitute/supplement the corresponding General Instructions to Tenderers (GIT) incorporated in Section II. The corresponding GIT clause numbers have also been indicated in the text below:

In case of any conflict between the provision in the GIT and that in the SIT, the provision contained in the SIT shall prevail.

A Preamble

No Change

B TE documents

No Change

C Preparation of Tenders

No Change

D Submission of Tenders

No Change

E Tender Opening

No Change

F Scrutiny and Evaluation of Tenders

No Change

G Award of Contract

No Change

SECTION - IV

GENERAL CONDITIONS OF CONTRACT (GCC)
TABLE OF CLAUSES

GENERAL CONDITIONS OF CONTRACT (GCC)

1. Application

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

2. Use of contract documents and information

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

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

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

3. Patent Rights

3.1 The supplier shall, at all times, indemnify and keep indemnified the purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the supplier under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trade marks etc. being made against the purchaser, the purchaser shall notify the supplier of the same and the supplier shall, at his own expenses take care of the same for settlement without any liability to the purchaser.

4. Country of Origin

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

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

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

5. Performance Security

5.1 Within thirty (30) days from date of the issue of notification of award by the Purchaser/Consignee, the supplier, shall furnish performance security to the Purchaser/Consignee for an amount equal to ten percent (10%) of the total value of the contract, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations, initially valid for a period of minimum 30 months from the date of Notification of Award

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

a) It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in section XV of this

document in favour of the Purchaser/Consignee. The validity of the Fixed Deposit receipt or Bank Guarantee will be for a period up to sixty (60) days beyond Warranty Period.

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

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

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

5.6 Subject to GCC sub – clause 5.3 above, the Purchaser/Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations & after receipt of Consignee wise bank guarantee for CMC security in favour of Head of the Hospital/ Institute/ Medical College of the consignee as per the format in Section XV.

6. Technical Specifications and Standards

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

7. Packing and Marking

7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transhipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

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

7.3 Packing instructions:

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

a. contract number and date
b. brief description of goods including quantity
c. packing list reference number
d. country of origin of goods
e. consignee's name and full address and
f. supplier's name and address

8. Inspection, Testing and Quality Control

8.1 The purchaser and/or its nominated representative(s) will, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform the supplier in advance, in writing, the purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose. The cost towards the transportation, boarding & lodging will be borne by the purchaser and/or its nominated representative(s).

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

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

8.4 In case the contract stipulates pre-despatch inspection of the ordered goods at supplier's premises, the supplier shall put up the goods for such inspection to the purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period.

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

8.6 The purchaser's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by purchaser's inspector during pre-despatch inspection mentioned above.

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

8.8 Deleted

9. Terms of Delivery

9.1 Goods shall be delivered by the supplier in accordance with the terms of delivery and as per the delivery period specified in the schedule of requirement. Please note that the time shall be the essence of the contract.

10. Transportation of Goods

10.1 Deleted

10.2 Instructions for transportation of domestic goods including goods already imported by the supplier under its own arrangement:

In case no instruction is provided in this regard in the SCC, the supplier will arrange transportation of the ordered goods as per its own procedure.

11. Insurance:

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

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

ii) Deleted

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

12. Spare parts

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

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

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

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

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

12.2 Supplier shall carry sufficient inventories to assure ex-stock supply of consumables and spares for the goods so that the same are used during warranty and CMC period.

13. Incidental services

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

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

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

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

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

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

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

B) Deleted

15. Warranty

15.1 The supplier warrants comprehensively that the goods supplied under the contract is new, unused and incorporate all recent improvements in design and materials unless prescribed otherwise by the purchaser in the contract. The supplier further warrants that the goods supplied under the contract shall have no defect arising from design, materials, manufacturing or workmanship or from any act or omission of the supplier that may develop under normal use of the supplied goods under the conditions prevailing in India.

15.2 The **warranty** shall remain valid for the period as mentioned in the list of requirement/ General Technical specification, after the goods or any portion thereof as the case may be, have been delivered, installed and commissioned at the final destination.

a. No conditional warranty will be acceptable.

b. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work and it will also cover the following wherever applicable:-
   - Any kind of motor.
   - Plastic & Glass Parts against any manufacturing defects.
   - All kind of sensors.
   - All kind of coils, probes and transducers.
   - Printers and imagers including laser and thermal printers with all parts.
   - UPS including the replacement of batteries.
   - Air-conditioners

c. Replacement and repair will be under taken for the defective goods.

d. Proper marking has to be made for all spares for identification like printing of installation and repair dates.

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

15.4 Upon receipt of such notice, the supplier shall, within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. The penalty clause for non rectification will be applicable as per tender conditions

15.5 In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended to a further period of twenty four (24) months from the date such rectified / replaced goods starts functioning to the satisfaction of the purchaser.

15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.

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

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

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

15.10 The Supplier along with its Indian Agent and the CMC Provider shall always accord most favoured client status to the Purchaser vis-à-vis its other Clients/Purchasers of its equipments/machines/goods etc. and shall always give the most competitive price for its machines/equipments supplied to the Purchaser/Consignee.

16. Assignment

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

17. Sub Contracts

17.1 The Supplier shall notify the Purchaser in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not

relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.

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

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

18. Modification of contract

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

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

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

19. Prices

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

20. Taxes and Duties

20.1 Supplier shall be entirely responsible for all taxes, duties, fees, levies etc. incurred until delivery of the contracted goods to the purchaser.

20.2 Further instruction, if any, shall be as provided in the SCC.

21. Terms and Mode of Payment

21.1 Payment Terms

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

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

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

a) On delivery:

90 % payment of the contract price shall be paid on receipt of goods in good condition and upon the submission of the following documents:

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

(ii) Consignee Receipt Certificate as per Section XVII in original issued by the authorized representative of the consignee;
(iii) Two copies of packing list identifying contents of each package;
(iv) Inspection certificate issued by the nominated Inspection agency, if any.
(v) Insurance Certificate as per GCC Clause 11 and documents also to be submitted for payment of LC confirming that dispatch documents has already been sent to all concerned as per the contract within 24 hours;
(vi) Certificate of origin.

b) On Acceptance:

Balance 10 % payment would be made against 'Final Acceptance Certificate' as per Section XVIII of goods to be issued by the consignees subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.

B) Payment for Imported Goods: Deleted

C) Payment of Turnkey, if any:
Turnkey payment will be made as indicated in the relevant Price Schedule

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

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

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

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

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

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

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

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

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

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

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

22. Delay in the supplier's performance

22.1 The supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Purchaser/Consignee in the List of Requirements and as incorporated in the contract. The time for and the date of delivery of the goods stipulated in the schedule shall be deemed to be of the essence of the contract and the delivery must be completed not later than the date (s) as specified in the contract.

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

(i) imposition of liquidated damages,
(ii) forfeiture of its performance security and
(iii) termination of the contract for default.

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

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

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

account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.

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

22.6 Passing of Property:

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

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

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

23. Liquidated damages

23.1 Subject to GCC clause 26, if the supplier fails to deliver or install /commission any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods, installation, commissioning and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.

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

24. Termination for default

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

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

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

25. Termination for insolvency

25.1 If the supplier becomes bankrupt or otherwise insolvent, the purchaser reserves the right to terminate the contract at any time, by serving written notice to the supplier without any

compensation, whatsoever, to the supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Purchaser/Consignee.

26. Force Majeure

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

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

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

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

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

27. Termination for convenience

27.1 The Purchaser/Consignee reserves the right to terminate the contract, in whole or in part for its (Purchaser's/Consignee 's) convenience, by serving written notice on the supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Purchaser/Consignee. The notice shall also indicate interalia, the extent to which the supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.

27.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the supplier's receipt of the notice of termination shall be accepted by the Purchaser/Consignee following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser/Consignee may decide:

a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices; and / or

b) To cancel the remaining portion of the goods and services and compensate the supplier by paying an agreed amount for the cost incurred by the supplier towards the remaining portion of the goods and services.

28. Governing language

28.1 The contract shall be written in English language following the provision as contained in GIT clause 4. All correspondence and other documents pertaining to the contract, which the parties exchange, shall also be written accordingly in that language.

29. Notices

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

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

30. Resolution of disputes

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

30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in the Ministry of Law and Justice, appointed to be the arbitrator by the Director General (Health Services). 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 lakhs (Rs. 1,00,000/-)

30.3 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., New Delhi, India.

30.4 Jurisdiction of the court will be from the place where the tender enquiry document has been issued, i.e., New Delhi, India

31. Applicable Law

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

32. Withholding and Lien in respect of sums claimed

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

It is an agreed term of the contract that the sum of money so withheld or retained under the lien referred to above ,by the purchaser, will be kept withheld or retained till the claim arising about of or under the contract is determined by the Arbitrator or by the competent court as the case may be ,and the supplier will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention.

33. General/ Miscellaneous Clauses

33.1 Nothing contained in this Contract shall be constructed as establishing or creating between the parties, i.e. the Supplier/its Indian Agent/CMC Provider on the one side and the Purchaser on the other side, a relationship of master and servant or principal and agent.

33.2 Any failure on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.

33.3 The Supplier shall notify the Purchaser/Consignee /the Government of India of any material change would impact on performance of its obligations under this Contract.

33.4 Each member/constituent of the Supplier/its Indian Agent/CMC Provider, in case of consortium shall be **jointly and severally liable** to and responsible for all obligations towards the Purchaser/Consignee/Government for performance of contract/services including that of its Associates/Sub Contractors under the Contract.

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

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

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

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

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

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

The warranty conditions will be as mentioned in the list of requirement as per section VI of the tender enquiry

SECTION - VI

LIST OF REQUIREMENTS

Part I

Sl. No	Name of the Item	Department	Qty/ AIIMS	Total Qty for 6 AIIMS	Warranty Required	CMC Required	Item identified as Consumable in nature
1	Mortury Cooler/ Refrigerator	Anatomy	2	12	Yes	Yes	
2	Embalming Machine	Anatomy	3	18	Yes	Yes	
3	Meat cutting Machine (Bakon's slicer)	Anatomy	1	6	Yes	No	
4	Binocular Microscope (Student)	Anatomy	50	300	Yes	Yes	
5	Binocular Microscope (for faculty and teachers) with photographic attachment	Anatomy	1	6	Yes	Yes	
6	Hot plate - Electrical	Anatomy	2	12	Yes	No	
7	Incubator	Anatomy	2	12	Yes	Yes	
8	Rotary Microtome	Anatomy	1	6	Yes	Yes	
9	Analytical Balance	Anatomy	1	6	Yes	No	
10	Dissection Table - Std	Anatomy	10	60	Yes	No	Yes
11	Dissection table small	Anatomy	10	60	Yes	No	Yes
12	X - Ray viewing Lobby	Anatomy	40	240	Yes	No	Yes
13	Water Purification System	Anatomy	1	6	Yes	Yes	
14	Skeleton Articulated	Anatomy	10	60	Yes	No	Yes
15	Human Bones set disarticulated	Anatomy	30	180	Yes	No	Yes
16	Charts (in set)	Anatomy	1	6	Yes	No	Yes
17	Models (in set)	Anatomy	1	6	Yes	No	Yes
18	Lquid Nitrogen Drum	Anatomy	6	36	Yes	No	Yes
19	Sledge and freezing microtome	Anatomy	1	6	Yes	Yes	
20	Refrigerator -330L (Laboratory type)	Anatomy	1	6	Yes	No	
21	Dissecting Microscope	Anatomy	2	12	Yes	Yes	
22	Centrifuge Machine (Table top centrifuge)	Anatomy	2	12	Yes	Yes	
23	Laminar Air Flow Chamber	Anatomy	4	24	Yes	Yes	
24	Deep freezer (-20 deg C)	Anatomy	2	12	Yes	Yes	
25	Deep freezer (-80 deg C)	Anatomy	2	12	Yes	Yes	
26	Paraffin water bath	Anatomy	2	12	Yes	No	

Sl. No	Name of the Item	Department	Qty/ AIIMS	Total Qty for 6 AIIMS	Warranty Required	CMC Required	Item identified as Consumable in nature
27	Water bath serological	Anatomy	3	18	Yes	Yes	
28	Paraffin embedding system	Anatomy	1	6	Yes	Yes	
29	Plastination Equipment	Anatomy	1	6	Yes	Yes	
30	Inverted Microscope	Anatomy	1	6	Yes	Yes	
31	Blood gas analyzer	Biochemistry	2	12	Yes	Yes	
32	Analytical balance(Hi end)	Biochemistry	4	24	Yes	Yes	
33	Handheld Particulate counter	Biochemistry	2	12	Yes	No	
34	Hot air oven	Biochemistry	3	18	Yes	Yes	
35	Incubator	Biochemistry	4	24	Yes	No	
36	Biosafety Cabinet	Biochemistry	1	6	Yes	Yes	
37	Liquid Nitrogen Drum	Biochemistry	3	18	Yes	No	Yes
38	Ultra Sonicator	Biochemistry	2	12	Yes	Yes	
39	Orbital shaker	Biochemistry	1	6	Yes	Yes	
40	Gradient PCR Machine	Biochemistry	2	12	Yes	Yes	
41	Real time PCR	Biochemistry	2	12	Yes	Yes	
42	Chemiluminescence & Gel imaging & analysis system	Biochemistry	1	6	Yes	Yes	
43	Vertical Laminar flow bench with Hepa filter	Biochemistry	1	6	Yes	Yes	
44	Vertical gel electrophoresis	Biochemistry	4	24	Yes	Yes	
45	Electrolyte analyzer	Biochemistry	2	12	Yes	Yes	
46	HPLC system	Biochemistry	1	6	Yes	Yes	
47	Random access high throughput fully automated chemistry analyzer	Biochemistry	1	6	Yes	Yes	
48	Random access medium throughput fully automated chemistry analyzer	Biochemistry	3	18	Yes	Yes	
49	Elisa reader with washer and shaker	Biochemistry	2	12	Yes	Yes	
50	Laminar flow with PCR	Biochemistry	2	12	Yes	Yes	
51	Vertical Laminar flow bench with Hepa filter	Biochemistry	2	12	Yes	Yes	
52	UV Visible Double Beam Spectrophotometer	Biochemistry	1	6	Yes	Yes	
53	Ultra Centrifuge	Biochemistry	1	6	Yes	Yes	
54	Refrigerated centrifuge	Biochemistry	1	6	Yes	Yes	
55	Refrigerated Microcentrifuge	Biochemistry	4	24	Yes	Yes	
56	Water Purification System	Biochemistry	2	12	Yes	Yes	

Sl. No	Name of the Item	Department	Qty/ AIIMS	Total Qty for 6 AIIMS	Warranty Required	CMC Required	Item identified as Consumable in nature
57	Cell counter and sizer	Biochemistry	1	6	Yes	Yes	
58	Semiauto analyzer	Biochemistry	4	24	Yes	Yes	
59	Laminar airflow for cell culture	Biochemistry	2	12	Yes	Yes	
60	Top loading balance	Biochemistry	6	36	Yes	No	
61	Binocular microscope	Biochemistry	12	72	Yes	Yes	
62	Nano spectro bio photometer	Biochemistry	1	6	Yes	Yes	
63	Flurescent microscope	Biochemistry	2	12	Yes	Yes	
64	Inverted microscope with PC	Biochemistry	2	12	Yes	Yes	
65	CO2 incubator	Biochemistry	1	6	Yes	Yes	
66	ICE flaking machine	Biochemistry	1	6	Yes	Yes	
67	Autoclave (vertical)	Biochemistry	2	12	Yes	Yes	
68	Refrigerator (300-380L)	Biochemistry	8	48	Yes	No	
69	BOD incubator	Biochemistry	2	12	Yes	Yes	
70	All glass distillation apparatus	Biochemistry	1	6	Yes	No	Yes
71	Flowcytometer	Biochemistry	1	6	Yes	Yes	
72	Peristaltic pump	Biochemistry	2	12	Yes	Yes	
73	Agarose gel electrophoresis system	Biochemistry	4	24	Yes	Yes	
74	Random access small through put fully automated clinical chemistry analyzer	Biochemistry	2	12	Yes	Yes	
75	Vertical deep freezer -20deg	Biochemistry	4	24	Yes	Yes	
76	Vertical deep freezer -80deg	Biochemistry	2	12	Yes	Yes	
77	Fully automated chemiluminiscence immunoassay analyzer	Biochemistry	1	6	Yes	Yes	
78	Elisa reader	Biochemistry	2	12	Yes	Yes	
79	Microplate multimode reader	Biochemistry	1	6	Yes	Yes	
80	HPLC based automated analyzer for HbA1c & hemoglobinopathy testing	Biochemistry	1	6	Yes	Yes	
81	Fraction collection	Biochemistry	1	6	Yes	Yes	
82	Lyophilizer	Biochemistry	1	6	Yes	Yes	
83	Beta counter	Biochemistry	1	6	Yes	Yes	
84	Transilluminator with UV stand and UV torch	Biochemistry	1	6	Yes	Yes	
85	Western blot apparatus	Biochemistry	2	12	Yes	Yes	
86	Comparator, Nessler	Community	4	24	Yes	No	Yes

Sl. No	Name of the Item	Department	Qty/ AIIMS	Total Qty for 6 AIIMS	Warranty Required	CMC Required	Item identified as Consumable in nature
		Medicine					
87	Barometer - Precision, Fortin	Community Medicine	1	6	Yes	No	Yes
88	Barometer - Aneroid with thermometer	Community Medicine	1	6	Yes	No	Yes
89	Hygrometers, wet and dry bulb	Community Medicine	1	6	Yes	No	Yes
90	Binocular Microscope (For students)	Community Medicine	35	210	Yes	Yes	
91	Binocular Microscope (For Teachers)	Community Medicine	5	30	Yes	Yes	
92	Continuous Dichotomous Ambient Particulate Monitor	Community Medicine	2	12	Yes	Yes	
93	Continuous Emissions Monitoring System	Community Medicine	2	12	Yes	Yes	
94	SO3 Analyzer	Community Medicine	2	12	Yes	Yes	
95	CO Analyzer	Community Medicine	2	12	Yes	Yes	
96	Enhanced Trace Level SO2 Analyzer	Community Medicine	2	12	Yes	Yes	
97	Dosimeter	Community Medicine	2	12	Yes	No	Yes
98	Dissecting Microscope (10 X)	Community Medicine	50	300	Yes	Yes	
99	Analytical Balance 200 gm	Community Medicine	4	24	Yes	No	
100	Centrifuge clinical	Community Medicine	2	12	Yes	Yes	
101	Water Purification System	Community Medicine	1	6	Yes	Yes	
102	CO2 incubator	Community Medicine	1	6	Yes	Yes	
103	Auto analyser	Community Medicine	1	6	Yes	Yes	
104	Fat Extraction	Community Medicine	1	6	Yes	Yes	
105	Incubator, electric	Community Medicine	1	6	Yes	Yes	
106	Biological safety cabinet	Community Medicine	1	6	Yes	Yes	
107	Intra Uterine device insertion trainer	Community Medicine	4	24	Yes	No	Yes
108	Ultrasound machine	Community Medicine	1	6	Yes	Yes	
109	Portable Flash Autoclave	Community Medicine	2	12	Yes	Yes	
110	Binocular microscope - Students	Physiology	50	300	Yes	Yes	
111	Trinocular microscope - Teaching	Physiology	2	12	Yes	Yes	
112	Priestly Smith Perimeter	Physiology	20	120	Yes	No	Yes

Sl. No	Name of the Item	Department	Qty/ AIIMS	Total Qty for 6 AIIMS	Warranty Required	CMC Required	Item identified as Consumable in nature
113	Ophthalmoscope	Physiology	4	24	Yes	No	
114	Olfactometer	Physiology	1	6	Yes	Yes	
115	Thermal aesthesiometer - Digital	Physiology	1	6	Yes	No	Yes
116	Von frey Aesthesiometer	Physiology	1	6	Yes	No	Yes
117	Dales Organ bath	Physiology	20	120	Yes	No	Yes
118	Lab refrigerator	Physiology	1	6	Yes	No	
119	Refrigerated centrifuge	Physiology	1	6	Yes	Yes	
120	Electronic Muscle Stimulator	Physiology	3	18	Yes	Yes	
121	Storage Oscilloscope - 4 channel	Physiology	1	6	Yes	Yes	
122	Physiograph 3 channel	Physiology	12	72	Yes	Yes	
123	Water purification system	Physiology	1	6	Yes	Yes	
124	Lagendroff's Apparatus	Physiology	4	24	Yes	Yes	
125	Single channel physiological recorder	Physiology	20	120	Yes	Yes	
126	ECG machine 12 channel	Physiology	3	18	Yes	Yes	
127	ECG machine single channel	Physiology	5	30	Yes	Yes	
128	Algometer	Physiology	1	6	Yes	Yes	
129	Kymograph with accessories	Physiology	20	120	Yes	Yes	
130	EEG	Physiology	1	6	Yes	Yes	

Part II: Required Delivery Schedule:

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

60 days from date of Notification of Award to delivery at consignee site. The date of delivery will be the date of delivery at consignee site (Tenderers may quote earliest delivery period).

Installation and commissioning shall be done within two weeks of receipt of the stores/ goods at site or within two weeks of handing over the site for installation, whichever is later.

For delayed delivery and/ or installation and commissioning liquidated damages will get applied as per GCC clause 23.

Part III: Scope of Incidental Services:

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

Part IV:

Turnkey (if any) as per details in Technical Specification.

Part V:

Warranty period as per details in general technical specification and as specified in Part I above. Warranty period will be 24 months from the date of installation, commissioning and acceptance or 30 months from the date of last shipment/ despatch, whichever is earlier.

Comprehensive Maintenance Contract (CMC) as per details in Technical Specification as specified in part I above

Part VI:

Required Terms of Delivery and Destination.

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

At Consignee Site.

Destination/Consignee details are given in Section XXI

Section – VII
Technical Specifications

Item No. 1

Mortuary cooler / refrigerator with arrangement to keep 12 bodies

Specification for cold storage chambers for dead bodies:

1. Corrosion free interior and exterior.
2. Audio visual alarm for high and low temperature.
3. Designed for long storage of cadaverous.
4. PUF insulation on all sides.
5. Special design ensuring best hygiene with washing & draining facility.
6. Reliable
7. Special loading trolley.
8. Energy efficient and sturdy construction.
9. Light weight.
10. Digital temperature indication.
11. Low maintenance.
12. Microprocessor based / PLC temperature control.
13. Double walled cooling units.
14. Outer body of the mortuary chamber is constructed out of thick S.S sheets. The inner chamber made of heavy gauge stainless steel sheet of SS-304 grade. The 100mm gap between the walls filled high grade poly urethane insulation, which ensures maximum thermal efficiency.
15. The doors connected by very sturdy chrome plate hinges and fitted with hard chrome plated lubricated latches for opening of the door.
16. The doors made of galvanized steel sheets, lined with stainless steel for extra protection and long life.
17. All the doors fitted with high quality neoprene rubber gaskets for airtight fittings with very sturdy casters.
18. CFC free compressors, conforming to latest international standards and guidelines. Twin compressors of which one is standby.
19. Vapor proof lamp inside.
20. Temperature range -2 to 4 deg C with temp failure alarms.
21. Suitable Voltage automatic stabilizer O/P 230 +/-10% I/P 150 – 280Volts.
22. To be installed at each site as per the site conditions.
22. The unit should be (3 x 2) x 2 or (2 x 2) x 3 format.

Item No. 2

Embalming Machine

Technical Specifications for Embalming Machine:

1. Fluid delivery rate should be 10 ltrs/hr.
2. Inner tank to store embalming fluid with capacity 15- 20 ltrs. Should be of stainless steel.
3. Pump: pump should be of electromagnetic/ diaphragm dosing pump with capacity 0-5 ltrs Per hour and pressure 3 kg/cm square.
4. The equipment should be mounted on castors for easy movement and the hand grip should be provided for lifting.
5. I.V. stand fixed for mounting cannula tubing and mains cable.
6. Indicator for mains on & in use should be present.

7. The outer body should be of complete stainless steel.
8. Power supply: 220 V AC with trip facility.
9. Motor - ½ HP or above.

Item No. 3

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

1. Table made of thick SS sheet with special heavy axles for easy and firm movement.
2. Machine should be supplied complete with one blade, starter, cord and plug
3. Machine should work on 220 V, single phase, 50 Hz AC Supply
4. Machine should be fitted with moving table and extension table mounted on four ball bearing rollers.
5. Additional accessories 1) Blades – 02 numbers 2) Belt – 01 number

Item No. 4

Binocular Microscope (For students)

Student upright Binocular Microscopes (with inbuilt light source & imported achromatic optics)

1. Binocular microscope with universal infinity corrected optical system
2. Halogen / LED light source illumination.
3. Rigid frame with ergonomics design
4. Binocular observation tube with inclination of 45/30 degrees
5. Built in torque adjustable focusing knob
6. Mechanical stage with rigid hand coaxial control
7. Abbe condenser, Iris diaphragm
8. Revolving Quintuple nose piece (for objectives)
9. Plan achromat objectives 4X, 10X, 40X, 100X (Oil)
10. 40X, 100X objective should be spring loaded
11. Eye piece 10X (FOV 20)
12. Antifungal treatment should be applied to the observation tube, eyepiece and objective
13. Accessories, dust cover and power cord
14. Eye pieces with pointers – 10 nos.
15. Power requirement 220 V/50 Hz
16. Should be CE certified/FDA /BIS approved product.

Item No. 5

Binocular Microscope (For faculty and teachers)

1. Digital Research Microscope with CCD Camera.
2. Observation Tube - Siedentopf Trinocular, 30 deg inclined 360 deg rotatable. IPD range 52-75mm.
3. Eyepiece - Focusable WF 10x (18mm/ 20mm).
4. Revolving Quintuple nose piece (for objectives)
5. Objectives - RP Series Infinity Corrected Plan 4X, 10X,40X(Spring Loaded), 100X (Spring Loaded, Oil Immersion)
6. Illumination - 6V 20 W Halogen Lamp with 5 spare lamps
7. Image Device - 2/3" CCD Camera - Resolution 1.4MP or better with suitable mount
8. Light Sensitivity - 1 Lux

9. Interface - USB
10. Software - Image Analysis Software
11. System Requirements – Suitable PC having 19" Colour LCD/TFT Monitor, CPU: RAM: 4 GB or more, Hard Disk Space: 500 GB or more, CD/DVD-ROM drive and USB port 3.0. Power adapters/ cables etc for projection and LAN transmission.
12. Should be supplied with compatible colour printer.
13. Manufactures/Supplier should have ISO certificate to Quality Standard.
14. Should be FDA/CE approved product.
15. Equipment should be installed and demonstrated.
16. Training should be given to atleast two faculties.

Item No. 6

HOT PLATE – ELECTRICAL

1. Description of Function
   1.1 Used to heat glassware or its contents.

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

Item No. 7

INCUBATOR

A. Technical specifications:
   1. Capacity: 120 L
   2. Interior chamber: Stainless steel for easy cleaning and decontamination
   3. Timer: 1 min. to 100 hours and hold position
   4. Minimum turbulence and no cross contamination
   5. Adjustable safety thermostat for temp setting at 1 deg C increment
   6. Temp Accuracy +/-1% of required temp, with inbuilt Temperature Sensor
   7. Internal glass door for the observation
   8. With minimum two adjustable shelves
   9. Audiovisual Alarm to Indicate when temperature deviates more than 1°C from set point, and when program or time has finished. Alarm may be muted.
   10. Peltier heating with continuous air circulation and Heating by natural/forced convection for homogenous temperature distribution
   11. Temperature range: +5° C to 80°C
   12. There should be a Membrane Keypad with LCD/LED to set and display operating parameters, current status, running time and alarm conditions for time and temperature.
   13. Interior lighting facilities, insulated door fitted with heavy hinges handle locking, mechanical door lock.

B. Power Supply:
   1. Power input to be 220-240VAC, 50Hz fitted with Indian plug

2 .Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

C. Standards:

1. Should be CE or FDA or BIS approved product.

Item No. 8

Rotary Microtome with knifes/ Blades

Rotary microtome complete with standard accessories e.g. disposable blade holder, specimen clamp, tool kit operating manual.

1. High precision machine suitable for both delicate as well as hard tissue sectioning
2. Section thickness settings 1-60 μm with settings in 1, 2, 5 increment at different levels
3. Specimen advance 28 mm or more
4. Vertical stroke 60 mm or more
5. Provision of step trimming
6. Adjustable specimen clamp at least 50 x 45 mm with orientation in X,Y axis
7. Single disposable blade holder for accommodating both high and low profile blades
8. Lateral coarse feed
9. Integrate removable section waste tray
10. Spare low and high profile blades in dispenser pack of 50 blades: 6 packets each
11. Microtome knifes – 02 nos.
12. Specimen holders – Plastic (as many as required)

11 The equipment should conform to ISO 9001 & CE/BIS.

Item No. 9

Analytical Balance

1. Readability of minimum 0.1 mg
2. Capacity of maximum 180-200 gm
3. Linearity ± 0.2 mg
4. Repeatability 0.1 mg
5. Operating temperature 0- 45 deg C
6. Pan Size (diameter) ≥ 80mm
7. Response time of 1-2 Seconds
8. Internal Calibration
9. Backlit LCD display
10. Glass shield cabinet
11. Power supply 230 V AC +/- 10% 50 Hz
12. Should be CE or FDA or BIS approved product

Item No. 10

DISSECTION TABLE - STANDARD

1 Technical Specification

1.1 Approximate Dimension:-1820 X 600 X 900 (L x W x H)

1.2 It should be made of stainless steel (steel grade 304) with a frame made of rugged torsion-resistant stainless steel profiles.

1.3 It should have 4 solid rubber swivel locking castors
1.4 Tabletop depth should be of approx. 15mm sloping towards the drain.
1.5 Large radii on all inside corners should be provided for easy cleaning.
1.6 10 litre removable container with bayonet lock, mounted beneath the down spout, should be attached to a rack in the base frame.
1.7 Airtight compartment should be mounted beneath the table top to serve as an odour-free storage of drapes.
1.8. It should have stainless steel full extension drawer and a removable stainless steel tray provided with a perforated plate and a removable lid

2. System Configuration Accessories, spares and consumables
2.1 Stainless Steel Bucket 50 Ltrs
2.2 Headrest
2.3 Body support shim.
2.4 Foot rest.
2.5 Foldable, extendable arm rests.
2.6 Facility to fix stands & stands for lithotomy strapping.

Item No. 11

DISSECTION TABLE - SMALL

1 Technical Specification
1.1 Approximate Dimension:- 4ft X 2ft X 3ft (L x W x H)
1.2 It should be made of stainless steel (steel grade 304) with a frame made of rugged torsion-resistant stainless steel profiles.
1.3 It should have 4 solid rubber swivel locking castors
1.4 Tabletop depth should be of approx. 15mm sloping towards the drain.
1.5 Large radii on all inside corners should be provided for easy cleaning.
1.6 10 litre removable container with bayonet lock, mounted beneath the down spout, should be attached to a rack in the base frame.
1.7 Airtight compartment should be mounted beneath the table top to serve as an odour-free storage of drapes.
1.8. It should have stainless steel full extension drawer and a removable stainless steel tray provided with a perforated plate and a removable lid

2. System Configuration Accessories, spares and consumables
2.1 Stainless Steel Bucket 50 Ltrs
2.2 Headrest
2.3 Body support shim.

Item No. 12

X-RAY VIEWING LOBBY

1. Panel Side by Side X-Ray View Box Illuminators; High quality with aesthetic finish.
2. Should have the following Standard Features:
3. LED light source (blue type) lasting several thousand hours.
4. Roller gravity film holding system
5. Durable steel construction
6. Thin 3" profile
7. Chip resistant hospital white finish
8. Continuous bottom film ledge

9. Even view reflective system, with white acrylic translucent surface.
10. Centralized cluster On/Off switching
11. Optional Features:
12. FAS – Film Activated Switching
13. MS - Master Switch
14. HGP - Hospital Grade Plug Specs: Surface Wall Mount 3 Panels Side by Side 56" x 17" Viewing Area.
15. Overall Dimensions approx: 56" (L) 21" (H) 3 3/8" (D) (approx.)
16. Illumination: 2000 cd/m2
17. It should be aesthetic and high quality, thin type and mountable on wall.
18. Power Supply
19. Power input to be 220-240VAC, 50Hz.

Item No. 13

Water Purifications System

A. Ultra pure Water System: - Water quality required for Molecular biology, Tissue culture/HPLC applications. The system should contain pre filtration unit, Type 2 RO filtration equipment, Reservoir 30L and Type 1 filtration equipment.

B. Pre filter Unit:
1. A prefilter unit with 1 & 5 micron filter to remove particulate
2. Motor and booster pump for feed pressure.
3. R O grade water system
4. Prefilter with anti scaling and activated carbon reverse osmosis
5. Conductivity cell before and after RO stage
6. Feed water handling of conductivity up to 2000microns/cm.

C. TYPE 2 RO Stage Water Quality:
1. Flow rate: 2L/hr
2. Organic ion removal up to 99%
3. Resistivity: 5-15 cm.,
4. TOC < 30 ppb,
5. Colloidal index SDI < 3
6. Feed water pressure bar: 0 -5
7. Reservoir of 50 L capacity.
8. Electrical feed voltage 90 – 230V ± 10%
9. One pair of extra cartridge.

D. Ultra pure water machine producing water of the following quality:
1. Output/flow rate up to: 1 litre/min.
2. Conductivity of 0.055 microns/cm
3. Resistivity of 18.2 mega ohm. Cm
4. Bacteria cfu/ml < 1
5. Particles : <1/ml @0.1um
6. TOC: < 5 ppb
7. Endo toxin: < 0.001EU/ml

E. Should be FDA or CE or BIS approved product
Accessories: One complete set for additional filters

Item No. 14

SKELETON ARTICULATED

1 Description of Function
1.1 Mounted skeleton, one with the various parts connected in such a way as to demonstrate normal relationships and allow motion between components as in the living body.
2 Technical Specifications
2.1 The articulated adult skeleton should be ideal for teaching the basics of human anatomy.
2.2 The model should be replica of a life size human skeleton and should show all skelton part in high details
2.3 The arms, legs and skull cap should be removable for study.
2.4 Should be made of washable and unbreakable material
2.5 All of the joints, sutures, fissure, formina and processes should be portrayed with at most accuracy.
2.6 Height -170cm (approx.)
2.7 Weight -10 kg (approx.)
2.8 Should be supplied with 5 caster roller stand.

Item No. 15

HUMAN BONES SET DIS ARTICULATED

1. The model should be replica of a life size human bone and should show all skeleton part in high details
2. The disarticulated adult bone set should be ideal for teaching the basics of human anatomy
3. Should be made of washable and unbreakable material.

Item No. 16

CHARTS

All should be 26" x 20" sized, multi color, thick laminated, wall hanging type charts with rollers on upper and lower end.

NAME OF CHART
CHARTS ON ANATOMY
1. The Muscular System
2. The Skeletal Systems
3. The Vertebral Column
4. Rib, Vert, System & hyoid Bone
5. The Nervous System
6. The Brain
7.The Anatomy of the Brain
8. The Spinal nerves
9. The Autonomic nervous System
10. The vascular System and Viscera
11. The Heart
12. The Lymphatic System
13. The Human Skull
14. Skull External and Internal Surfaces

15. The Head and Neck
16. The Respiratory System
17. The Eye
18. The structural Anatomy of the eye
19. The Eye. Anterior & Posterior chambers
20. The Ear, Nose & Throat
21. The Ear - Organs of hearing & Balance
22. Pharynx & Larynx
23. Anatomy of the inner ear
24. Temporomandibular Joint (TMJ)
25. The Skin
26. The Female Reproductive System
27. The Male Reproductive System
28. Pregnancy & Birth
29. Female Reproductive Systems (Ant. & Patho)
30. The Female External Genitalis (Ant.& Patho)
31. Body surface area & body weight
32. Birth Weight
33. Obstetrical Table
34. Critical Stages of foetal development. 1st.lunar month - 10th lunar month
35. The Endocrine System
36. The Shoulder and Elbow (Ligament)
37. Shoulder, Arm, Elbow, forearm & Head
38. The Hand and Wrist (Ligament)
39. Male, Female pelvis, Sacrum, Coccyx, Hip and Knee
40. Hip Thighs, Knee and Leg
41. The Foot and Ankle (Ligament)
42. Ankle and Foot
43. Skeletal Maturation & Growth
44. The Digestive System
45. The liver
46. The Urinary Tract
47. The Kidney
48. The Prostate
49. The portal System
50. Gastroesophageal Disorders and Digestive Anatomy
51. Origins, Development & Structure Cells
52. Soft Tissues of the Lower Limb
53. Soft Tissues of the Foot
54. Bones of the pelvis and Lower Limb
55. Varicose Veins
56. (a) External Morphological Features in Male Female (b) Sex Differentiating Features in Skull (One Chart)
57 (a) Sex Differentiating Features in Mandible.
(b) Sex Differentiating Features in hip Bone.
(c) Sex Differentiating Features in Sacrum (One Chart)
58 (a) Sex Differentiating Features in Articulated pelvis In addition to those present in hip bone & sacrum.
(b) Sex Differentiating Features in Femur (One Chart)
59 (a) Estimation of Age-Ages of Eruption of teeth
(b) International system of numbering the Teeth (One Chart)
60 (a) Aged of appearance and fusion of different Ossification of bones

(b) Multiplication factor for different bones .for calculation of persons of different parts of India (One Chart).

Item No. 17

MODELS

ANATOMY

1. Model of Man or Woman….(Normal Size)….Adult
   Showing superficial dissection on one side. And other side intact.
   Arms and legs are detachable. The internal organs in abdominal & thoracic wall are shown in situ and they are detachable.
2. Human Torso with Head ….. Life size. (Male or Female)
   Height 38 inches excluding arms & legs. Showing superficial dissection on one side and other side intact. The internal organs in abdominal & thoracic wall are shown in situ. Half of the skull cap can be removed and brain can be taken out.
3. Principal Structures found within tissue Cells
4. Head and Neck ……Longitudinal Section of Head and Neck
5. Brain with Skull
6. Brain in 4 Parts
7. Nervous system
8. Mid sagittal Section through the Brain
9. Structure of the Cerebellum.
10. A Superior View. An Interior View. A Sagittal View
11. Sagittal section through the Medulla Oblongata and pons showing
12. The Cranial Nerve Nuclei of Gray Matter
13. The Autonomic Nervous System
14. Spinal Cord with Spinal Nerves
15. Stretch Reflex
16. Tendon Reflex
17. Flexor (Withdrawal) Reflex
18. Crossed Extensor Reflex
19. Spinal nerves of the hand …. Anterior View
20. Spinal nerves of the leg. (Distribution of Nerves from Lumber & sacral Plexuses)
21. Posterior view of the brain Stem
22. Lymphatic System

Types of Neurons

23. Multipolar Neuron. Bipolar Neuron. Unipolar Neuron
24. Reflex Arc. Inclufing the Sensory receptor, Afferent Neuron, Association Neuron, Efferent neuron and Effector organ.
25. Converging Circuit in the Spinal Cord
26. Diverging Circuit in the spinal Cord
27. Ascending Pathway: The Dorsal Column Descending Pathway: The Pyramidal System (2 Models)
28. Somaesthetic pathway
29. Relationshoip of the Lymphatic System to the Cardio vascular system.
30. The cervicle sympathetic Ganglia
31. Human Eye … Vertical Section ….Greatly Enlarged Showing Muscle, Optic Nerves,Crystaline Lens, Iris, Cornea etc..
32. Human Eye ball…. 100 times enlarged (Detatchable)
33. Visual Central nervous System pathways (Superior View)

34. Ear … Large Size … Dissectible in 4 parts
35. Structure within the inner ear including the cochlea & Vestibular Apparatus
36. Ear … Sagittal Section … On board. (External, middle & Inner Ear)
37. Larynx…. Anterior View, Posterior View, Side View, Cut away Side View & Sagittal Section (5 Models)
38. Functional Model of Larynx…
39. Larynx ……Deep side-View
40. The Pharynx……Posterior View
41. Pharynx ….Sagittal Section
42. Tonsils …… Pharyngeal, Palatine & Lingual Tonsil
43. Teeth (Lower jaw) with structure shown
44. the Structure of tooth
45. The Cavity in tooth
46. The Tongue …. Dorsal Surface
47. Pituitary Gland …… Hypothalamus
48. Thyroid & Parathyroid Glands
49. Sagittal Section through Nasal Cavity and Pharynx Viewed From medical Side
50. Lungs ….. One side sectioned with Respiratory Tract, Bronchial Tubes, Arteries & Veins
51. Pulmonary circulation
52. The Respiratory System
53. Liver ….. Enlarged showing Gall Bladder
54. Liver with Gall Bladder & Pancreas (On Stand)
55. Blood Supply of the Liver
56. Duct System with Gall Stones in common sites
57. Duct Hepatic Portal System
58. Endocrine System
59. Pancreas Enlarged
60. Structure of the pancreas
61. Stomach……Enlarged……with duodenum, sectioned showing details
62. An Anterior view of Abdominal arota & its principles branches
63. Spleen……. Normal size with details
64. Gall bladder, Pancreas & Duodenum
65. Blood supply of the Intestine
65. Rectum (Anal Canal)
67. Large Intestine
68. Small Intestine.
69. The Digestive System
70. Heart …… Enlarged ….Separable in 4 Parts
71. Fat depositions in the arteries
72. Death of an Artery.
73. Artery section with Blockage. (Plaque built up on artery body)
74. Principal Arteries of the body.
75. Principal Veins of the body .
76. Veins that drain the head & Neck
77. An Anterior view of the Veins that the upper right extremity
78. Veins of the lower Extremities.
79. Circulatory System
80. Relationship of the lymphatic system to the Cardio vascular system.
81. Fetal Circulations
82. A Schematic Model of Circulatory System
83. Arteries of the Neck and Head. Major branches of the right Common carotid and right subclavian arteries
84. An Anterior view of the Major Arteries of the Upper Extremity

85. Arteries of the pelvic Region
86. Arteries of the right lower Extremity (Anterior view & posterior view)
87. Urinary System ….. With Kidney and Urinary Bladder
88. Kidney ……in 2 Parts…….on stand
89. Blood supply of the kidney
90. Urinary Bladder ……..Sectioned
91. testis …..X Section
92. Cross Section of the Penis….. Anterior view (Oblique section)
93. Structure of the Penis showing the Attachment, Blood & Nerve supply and the arrangement of the erectile tissue
94. Longitudinal Section of the Female Urethra
95. Organs of the Male Reproductive System.(A Sagittal View)
96. Organs of the Female Reproductive System (A Sagittal Section)
97. The Size & Position of the Uterus in s full term Pregnant Woman in a Sagittal Section
98. Uterus …….Sagittal Section …..with fallopian tube with details
99. Uterus in section showing sperm & Ovum in process of Fertilization.
100. Ovarian Cycle, Fertilization and the Morphofenic events of the first week.
101. Blood supply of the uterus.
102. Vascular Supply to the Uterus
103. Tubal Ligation involves removal of a portion of each uterine tube.
104. Structure of the Breast and Mammary glands (A sagittal section and anterior view partially setioned)
105. The skin …. 1000 times Enlarged
106. Types of Skin Lesions…..Macule, Papule, Nodule, Wheel, vesicle, Intra or Sub epidermal blister, Pustule, Cyst, fissure and Ulcer
107. Bone Structure……. Cross Section
108. Hair Structure…….Cross Section
Anatomy & Physiology of Pregnancy
109. Human Ovum Enlarged
110. Structure of Human Spermatozoon
111. Spermatogenesis and Oogenesis
112. Uterus in section showing Sperm and Ovum in Process of fertilization
113. Foetal Surface of Placenta
114. Maternal Surface of Placenta
115. Breast (Made of fibre Glass Material)
Before Puberty
At Puberty
Adolescent
Adult, conical type
Adult, well developed hemispherical type
In Pregnancy
In Lactation
Pendulous, in older multiparous woman
116. Breast in Pregnancy (Made of Silicon Material …. German-Make) Looks natural, Feels natural.
117. Gradual Development of Uterus from 1st month to 9 months (9 Models)
118. Model showing First, Second & third stage of Labour.

MODEL ON ANATOMY (DISSECTION OF UPPER & LOWER EXTRIMITIES)

Made of fibre glass
Material for Understanding dissection
1. Superficial branches of cervical plexus.

2. Dissection of the right mammary gland.
3. Contents of axilla exposed by reflexion of pectoralis major nodes. and the fascia, and removal of fat and lymph. Part of auxiliary vain has been removed to display the medial cutaneous nerve of forearm and unlar nerve.
4. Lymph nodes and lymph vessels of axilla and mamma.
5. Dissection of auxiliary artery and its branches.
6. Dissection of lower part of posterior triangle of neck showing the supraclavicular part of branchial plexus.
7. Dissection of superficial muscles and nerves of the back.
8. Superficial veins at bend of elbow in a specimen in which the median vein was larg.
9. Superficial lymph vessels and lymph nodes of front of upper limb.
10. Superficial lymph vessels of back of upper limb.
11. Superficial veins and nerves of front of upper lumb.
12. Superficial veins and nerves of back of upper lumb.
13. Deltoid muscle and lateral aspect of arm.
14. Dissection of scapular region and back of arm to show the auxiliary and turned. The lateral head spiral groove on the humerus for the radial nerve
15. Anastomosing arteries around the scapula.
16. Dissection of left cubital fossa. The fat has been removed and the bicipital aponeurosis cut sway with the rest of the deep fascia.
17. Dissection of back shoulder and arm. The lateral head of triceps has been divided and turned aside to expose the spiral groove on the humerus for the radial nerve
18. Dissection of superficial muscles, arteries, and nerves of front of forearm. Part of the redial artery was removed to show the muscles deep to it.
19. Deep dissection of muscles, and nerves of front of forearm. The division of the branchial artery is slightly lower than usual.
20. Deep dissection of front of forearm. The elbow is partially flexed, the forearm semi-pronated. The superficial muscles are cut short and turned aside. The deeper parts are still further displayed by the separation of the flexor digitorum superficial from the flexor carpi ulnaris.
21. Superficial dissection of palm to show the palmar aponeurosis. The deep fascia has been removed from the thenar and hypothenar eminences.
22. Structure in palm displayed by removal of palmar aponeurosis. In this specimen the radialis indicis and the princeps pollicis arteries took origin from the superficial palmar arch.
23. Superficial dissection of back of forearm.
24. Deep dissection of back of forearm.
25. Dissection of right forearm triangle.
26. Dissection of adductor canal in the right thigh. A portion of the sartorius has been removed.
27. Scheme of adductor group of muscles and obturator nerve.
28. Dissection of left gluteal region. Gluteus maximus and gluteus medius have been removed, and quadratus femoris has been reflected. In the specimen, the inferior gluteal artery was medial to the internal pudendal instead of lateral to it.
29. Left popliteal region after removal of the deep fascia- the muscles and fat being left undisturbed
30. Dissection of left popliteal fossa. The upper boundaries have been pulled apart and the aponeurosis to which the two heads of the gastrocnemius are attached has been split and the heads separated. For deeper dissection.
31. Dissection of left popliteal fossa. The two heads of the gastrocnemus and portions of the semimembranosus and semitendinous have been removed. For more superficial dissection.
32. Left popliteal artery and its branches.
33. Dissection of gluteal region and back of thigh.
34. Synovial sheaths of dorsum of foot.
35. Dissection of font and lateral side of leg.
36. Dissection of dirsum of foot.
37. Dissection of showing synovial sheaths of tendons of lateral aspect of foot.

38. Superficial dissection of leg viewed from posteromedial side, showing veins and nerves. Note the numerous anastomosis between the great and the small saphenous veins.
39. Superficial dissextion of leg viewed from posterolateral side showing veins and nerves. In the specimen were numerous large anastomosing channels between the small and the great saphenous veins.
40. Deep dissection of back of leg.
41. Dissection of medial side of ankle, showing the relations of the flexor retinaculum. (model no.-1) dissection of leg and foot showing synovial sheaths.(model no.-2)
42. Superficial dissections of sole of foot to show plantar sponeurosis. The skin and superficial Fascia, except the superficial transverse ligament, have been removed, and the fobrous flexor sheaths partially opened.
43. Superficial dissection of sole of foot. The plantar aponeurosis has been removed. The abductor digiti minimi and the abductor hallucis have been pulled aside
44. Dissection of sole of foot. Most of the flexor digitorum brevis has been removed.
45. Deep dissection of sole of foot.

Item No. 18

Liquid Nitrogen Drum

The vessel should be lightweight, ideal for laboratory and medical applications. Standard dimensions & shape for ease of handling pouring and use within laboratory.

Should be compatible with transport/ pouring trolley, tipping stand & roller base.

Technical Specifications:

Capacity: 35 L
Static Hold Time (days): 120 (minimum)
Evaporation Rate: 0.2 L/day.
Approx Neck Tube: 50 L/dia mm
Height: 5810mm (approx)
Outside dia: 400mm (approx)
Weight Empty: 7 Kg (approx)
Weight Full: 27 Kg (approx)
Liquid Withdrawal device should be available.

Accessories, spares and consumables:

Roller Base.
Withdrawal Device.
6’ Transfer Line.
Dipper.
Phase Separator.

Should be CE or FDA or BIS approved product

Item No. 19

SLEDGE AND FREEZING MICROTOME

1 Description of Function

1.1 A sledge microtome where the sample is placed into a fixed holder (shuttle), which then moves backwards and forwards across a knife. Freezing microtome is used for cutting thin to semi-thin sections of fresh frozen tissue

(i) Radial Cutting facility
   a) Knife: 3 1/4" (8cm)
   b) Section Thickness: 5 microns and up Calibrated 5-40 microns

(ii) Sledge Cutting
   a) Knife: 6 2/3" (17cm)
   b) Section Thickness: 0.4 microns and up Calibrated -12 microns

(iii)Freezer for Microtome
   a) Temperature Range: -40°C to +100°C
   b) Resolution: 1/2 amp (curr. readout) 0.1°C, digital display
   c) Heat Removal: ½ liter/min. Tap water or circulating pump & tank unit
   d) Accessories: Thermocouple microprobe
   Automatic protection against overheating in case of water supply failure
   Controller can be used as an independent digital thermometer and needle microprobe should be provided for this purpose.

2. Power Supply
   Power input to be 220-240VAC, 50Hz
3. Standards, Safety and Training
   CE/ BIS approved product.

Item No. 20

REFRIGERATOR - 330 L. (LABORATORY TYPE)

For storing blood plasma and other blood products, vaccines, other medical or pharmaceutical supplies. Also to cool samples or specimens for preservation . For faster pull-down and recovery times, it should have a bypass refrigeration and microprocessor-based controls

Technical Specifications

1 Laboratory refrigerator should have 330 ltr capacities
2. Temperature range from 2 deg C to 10 deg C.
3. It should have galvanized sheet steel construction, white powder coated and adjustable feet.
4 No welded joint to be exposed for rusting.
5 Insulation of high-grade pressure – foam material.
6 Lockable door with plastic magnetic sealing surround
7 Automatic defrosting and condensed melt water evaporation.
8 Re-circulating air-cooling system.
9 Control panel with thermometer, main switch and temperature selection.
10 Hermetically enclosed, low noise, vibration proof compressor.
11 Visual and a caustic signal alarm system.
12 Epoxy coated outside finish and S/S interior.
13 Low noise, automatic defrosting, Freon free
14 Should be CFC free.
15 Temperature indicators to be provided.
16 Power input to be 220-240VAC, 50Hz.
17 Should be CE or FDA or BIS approved product.

Item No. 21

DISSECTING MICROSCOPE

A. 1 Eye piece: Straight binocular type wide field (10 x)
2 Optic carriers with five steps magnification
3 Fine focusing- manual
4 Objective 250mm f & 400 mm f
5 Cold light co-axial illumination additional 10 spare bulbs
6 Solid metallic body with sturdy stand riding on heavy castor wheels with locking breaks.
7 Halogen illuminations 150W with power supply.
8 Should have 3 spare lamps with each unit.

B. Power Supply
Power input to be 220-240VAC, 50Hz
CE or BIS approved product or equivalent.

Item No. 22

Centrifuge Machine

1 Description of Function
1.1 Centrifuges are required in the Laboratory to separate various components of Blood and any other liquid sample for analysis
2 Operational Requirements
2.1 Aerodynamic compact construction for vibration free performance
2.2 Table top version
3 Technical Specifications
3.1 Tube Capacity: No. 24 – 36: Size 5 – 15 ml
3.2 Should have a digital timer
3.3 Body should be made of strong fabricated & corrosion resistant steel
3.4 Control panel – for start/stop switch, dynamic brakes, step less speed regulator with zero start switch & speed indicator with timer and protective fuses.
3.5 Door interlock
3.6 Maintenance-free brushless drive motor with exact speed pre selection and display. Speed range 100 to 6000 rpm and above, accuracy 1 rpm.
3.7 RPM: Up to 6500-7000
4 System Configuration Accessories, spares and consumables
4.1 Centrifuge complete with Swig and basic rotors and four buckets- 01 set.
4.2 Tube Holders as appropriate
5 Environmental factors
5.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz as appropriate fitted with Indian plug
6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160- 260 V and output 220-240 V and 50 Hz)
7 Standards, Safety and Training

7.1 The supplier should be ISO certified for quality standards.
7.2 Should be FDA/ CE/UL or BIS approved product
7.3 Should comply with IEC/TR 61010-3-020: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 3-020: Conformity verification report for IEC 61010-2-020:1992 Particular requirements for laboratory centrifuges"

Item No. 23

Laminar Airflow

1 Description of Function
1.1 Laminar Airflow is required to make available an environment whose air supply is free of bacteria, fungi, pollen, and practically all air-borne dirt.
2 Operational Requirements
2.1 The basic equipment shall consist of a HEPA filter, pre filter, suitable blower assembly, necessary lighting, indicators and controls for the cabinet. The equipment should be mounted on a stand with levelling feet.
3 Technical Specifications
3.1 Type of Flow: Vertical – Re-circulatory
3.2 HEPA FILTER: Face dimensions: 4ft (L) X 2ft (W) X 6 ft
The HEPA filter should have rated efficiency of 99.97% (or better) at 0.3 microns to provide product protection of Class 100 or exceeding Class 100 requirements of Federal Standards 209E or equivalent ISO within the work. Area
3.3 PRE Filter with Synthetic, non-woven polyester fibers having casing of enamel painted CRCA frame with Retention of 10 - 15 Micron and 90 % Efficiency. Washable with an arrestance of 90% or better
3.4 Material of construction: Main body and rear panel: Electro-galvanized steel or Mild Steel, oven baked epoxy powder coated finish. Side window (panels): UV stabilized transparent Perspex or polycarbonate. Work table (surface): SS304 or SS316
3.5 Working area should be 24 cu ft.
3.6 Blower Assembly: DIDW type blower system with high RPM motor, enclosed in an powder coated MS casing suitably suspended in a pair springs & connected to the filter chamber through flexible canvas duct.
3.7 Front Windows Acrylic, fixed by clamps.
3.8 Illumination with Fluorescent tubes with diffusers. Light Intensity at Work Surface: 800-1000 lux/75-90 foot candles
3.9 Laminar Airflow Velocity: Approx. 90 feet per minute (fpm) +/-10% average velocity measured 50 mm from the filter face. Uniformity +/-20% of average or better.
3.10 Additional Requirement: Vibration free Gas burner facility on working bench .Air pressure indicator with manometer (Differential Pressure Gauge with Scale display in cms of water).Drain valve with smooth drainage arrangement. Exhaust ducting as per site requirement
3.11 Noise level
3.12 UV Germicidal lamp intensity >40 microwatt/sq. cm. over the entire work surface
3.13 Switched and indicators: Individual switches and indicator lamps for blower motor, florescent lamp and UV lamp.
4 System Configuration Accessories, spares and consumables
4.1 System as specified-
4.2 Spare HEPA Filters and PRE Filters- 2 SETS EACH
4.3 Other fitting required for attaching auxiliary services are
1. Electrical outlet socket (5 ampere rating) qty: 2 nos.
2. Valves for gas service-one each for gas and vacuum.
5 Standards
5.1 Should be CE or FDA or BIS approved product

Item No. 24

Deep Freezer (-20 deg C)

1 Description of Function
1.1 Deep Freezers are required to preserve blood and blood products, vaccinations etc at specified temperature.
2 Operational Requirements
2.1 Vertical Freezer, single door with adjustable 6 to 8 shelves (frost free).
2.2 Separate Chamber racks to be pulled out for easy handling
2.3 Non-CFC refrigerant
3 Technical Specifications
3.1 Capacity within 400 L
3.2 Digital display of set and actual temperature, with audiovisual alarm
3.3 No condensation on storing material with automatic electric defrost
3.4 Construction:
Solid rust free cabinet to prevent corrosion and lockable castor wheels.
3.5 Refrigeration System
Heavy Duty refrigeration system, maintenance free, below -20 deg C (+ 10C) with hermetically sealed refrigeration compressor and reliable refrigeration to minimize noise and vibration, air cooled with security lock to prevent unintentional switch off shall be supplied. It should have maximum cooling time hours at maximum ambient temperature of 33deg C. The equipment should be of continuous duty and frost free.
3.6 Alarm
It should also have audio visual Electronic Alarm System independent of power supply.
3.7 Insulation
High density polyurethane or equivalent Gaskets - Double seal silicon.
4 System Configuration Accessories, spares and consumables
4.1 As specified
5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz.
6.2 Resettable over current breaker shall be fitted for protection.
7 Standards
7.1 Should be CE or FDA or BIS approved product

Item No. 25

SPECIFICATION OF -80 DEEP FREEZER

TYPE: Upright
INTERNAL DIMENSION: 55” x 35” x 25” Approx
EXTERNAL DIMENSION: 78” x 42” x 35” Approx
CAPACITY: 720 – 750 Litres
OPERATING TEMPERTURE: Programmable –50°C up to –86°C with 1°C increment.
ELECTRIC SUPPLY: 220V/50Hz, 10 Amps. single phase
1) Fully programmable microprocessor controlled with membrane keypad and eye level control panel.

2) Construction should be of New Ultra Thin Vacuum Insulation GEL Panel.
3) System should have 304L grade stainless steel interior and tough, powder coated exterior finish constructed on steel.
4) Freezer should have 3 Compartment with two adjustable height stainless steel shelves.
5) Freezer should have the sample (2" vials) capacity of 50,000 or more.
6) Freezers should have heated air vent and front panel air filter.
7) Freezer should be quoted with CO2 Backup along with CO2 cylinder.
8) Heavy duty lockable castors and lockable outer doors and lids.
9) Freezer must have battery back-up and 4 PIN security lock for unauthorized tampering.
10) Freezer must have interface data logging port and it must also have on board diagnostic software
11) Freezer must have three compartments with three inner doors for easy handling of samples.
12) Audible and visible alarms for temperature, power failure, system failure, battery low etc. and it also have remote alarm port for connection to an auto dialer.
13) Freezer must use CFC-FREE, HCFC-FREE non flammable refrigerants, and refrigeration system must be energy efficient and hermetically sealed cascade refrigeration system.
14) Compressor should be capable to run any voltage between 190 – 270V. Freezer must have ISO 9001 standard quality test requirements and IEC 61010 Electrical safety CE & UL certified.
15) Freezer must have capacity to hold 18 racks and 500 boxes of 2" height vials and one system should be supplied with 18 racks with boxes and dividers.
16) Freezer should be supplied with 5KVA voltage stabilizer.
17) Should be CE or FDA or BIS approved product

Item No. 26

Paraffin Water Bath

1. Should be temperature control.
2. Operation through key pad.
3. Bath tanks and all parts in contract with the bath liquid should be made up of high grade stainless steel.
4. Filling volume should be around 20 litres.
5. Working temperature range- room temperature to 90°C.
6. There should be a multi display facility (LED) with actual value, set point, high/low temperature,
7. Temperature stability should be ± 0.2°C.
8. Temperature uniformity in the bath should be ± 0.05°C.
9. Audible warning safety signals should be there for high/low temperature warnings, and dry running protection.
10. Instrument should have lift up bath cover.
11. Carrier racks should be given for flasks and test tubes racks.
12. A cock should be provided to facilitate draining of bath contents.
13. Water bath protective media should be there to prevent contamination and formation of algae.
14. Heating capacity - 2 KW.
15. Should be CE or BIS approved product

Item No. 27

Water Bath Serological

1. Useful for dual purpose. It is a combination of serological and routine rectangular water bath with holes and concentric rings.
2. Standard double wall construction. Inner chamber made out of highly polished stainless steel sheet and exterior made out of thick mild steel duly finished power coated paint.
3. Immersion heaters are provided for heating to attain temperature range from 5° C above ambient to 95° C ± 1 °C.

4. Digital temp. Indicator-cum-Controller. The equipment to work on 220v AC 50 Hz single phase.
5. Chamber size in mm & inches L x W x H 300 x 225 x 175 mm Approx Capacity appox 15 ltrs. Approx.
6. Should be CE or FDA or BIS approved product

Item No. 28

PARAFFIN EMBEDDING SYSTEM

A Technical Specifications

1. Should have single module design.
2. Electronically controlled for dependability and performance.
3. The heating function should be controlled by accurate digital thermostat
4. Low and flat work-surface to facilitate operator efficiency.
5. User friendly membrane switches.
6. 4-liter capacity paraffin reservoir which minimizes refilling frequency.
7. Forceps warmer and illuminated paraffin dispenser.
8. Warming oven with removable shelf and double hinged lid for convenient access to preheated base mould.
9. Wax bath complete with drainage shelf, debris screen, and hinged lid.
10. Heated work area which provides a flat working surface with the excess paraffin draining under the surface into the wax bath; complete with a hand and foot switch for activating the dispensing head.
11. Bright illuminations for convenient working.
12. The cold plate should have 170 sq. in. (1100cm2) of efficient refrigerated cooled working surface with removable stainless steel drainage tray beneath.
13. Tactile membrane touch-pad for easy temperature setting and monitoring.
14. Height of Work Surface: Work stage 2.75"(7cm) above countertop
15. Wax Reservoir Dimension (approx): .75"(L) x 4.75"(W) x 4"(D) (19.5 x 12 x 9.5cm)
16. Wax Bath Dimension (Approx): 10.25"(L) x 8.5"(W) x 1.75"(D) (26 x 21.5 x 4cm)
17. Warming Oven Dimension (approx): 6.5"(L) x 7.5"(W) x min 2.5" max 6" (14 - 16.5cm)
18. Cold Plate Dimension (Approx): 11.75"(L) x 14.5"(W) (29.5 x 36.6cm)

Temp Ranges:

19. Wax Reservoirs: 40° - 70°C +/-2°C
20. Work Surface: 40° - 70°C +/-5°C
21. Wax Bath: 40° - 70°C +/-2°C
22. Cold Plate working surface: ambient to -5°C

B Accessories, spares and consumables

1. Spare Bulb - 3
2. Thermostats - 1
3. Power input to be 220-240VAC, 50Hz

C Standards, Safety and Training

1. CE or BIS approved product.

Item No. 29

PLASTINATION EQUIPMENT

1. Silicone plastination, impregnation, sheet plastination kit with high quality stainless steel sheet drums/basket/barrels with a capacity of 40ltrs-130ltrs

2. Plastination kettle of high quality glass cover capacity 40 ltrs-130ltrs, with vacuum tubing, vacuum pump and connecting high pressure pipe with manometer along with acetonometer; water bath tanks with customized acetone distillation unit.
3. Silicone infiltration machine with a pressure 390kg-450kg , vacuum pump with pressure 2m3/h-18m3/h.
4. Accessories like blinder clips, positioning wires, stainless steel clamps, grinding machine compatible with system.
5. Machines / equipment shall work at 220-240V.
6. Installation of equipment /training / trouble shooting/AMC/CMC and availability of 24 hrs helpline and spare with consumables to be ensured at site.
7. Each Institute will send 2 faculty members for training in Plastination technology /training /methodology. The cost to be inclusive.
8. Should be CE or FDA or BIS approved product.

Item No. 30

INVERTED MICROSCOPE

1. Stand – Inverted Microscope for transmitted light in stage with 3 position stage support (changeable by 180º turn).Infinity optics with tube factor 1x. Port for exchangeable and rotate observation and phototubes with 20mm field of view. Transmitted light illumination 100W halogen / Light emitting diode (LED) Automatic adjustment of illumination to the contrast method. Auto off function: LED with service of 50,000 hours.
2. Phase contrast – For all magnification levels without any installation or adjustment.
3. Object Guide- Object guide can be easily adapted to the left or right of any of the fixed work stages (also heating stages).
4. Object Holder – Suitable for fixed stages with object guide of inverted microscope.
5. Observation tube – Trinocular Phototube with 45º viewing angle, and vertical camera port with selectable light path [100% photo or 100% visual]. The port is positioned 88mm to the left side and allows an unobstructed view of specimen at all times.
6. EYEPIECE HC PLAN 10X / 20 BR. / M
7. Condenser with long free working distance of 40 mm and a numerical aperture of 0.45 Esp. for high magnification or thick specimen. For BF, PH and integrated Modulation contrast.
8. Phase Contrast lighting set PH0, PH1, PH2 for Condenser.
9. Obj. HI PLAN 4x/0.10
10. Objective HI PLAN 10x/0.25
11. Objective HI PLAN L20x/0.40
12. Objective HI PLAN L 40x/0.50
13. Dust cover for stand without camera attachment.
14. Microscope should have facility to upgrade to Fluorescence
15. Digital Camera Kit
16. High speed colour digital camera for on screen microscope image display.
17. Max scaled Resolution 3072 x 2304
18. Various image size from small to very large 7 M Pixel or Larger.
19. Colour depth 30 BIT
20. Live preview with 25 images per second
21. Supported licensed operating system PC win 2000,XP or suitable
22. Software- Should have Image analysis software for automatic calibration.
23. Hardware-Latest PC with Card 3.0Ghz, 500GB
24. Power supply and main leads.
25. Training /Demonstration/troubleshooting helpline to be done for 2 faculty members at each site.
26. Should be CE or FDA or BIS approved product.

Item No: 31

BLOOD GAS ANALYSER

1. Fully automatic, upgradeable, fast electrolyte combination analyzer.
2. Essential Measured parameters; pH, pCO2, pO2, SaO2, tHb, Barometric Pressure, Na+, K+, Ca++, Cl-, Bl urea and Sr Creatanine & Blood sugar. All these parameters should be measured simultaneously
3. Calculated parameters should include BE, BE ecf, HCO3, Lactate, Anion Gap etc.
4. Sample volume-less than 120ul.
5. Fast analysis time – less than 72 sec.
6. Maintenance free electrodes with individual electrodes ON/OFF facility.
7. Fully automatic liquid calibration of all parameters at user-defined intervals without the use of Gas calibrated reagents, external gases, tanks or regulators.
8. Continuous reagent level monitoring with graphic display.
9. Data display on well-illuminated, adequate size LCD colour touch screen display.
10. Data print out on built in graphic printer.
11. Built in auto Quality control facility.
12. Reagents for one year @20 samples/day should be provided along with the machine.
13. Cost of reagents to be quoted for comparative evaluation.
14. Stand by blood gas cum electrolyte analyzer in case of breakdown.
15. List of accessories along with costing should be mentioned.
16. Should be FDA or CE or BIS approved product

Item No: 32

ANALYTICAL BALANCE

1. Should have Readability of 0.1 mg
2. Should have a weighing Capacity of 0-200 gm
3. Linearity should be ± 0.2 mg
4. Repeatability should be 0.1 mg
5. Should work on an operating temperature of 0- 45° C
6. SS Pan Size (diameter) : ≥ 80mm
7. Response time should be within 1-2 Seconds
8. Should have internal calibration facility
9. LCD screen for displaying measured values
10. Should have Glass shield cabinet
11. Power supply : 230 V AC +/- 10% 50 Hz
12. Should be FDA or CE or BIS approved product

Item No: 33

HANDHELD PARTICULATE COUNTERS

1 Description of Function

1.1 Handheld unit for particle counting

2 Operational Requirements

2.1 The instrument should size and count the particles using laser optics

2.2 Should display both cumulative and differential particle count data as well as Temperature/Relative Humidity data on its easy to read LCD / touch Screen

3 Technical Specifications

3.1 Range: Up to 3 million particles per cubic foot
3.2 Particle Size Selection: Anywhere from 0.3 to 5.0 µm in 0.1 µm increments
3.3 The unit should operate at a constant flow rate of 2.83LPM
3.4 Instrument must have two channels for simultaneous display of user selectable two particle sizes
3.5 Large LCD / touch screen display
3.6 Complete control of the unit should be possible through keypad
3.7 Online printing capability should be provided
3.8 Data storage of up to 4,000 records
3.9 RS232/USB/RS485 output for Printer, PC connectivity and Data acquisition with selectable baud rate options should be there.
3.10 The supplied software must enable remote operation, create data files, and export the files to EXCEL and other spreadsheets
3.11 Weight: Less than 1 kg.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-
4.2 Accessories should include:
Removable Li-Ion battery
Purge Filter
Temperature/Humidity Probe
Software & cable
4.3 All consumables required for installation and standardization of system to be given free of cost.

5 Environmental factors

5.1 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.
5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.3 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%

6 Power Supply

6.1 Rechargeable battery operated system. Charger to be provided if integrated charger is not there

7 Standards, Safety and Training

7.1 Should be FDA or CE or BIS approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.
7.3 Data Reported in Normalized Counts, FS-209E, ISO-14644-1 or EC GMP

Item No: 34
HOT AIR OVEN

1 Description of Function

1.1 Hot Air Oven is required for heating a sample under controlled conditions.

2 Operational Requirements

2.1 Microprocessor based system with PID-temperature controller with integrated auto diagnostic system with fault indicator.
2.2 Thermostatically controlled system.

3 Technical Specifications

3.1 External: Stainless Steel Casing :w x h x d: 850 x 600 x 700 mm (All dimensions will have a tolerance of 5 mm).Insulated stainless steel door with locking and rear zinc-plated steel

3.2 Interior - w x h x d: 40mm x 45mm x 30 mm, 55 liters approx (all dimensions will have a tolerance of 5 mm) easy-to-clean interior, made of stainless steel, with supports on the three sides for three adjustable perforated stainless steel shelves.

3.3 Forced air circulation by quiet air turbine/Fan to ensure uniform temperature

3.4 Fitted with load indicator and safety thermostat take over indicator lamp. LCD/LED Indicator

3.5 Temperature Variation +/- 1 deg C.

3.6 Temperature Range- ambient to 250 deg C.

3.7 Output available for data acquisition.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

5 Environmental factors

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

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

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

6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training

7.1 System should confirm to IS:6365-1971(Reaffirmed 1995) with latest amendments in ISI specifications for Laboratory Electric Ovens. Alternatively system should be FDA Approved or CE Certified.

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS- 13450

7.3 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

Item No: 35

INCUBATOR

1 Description of Function

1.1 Incubator is a closed chamber which heats/chill a sample at a preset temperature for long term for applications like culture growth etc.

2 Operational Requirements

2.1 Microprocessor/Microcontroller/Microcomputer controlled system.

3 Technical Specifications

3.1 Capacity: 120 L

3.2 Interior chamber: Stainless steel for easy cleaning and decontamination

3.3 Timer: 1 min. to 100 hours and hold position

3.4 Minimum turbulence and no cross contamination
3.5 Adjustable safety thermostat for temp setting at 1 deg C increment
3.6 Temp Accuracy +/-1% of required temp, with inbuilt Temperature Sensor
3.7 Internal glass door for the observation
3.8 With minimum two adjustable shelves
3.9 Audiovisual Alarm to Indicate when temperature deviates more than 1°C from set point, and when program or time has finished. Alarm may be muted.
3.10 Peltier heating with continuous air circulation and Heating by natural/forced convection for homogenous temperature distribution
3.11 Temperature range: +5° C to 80°C
3.12 There should be a Membrane Keypad with LCD/LED to set and display operating parameters, current status, running time and alarm conditions for time and temperature.

3.13 Interior lighting facility, insulated door fitted with heavy hinges handle locking, mechanical door lock.

4 System Configuration Accessories, spares and consumables
4.1 As specified

5 Environmental factors
5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.3 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%

6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards, Safety and Training
7.1 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.2 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activity
7.3 Should be FDA or CE or BIS approved product

Item No: 36

BIOSAFETY CABINET CLASS IIA

1. The system should be microprocessor based. The microprocessor must display the inflow and down flow air velocities in real time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.
2. Motor must automatically adjust the air flow speed to ensure continuous safe working condition. Air flow shall be as per requirements of Biosafety regulations in respect of at least BSC II A level cabinet.
3. The cabinet noise level must be less than 60 decibel.
4. Dimensions (Cabinet Size): 4 to 6 feet. The interior of the cabinet shall be of stainless steel or equivalent material and must be smooth to ensure no risk of cuts to the users.
5. Efficiency of HEPA filter should be almost 99%

6. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor form temperature, humidity and other environmental phenomena that can impact the sensor's performance.
7. Fluorescent lamps for lighting of the interior of the cabinet. Front of the cabinet preferably be angled to help minimize glair.
8. A provision for UV light to disinfect the interior of the cabinet. UV light must be programmable to allow for specific exposure time from 0 to 24 hrs. Automatic UV switch 'OFF' on opening of front window. The front window should be made of laminated safety glass to protect against leakage of UV rays and to ensure containment of potential hazardous material.
9. Safety alarm / safety display for:
    - Low air velocity
    - Faulty exhaust fan etc.
10. Power input to be 220-240 V AC, 50 Hz fitted with Indian plug.
11. Should be FDA or CE or BIS approved product
12. Movable stands
13. Warranty should cover UPS and batteries.
14. Calibration certificate shall be provided at the time of installation in respect of all the parameters that require calibration.

Item No: 37

LIQUID NITROGEN DRUM

1. The vessel should be lightweight, ideal for laboratory and medical applications. Standard dimensions & shape for ease of handling pouring and use within laboratory.
2. Should be compatible with transport/pouring trolley, tipping stand & roller base
3. Technical specifications:
4. Should have a capacity of 35 Litres
5. Static Hold Time should be at least 120 days
6. Evaporation Rate should be 0.20
7. Approximate Neck tube diameter should be 50mm
8. Height of the drum: 5810mm
9. Outside diameter of the drum : 400mm
10. Weight Empty of the drum : 7.0 Kg or less
11. Weight Full of the drum : 27.0 Kg or less
12. Liquid withdrawal device should be available
13. Accessories, spares and consumables
    - Roller base
    - Withdrawal device
    - 6' Transfer line
    - Dipper
    - Phase Separator
14. Should be CE or BIS approved product

Item No: 38

ULTRA SONICATOR

1. Ultra sonicator should work on an operating frequency of 20-25 KHz
2. Should have an digital LCD display to display to show measured parameters
3. Maximum power output of the equipment should be 100 watts (Maximum)
4. Power supply 220 – 240V, 50 Hz
5. Dimensions of the equipment should be compact (Approx 8"X13")
6. Probes and accessories -
    - Processing volume - 0.2-5 ml , 0.5-15 ml and 2-25 ml
    - Tip diameter - 1.6 mm, 3.2 mm, and 4.8 mm
    - Intensity - High
    - Amplitude (microns) - 320 μm, 240 μm , and 150 μm
    - Power supply - 1 KV
    - Accessory: Cover for the equipment
7. Should be CE or BIS approved product

Item No: 39

ORBITAL SHAKER

1. Should have an temperature Range: 4 - 80°C
2. Should have an temperature accuracy: +/- 1°C
3. Unit should be stackable
4. There should not be limitation of shaking speed in the stackable unit.
5. Inner chamber should be made of stainless steel.
6. Shaking speed: Should be between 50-500 rpm with a speed accuracy of +/- 1 rpm.
7. Timer range of shaking should be 0.1 hr to 999 hr or 0.1 min. to 999 min.
8. Shaking diameter should be adjustable between 10-50mm on the same platform.
9. It should be belt less and with magnetic drive based on permanent magnets.
10. Auto stop on door opening and automatic restart resumption after failure.
11. There should be internal lighting in the chamber to view the samples.
12. It should be supported by software for programming calibration for different parameters and should also record the deviation of all the parameters.
13. The machine should automatically switch off in case of fault.
14. Should have international quality control certification.
15. Unit should be quoted with one full size Universal platform (capacity 20-25 flask of 250ml) to hold all sizes of clamps (up to 5 liters Flask).
16. Accessories: At least 5 clamps each for 100ml, 250ml, 500ml and 1000ml flasks.
17. Should be CE or BIS approved product

Item No: 40

GRADIENT PCR MACHINE

1. 96-well 0.2ml tube block format
2. Heated lid (at least 105° C)
3. Temperature range 4-99° C
4. Temperature accuracy better than 0.1 - 0.3° C
5. Temperature uniformity across the block better than 0.2 - 0.5° C

6. Sample temperature ramp rate (cooling/heating) better than 1 - 3° C
7. Capable of incrementing/decrementing temperature and time at each cycle
8. Gradient temperature range at least 40-75° C
9. Inbuilt LCD colour display or attached computer to display and set parameters
10. At least 200 protocol memory on board, storage extendibility by USB memory stick.
11. Should be FDA & ISO or CE or BIS approved product

Item No: 41

REAL TIME PCR

1. Thermal Cycling in Peltier-based system with block capable of supporting at least 5 different temperature profiles in the same run in zone format
2. Block Format 96-well block compatible with 96-well (0.1 ml/0.2ml) plates, at least 8-tube (0.1 ml/0.2ml) strips with optical flat caps and Individual (0.1 ml/0.2ml) tubes with optical flat caps
3. Supported Volumes 10–80 µL
4. Sample Ramp Rate at least 2°C/sec
5. Temperature Range 4°C-100°C, Temperature Accuracy at least +/-0.25°C and Temperature Uniformity at least +/-0.50°C.
6. Melt Curve Resolution at least 0.1°C
7. Optical System: LED excitation source, four-emission filters, and photodiode for FAM, SYBR Green I, VIC, JOE, NED, TAMRA, ROX dyes, with option to select no passive reference.
8. Data Collection in all filters for all wells regardless of plate setup.
9. LCD screen or attached computer capable of displaying and programming parameters
10. Should be FDA or CE or BIS approved product

Item No: 42

CHEMILUMINESCENCE & GEL IMAGING & ANALYSIS SYSTEM

1. At least 5 megapixel or better, 16-bit Scientific-Grade CCD Camera for good resolution, cooled to ≤ -25°C
2. Optics should include f/1.4 lens or better with motorized optics
3. Should have UV trans-illuminator: 302 nm, Pull-out type; and Epi LED White light imaging
4. Must include at least 4-position motorized filter wheel with UV/IR Interference Filter
5. Should have Light-tight darkroom with UV safety switch
6. Should have integrated or external computer with LCD screen for operations of all system hardware, software & lenses
7. Should have storage at least 250 GB, 3 or more USB slots and at least 1 network port
8. Should provide selection of all instrument settings, capture, save and printing from one screen
9. Should have image acquisition, both Automatic as well as manual
10. Should download images over network via any web browser using a PC or Mac or internet enabled phones
11. Must have Stand-alone Software for enhancement, editing, annotation, archiving & analysis including features like 1-D multilane densitometry, 2-D spot densitometry, MW, Rf analysis,

Microtiter plate, Eli-spot, Array & Dot Blot Analysis, Colony, Cell & GFP Yeast Counting, Q-PCR, Zymogram gel analysis, Gel Scoring, Band matching, RFLP, RAPD, Fingerprinting, Dendrogram creation, options for Dice, Jacard, Pearson, Frequency, Similarity Coefficients & Cluster analysis with multiple methods including Neighbor joining, UPGMA, WPGMA, Simple linkage, complete linkage, ward, median, centroid etc., Multi-color fluorescence microscopy imaging & Movie Mode facility. Should include at least two stand-alone copies of the analysis software

12. Should have Chemiluminescence imaging tray, UV to white light conversion screen, Gel imaging sheet
13. Should be FDA or CE or BIS approved product

Item No: 43

VERTICAL LAMINAR FLOW BENCH WITH HEPA FILTER

1. Dimension of the system (W x D x H mm)
   - Inner dimension: 1200 X 600 X 650 mm
   - Outer dimension: 1320 X 905 X 1900 mm
2. Should have an approximate air volume capacity of 1350m3/h
3. Should have microprocessor controlled electronic circuitary
4. Should have LCD display to shown measured parameters like Stage velocity, total using time, UV/FL lamp on/off
5. The air purification should be done through class 100 HEPA filter, with 99.97%, 0.3 um particle removal
6. Should have a pre-filter of 3-30 um particle removal, and it should be recyclable
7. The cabinet should give class 100 purity
8. Should have an wind velocity of 0.35-0.50 m/sec
9. Should have UV lamp 40 w x 2 EA, FL lamp 40 w x 2 EA
10. Material of construction
    Inner - Stainless steel
    Outer - Powder coated steel
11. Door should be made of tempered safety glass sliding door
12. Utility device - air cock, gas cock
13. Electricity Supply - 220 V, 50/60 Hz
14. Ensure noiseless operation and anti-vibration construction provides efficient working environment.
15. Filter replacement warning signal.
16. Should be FDA or CE or BIS approved product

Item No: 44

VERTICAL GEL ELECTROPHORESIS

Twin‐plate mini gel unit with tank cooling device, built‐in cooling coil and quick‐fit tubing, lid, plain and notched glass plates, spacers, spacer aligners, dummy plate and combs

A. TECHNICAL SPECIFICATION

1. Unit Dimensions (W x D x H) should be approximately : 28 x 15 x 18cm

2. Plate Dimensions (W x H x T) should be approximately: 10 x 10 x 0.2cm
3. Spacer thickness should be approximately : 0.1cm
4. Running Conditions for Denaturing/Native PAGE Gel
5. Voltage : 100 - 150V
6. Current : 10 - 15mA

B. Powerpack

Technical specifications:
1. Type of Output : Constant Voltage/ Constant Current
2. Output Voltage (V) : 0 - 500 V
3. Output Current (mA) : 0 - 500 mA
4. Maximum Power (W) : At least 250 W
5. Number of Output : atleast 4
6. Voltage Setting Resolution : 1V
7. Current Setting Resolution : 1mA
8. Display for Voltage : at least 3 Digit
9. Display for Current : at least 3 Digit
10. Timer : 1min to 999 min
11. Input Supply : 230 V AC ± 10%
12. Max Operating Temperature : ambient to 45°C
13. Weight : ≤ 3 Kg
14. Should be FDA or CE or BIS approved product

Item No: 45

ELECTROLYTE ANALYZER

1. The Analyser should have option to measure Blood/Serum/Plasma/Urine
2. The Analyser should be able to measure Na/K/Cl and Expandable to Ca and Li
3. Should have Integrated Pack to avoid Wastage Handling
4. Should have more than 800 Samples results Storage or more
5. Sample volume should be less Than 120 ul
6. Should have economy mode to save Reagents Consumption
7. Should have In-Built Thermal Printer
8. Should have option to feed Patient Name and Patient ID.
9. Should have Barcode Scanner (Optional)
10. Suitable UPS with maintenance free batteries of minimum one hour back up should be supplied with the system.
11. Should be FDA or CE or BIS approved product

Item No: 46

HPLC SYSTEM WITH CHROMATOGRAPHIC WORKSTATION

Reciprocating pump with a parallel connection of double plungers and an intelligent control of a microprocessor has higher operating pressure, smaller pulsation, stable performance, convenient operation and some other features, etc. Through alternating the double plungers to perfuse, the service life of the piston rod and that of the leather packing collar are twice longer than those of common pumps with connection in series

Specification:
Flow rate Range: 0.001-9.999 mL/min
RSD< 0.06%
Peak Operating Pressure: 42MPa(0.001-9.999mL/min)
Pressure Pulsation<0.1 MPa
Dimension: 450mm x 300mm x l60mm (length x width x height)

UV Detector

With its pioneering digital switch system, the detector directly outputs digital signal to the workstation, which avoids the signal distortion and interference that common UV detectors may bring about during their multiple analog-to-digital conversion of chromatograph signal

Specification:

Wavelength Range: 190-680nm
Baseline Noise: ±0.25×10^-5 AU(empty cell, response time: 1 second, 20∩)
Baseline Drift: 0.4×10^-4 AU (empty cell, response time: 1 second, 20∩)
Minimum Detection: 1×10^-8 g/ML(Naphthalene/methyl alcohol solvent)
Wavelength Repeatability: less than 0.2nm
Injection Port:
C18 Column

Chromatography Workstation

Chromatogram workstation software should be a full automated integration of UV detector and high-pressure constant flow pump, and has powerful control function and simple, convenient and swift operation.
Six kinds of quantitative algorithmic methods: normalization, revised normalization, revised normalization with factor of proportionality, internal standard method, and external standard method and index calculation.

Should be FDA or CE or BIS approved product

Item No: 47

RANDOM ACCESS HIGH THROUGHPUT FULLY AUTOMATED CLINICAL CHEMISTRY ANALYSER

1. SYSTEM: Floor Model, Completely Open, Discreet, Multi-channel, Random Access, With automatic rerun, automatic reflex testing and capable of performing tests like Enzymes, substrates, Serum Proteins, Electrolytes, TDM assays and Immuno-turbidimetric etc.
2. THROUGH PUT: About 1000 Photometric tests/Hour and about 1500 Tests /Hour with ISE.
3. ASSAY MODES: End point, Rate, fixed point and ISE.
4. Analytical Methods: Colorimetry, turbidometry, latex agglutination, homogeneous EIA, ISE.
5. SAMPLE LOADING: Minimum of 80 sample positions with continuous Loading. Bar code reading Facility for positive sample identification, real time test requisition downloading from host should be possible.
6. Cooled compartment for Standards and Controls.
7. SAMPLE CUPS: Primary and secondary tubes and paediatric cups

8. SAMPLE TYPES: Plasma, Urine, Serum, CSF etc..
9. STAT FACILITY: Facility for continuous loading of stat samples without interrupting the routine run. Minimum 50 STAT sample positions for very urgent samples.
10. SAMPLE VOLUME: 2.0-30microlitres in 1.0 micro litre increment.
11. SAMPLE PROBE: Probe liquid level sensor .Sample clot detection and crash prevention facility should be available.
12. REAGENT DISK: Two Refrigerated reagent disks with 50 positions for R1 and 40 positions for R2.
13. ON-BOARD PARAMETERS TESTS: Minimum 50 photometric tests + 3 ISE (Na, K, Cl).
14. REACTION VOLUME: Volume should not be more than 300µl.
15. REAGENT PROBE: Two reagent Probes liquid level sensors and washing facility. Probe crash detection should be available.
16. STIRRER: More than 2 on board variable speed stirrers should be available.
17. CUVETTES: may be reusable, permanent or Disposable, specify recurring cost if any
18. CUVETTE WASHING: Automatic on-board washing.
19. PHOTOMETER: Wavelength ranging from 300 - 800 nm.
20. LAMP SOURCE: Halogen / Xenon Lamp/ tungsten
21. QUALITY CONTROL: Real Time, Individual and cumulative quality control. Automatic QC Programming required.
22. Water Plant: Compatible RO plant to be supplied of supplying min 40 ltrs/ hr
23. SOFTWARE: Window XP or compatible.
24. DATA STORAGE: 75,000 patient samples.
25. INTER FACE: Unidirectional and Bidirectional communication possible.
26. REAGENTS: Manufacturing Company should have their own system reagents, controls and calibrators and the price list for the same should be enclosed with the price bid.
27. Accessories, reagents calibrator and control: company shall provide a list of accessories reagents calibrator and control to be use for running the instrument.
28. FDA/ CE: The equipment to be supplied should have FDA / CE certification and should have minimum 5 installations in reputed Institutes/labs in India.

Item No: 48

RANDOM ACCESS MEDIUM THROUGHPUT FULLY AUTOMATED CLINICAL CHEMISTRY ANALYSER (FLOOR MODEL)

1. SYSTEM: Floor model, Completely Open, Discreet, Multi-channel, Random Access, With automatic rerun, automatic reflex testing and capable of performing tests like Enzymes, substrates, Serum Proteins, Electrolytes, TDM assays and Immuno-turbidimetric etc.
2. THROUGH PUT: About 600 Photometric tests/Hour and about 900 Tests /Hour with ISE.
3. ASSAY MODES: End point, Rate, fixed point and ISE.
4. Analytical Methods: Colorimetry, turbidometry, latex agglutination, homogeneous EIA, ISE.
5. SAMPLE LOADING: Minimum of 80 sample positions with continuous Loading. Bar code reading
6. Facility for positive sample identification, real time test requisition downloading from host should be possible.
7. Cooled compartment for Standards and Controls.
8. SAMPLE CUPS: Primary and secondary tubes and paediatric cups
9. SAMPLE TYPES: Plasma, Urine, Serum, CSF etc..
10. STAT FACILITY: Facility for continuous loading of stat samples without interrupting the routine run. Minimum 20 STAT sample positions for very urgent samples.
11. SAMPLE VOLUME: 2.0-30 micro litres in 1.0 micro litre increment.

12. SAMPLE PROBE: Probe liquid level sensor .Sample clot detection and crash prevention facility should be available.
13. REAGENT DISK: Two Refrigerated reagent disks with 50 positions for R1 and 40 positions for R2.
14. ON-BOARD PARAMETERS TESTS: Minimum 50 photometric tests + 3 ISE (Na, K, Cl).
15. REACTION VOLUME: Should be from 150 ul to 300 ul
16. REAGENT PROBE: Two reagent Probes liquid level sensors and washing facility. Probe crash detection should be available.
17. STIRRER: More than 2 on board variable speed stirrers should be available.
18. CUVETTES: may be reusable, permanent or Disposable, specify recurring cost if any
19. CUVETTE WASHING: Automatic on-board washing.
20. PHOTOMETER: Wavelength ranging from 300 - 800 nm.
21. LAMP SOURCE: Halogen / Xenon Lamp/ tungsten
22. QUALITY CONTROL: Real Time, Individual and cumulative quality control. Automatic QC Programming required.
23. Water Plant: Compatible RO/ water purification plant to be supplied of supplying min 40 litres/ hr
24. SOFTWARE: Window XP or compatible.
25. DATA STORAGE: 75,000 patient samples.
26. INTER FACE: Unidirectional and Bidirectional communication possible.
27. REAGENTS: Manufacturing Company should have their own system reagents, controls and calibrators and the price list for the same should be enclosed with the price bid.
28. Accessories, reagents calibrator and control: company shall provide a list of accessories reagents calibrator and control to be use for running the instrument.
29. FDA/ CE: The equipment to be supplied should have FDA / CE certification and should have minimum 5 installations in reputed Institutes/labs in India.

Item No: 49

PC BASED ELISA READER WITH AUTOMATIC WASHER AND SHAKER (COMPLETE UNIT)

A. Technical Specification:

1. Optical system diffraction grating Band width- 8 nm.
2. Wavelength range 200-1000 nm with increment of 1 nm.
3. Measuring range 0-4 Abs.
4. Measurement time-up to 30 Seconds (For 96 well micro plate).
5. Resolution- 0.001 Abs.
6. Light Source- tungsten- Halogen/ Deuterium lamp.
7. Accuracy - +/-0.010@ 1Abs.
8. Measurement time upto 30 Sec. (for 96 well microplate) Read methods End point, kinetic, spectral scanning and well scanning and well area scanning
9. Power supply -230 V AC +/- 10, 50Hz.
10. Self Check- System should perform self check before every measurement.
11. Sampling-96 well micro plate and 8/12 well micro strips.
12. Micro plate shaking facility with programmable shake.
13. Plate carrier to accommodate PVC and Polystyrene (flat, U and V bottom 96 well microplate).

B. Data station:

1. I5 3rd generation processor with licensed windows operating system, 500GB hard disk, 4GB ram, DVD RW, 17" LCD colour monitor and Colour laser printer.

2. Software- facility for reading complete plate or even a single well.
3. Multiple blanking options.
4. Data Presentation in 4 Modes (absorbance, transmission, blank subtracted absorbance limit +/0/-report).
5. Quantitative analysis using linear and quadratic curve pointing calibration
6. Multi-pointing Calibration.
7. Software of qualitative kits.
8. Checking of Controls.
9. Calculation of cut- offs.
10. Final report in +/- format.
11. Storage facility for easy recall or processing of sample and data.

C. Automated washer:

1. Plate type (96 well).
2. Wash bottle capacity 2-4 liters.
3. Additional wash bottle capacity 2 liters.
4. Residual aspiration Volume< 5 ul.
5. Hard Ware specifications:
    a. Manifold 8 or 12 Channels.
    b. Vaccum power – 1 integrated vacuum power.
    c. Waste bottle 2 L.
    d. User interphase Flat with 5 diaphragm keys.
    e. 2-4 x 20-26 characters LCD screen.

D. Software specification:

1. Up to 75 wash programmable protocols.
2. Wash program cards 4-6 cycles.
3. Wash mode – strip and plate mode.
4. Accepts flat or curved bottom.
5. Programmable Vertical and horizontal speeds and vertical and horizontal position of aspirating needle in relation with wells.

E. Microplate Shaker:

1. Speed: 50 -250rpm.
2. Time: up to 15 minutes.
3. Capacity- upto 6 microplates.

F. Should be FDA or CE or BIS approved product

Item No: 50

LAMINAR AIRFLOW FOR PCR

1. Vertical Laminar Flow Bench with stainless steel table top, UV Light, polycarbonate door, gas cock, manometer.
2. Vertical ultra clean air flow at 90 +/- 20 rpm.
3. Front with foldable polycarbonate door.
4. Size of working table: 3’ X 2’ X 2’
5. Perspex sheet side panels.
6. Efficiency of ultra clean air down to 0.3 micron is 99.97%
7. Conforms to air cleanliness tests as per article 5.1 of U.S. Federal standard 209-B (class 100).

8. Heavy duty and continuous use Blower Assembly with ¼ H.P Motor, 50Hz lph Max. 1375 RPM to deliver air at 550 CFM (approx.).
9. CABINET:
    a. All wood and Mind Steel heavy gauges P.C.R.C. sheet, and mild steel sections welded at the ends to ensure leak free operation, all the joints are filled with steel filled "M" seal to gap any possible leaks.
    b. Inside painted with synthetic Enamel Paint and outside with fine automotive finish.
    c. Provision of electrical points within the chamber.
10. WORK TABLE: Made of stainless steel.
11. ILLUMINATION: 230 V, AC, 50 Hz Fluorescent tube lights.
12. CONTROLS:
    a. Independent switches for laminar & capacity of UV light.
    b. Drawer with key & 5/15 Amp. Socket.
13. Should be FDA or CE or BIS approved product

Item No: 51

VERTICAL LAMINAR FLOW BENCH WITH HEPA FILTER

1. Dimension of the system (W x D x H mm)
    - Inner dimension: 1200 X 600 X 650 mm
    - Outer dimension: 1320 X 905 X 1900 mm
2. Should have an approximate air volume capacity of 1350m3/h
3. Should have microprocessor controlled electronic circuitry
4. Should have LCD display to shown measured parameters like Stage velocity, total using time, UV/FL lamp on/off
5. The air purification should be done through class 100 HEPA filter, with 99.97%, 0.3 um particle removal
6. Should have a pre-filter of 3-30 um particle removal, and it should be recyclable
7. The cabinet should give class 100 purity
8. Should have an wind velocity of 0.35-0.50 m/sec
9. Should have UV lamp 40 w x 2 EA, FL lamp 40 w x 2 EA
10. Material of construction
    Inner - Stainless steel
    Outer - Powder coated steel
11. Door should be made of tempered safety glass sliding door
12. Utility device - air cock, gas cock
13. Electricity Supply - 220 V, 50/60 Hz
14. Ensure noiseless operation and anti-vibration construction provides efficient working environment.
15. Filter replacement warning signal.
16. Should be FDA or CE or BIS approved product

Item No: 52

UV VISIBLE DOUBLE BEAM SPECTROPHOTOMETER

1. Optical system- diffraction gratings
2. Wavelength range 190-1100 nm.
3. Wavelength accuracy +/-0.3nm.

4. Absorbance range 0-3 Abs
5. Band pass < 2 nm
6. Light source tungsten and halogen / deuterium lamp
7. Photometric modes Absorbance, % transmittance and Concentration
8. Detector – silicon photodiode
9. Quartz cuvettes 1.0 ml (two pairs)
   2.0 ml (two Pairs)
   3 ml (two pairs) &
   micro cuvettes
10. Glass cuvettes 1 ml (2 pairs)
    2ml (2 Pairs)
    3ml (2 Pairs) &
    micro cuvettes
11. Computer with colour monitor with laser printer with mouse with key board.
12. Computer : i5 3rd generation with licensed windows operating system,4GB RAM/ above, 500 GB HD or Higher, DVD RW , 15-17" colour LCD/LED monitor
13. Printer : Colour laser printer
14. Keyboard
15. Mouse
16. Suitable voltage stablilizer UPS
17. Power supply 220-240 V+/1- 10%
18. Facility for Both Kinetic and End Point assay of Sample volume of minimum 0.5 ml with temperature control.
19. Adapter for holding micro cuvettes.
20. Should be FDA or CE or BIS approved product

Item No: 53

ULTRA CENTRIFUGE

1. Maximum Speed: 100,000 rpm or more.
2. Speed control Accuracy: ± 10 rpm.
3. Maximum RCF: 802,000 g (Approx.)
4. Maximum Capacity: 1.5 litre
5. Tube volume range: 1.5 ml – 250 ml
6. Set Temperature: 0 to 40°C
7. Ambient Temperature 10 to 35°C
8. Cooling system: CFC & HCFC free
9. Acceleration / Deceleration Profile: 10/10 or more
10. Programmability: 20 or more with step run facility
11. Power: 210-240 VAC, 50 Hz, 30 A.
12. Machine should have features like eye-balancing of samples, delayed start/ stop, dual display of 'Run' & 'Set' parameters, data entry through key pad & touch pad, RPM/RCF mode, Rotor Life Management etc.
13. Machine should accept rotors of other makes.
14. Fixed Angle Rotors of titanium with 8 places of 6.5 ml (100,000 rpm, 802,000xg) & of carbon Fibre with 6 places of 13.5 ml (65,000 rpm, 324,000xg) & of carbon Fibre with 24 places of 1.5 ml (50,000 rpm, 280,000xg)
15. Vertical rotor of Titanium with 8 places of 6 ml (70,000rpm, 467,000xg)
16. Top-loading Swing bucket rotor Titanium make with 6 places of 36 ml (30,000 rpm, 167,000xg)
17. Should be FDA or CE or BIS approved product

Item No: 54

REFRIGERATED CENTRIFUGE

1. High Speed Refrigerated table top centrifuge, microprocessor controlled, freely programmable, spin control comfort with LC graphic display screen (for centrifugation in angle rotors, swing-out rotors and microtiter plate rotors)
2. Max speed: 30,000 rpm, Max RCF: 65,400 x g
3. Max capacity: 6 x 85 ml
4. Temperature: -20 to +40ºC, CFC free refrigeration
5. Single knob operation (no complicated keypads)
6. Maintenance free, noiseless, brushless induction motor drive
7. Pre-selection of run parameters in terms of rpm and rcf
8. Pre-selection of time upto 10 sec, 9hrs. 59 min or continues
9. 20 curves of acceleration and deceleration
10. 10 freely programmable Accel/Deaccl. curves with graphic display
11. Storing of at least 50 run protocols
12. Free programming of all parameters
13. Self diagnostic error messages and alarms
14. Display for end of rotor life
15. Magnetic rotor identification & imbalance sensor
16. Motorized lid lock and inter lock
17. Facility for automatic lid opening after the run
18. Operates on 230V/50 Hz
19. Angle rotor 10 x 10 ml, incl. cover max 26,000 rpm; RCF:57,450 x g
20. Angle rotor 24 x 2.2/1.5ml, max.26,000 rpm; RCF: 61,990 x g
21. Angle rotor 6 x 50ml. (Falcon) incl. cover max 14,000 rpm; RCF: 20,380 x g
22. Adapter for 1 x 15 ml culture tubes (set of 2)
23. Swing out rotor 4 place without bucket, Max 5,000 rpm: RCF: 3,770 x g
24. Should be FDA or CE or BIS approved product

Item No: 55

REFRIGERATED MICROCENTRIFUGE

1. High Speed Micro centrifuge with LCD Display Screen, Microprocessor controlled
2. Max speed: 14,000 rpm. Max RCF : approx 22,000 x g
3. Max. capacity: 30 x 2.2 ml
4. Temperature range: -10 to 40°C
5. Time selection: 10sec. - 11hrs 59 min or hold
6. CFC - free refrigeration system
7. LCD Display for speed, RCF, Temp. & Time
8. Facility for short run operation
9. Imbalance System & Selectable Acoustic Alarms
10. Selectable Automatic lid opening after the run.
11. Soft, Fast Accelerate, Decelerate and break off mode
12. Up to 50 Programs storage memory
13. Simple to know operation, no keypads
14. Angle rotor Polypropylene 24 x 1.5 ml. incl.
15. Polysulfone lid
16. Max. rpm 14,000; Max. RCF. Approx 17,000 x g
17. Should be FDA or CE or BIS approved product

Item No: 56

Water Purifications System

A. Ultra pure Water System: - Water quality required for Molecular biology, Tissue culture/HPLC applications. The system should contain pre filtration unit, Type 2 RO filtration equipment, Reservoir 30L and Type 1 filtration equipment.

B. Pre filter Unit:

1. A prefilter unit with 1 & 5 micron filter to remove particulate
2. Motor and booster pump for feed pressure.
3. R O grade water system
4. Prefilter with anti scaling and activated carbon reverse osmosis
5. Conductivity cell before and after RO stage
6. Feed water handling of conductivity up to 2000microns/cm.

C. TYPE 2 RO Stage Water Quality:

1. Flow rate: 2L/hr
2. Organic ion removal up to 99%
3. Resistivity: 5-15 cm.,
4. TOC < 30 ppb,
5. Colloidal index SDI < 3
6. Feed water pressure bar: 0 -5
7. Reservoir of 50 L capacity.
8. Electrical feed voltage 90 – 230V ± 10%
9. One pair of extra cartridge.

D. Ultra pure water machine producing water of the following quality:

1. Output/flow rate up to: 1 litre/min.
2. Conductivity of 0.055 microns/cm
3. Resistivity of 18.2 mega ohm. Cm
4. Bacteria cfu/ml < 1
5. Particles : <1/ml @0.1um
6. TOC: < 5 ppb
7. Endo toxin: < 0.001EU/ml

E. Should be FDA or CE or BIS approved product

Item No: 57

CELL COUNTER AND SIZER

Versatile Dual cell and Particle counter

1. Mercury free.
2. Should not be hand held.
3. Absolute cell counts or concentration.
4. The system should be perfect for quick and accurate counting and sizing of particles as various as Blood cells (RBC, WBC, platelets), and tissue culture cells, spermatozoa, suspensions, etc.
5. Fully automated, easy to calibrate, simple to use by means of a user friendly remote pad including few, but clear, keys and data LCD display.

6. The lower & upper thresholds should be easily set in size or volume units and the results given in absolute count above the set upper and lower threshold, or between the two thresholds.
7. In addition to counting, the size distribution should be given in 64, 128 or 256 channels. Absolute count can be edited for each single channel or cumulated between cursors.
8. Software should include size distribution statistics, data archiving, size trend analysis, result overlays, average graph and table, cell type.
9. Automatic run and average of up to 10 replicates.
10. Analysis parameters should be either automatically set or operator selectable size settings.
11. Store upto 5 analyses settings.
12. Measurement range ≤1 to ≥120 micron overall range and ≤1 to ≥60 microns for ampoule insertable aperture tubes.
13. Aperture Tube – std 5 sizes between 50 – 200 microns each separated by at least 20 microns.
14. Ampoule insertable 50, 70, 100 microns.
15. Individual aperture working size range ≤2 to ≥60% of aperture diameter.
16. Metered volumes 100, 500, 1000µl at least should be available.
17. HP laser colour Jet Printer with cable, computer flat screen, compatible software, Pentium PC, CPU, keyboard.
18. Colour and refractive index should not affect results.
19. Should be FDA or CE or BIS approved product

Item No: 58

SEMI AUTO ANALYZER

1. The system should have Endpoint, kinetic, fixed time and turbidimetric mode.
2. The system should also be capable of estimating Haemoglobin, Electrolyte, Immunoassay turbidimetric assay etc.
3. The system should have tungsten halogen lamp with lamp saver facility.
4. The aspiration volume should be 250 ul to 750 ul.
5. Should have complete visual range.
6. The system should have memory at least 500 patient samples.
7. System should have online graphic display of reaction second to second.
8. System should have index mode for calculation of LDL/VLDL/IRON TIBC and Bilirubin etc.
9. System should have previous blank and standard memory facility.
10. The system should be US FDA or CE approved.

Item No: 59

VERTICAL LAMINAR AIRFLOW HOOD FOR CELL CULTURE

1. Dimension of the system (W x D x H mm)
    - Inner dimension: 1200 X 600 X 650 mm
    - Outer dimension: 1320 X 905 X 1900 mm
2. Should have an approximate air volume capacity of 1350m3/h
3. Should have microprocessor controlled electronic circuitry
4. Should have LCD display to shown measured parameters like Stage velocity, total using time, UV/FL lamp on/off
5. The air purification should be done through class 100 HEPA filter, with 99.97%, 0.3 um particle removal

6. Should have a pre-filter of 3-30 um particle removal, and it should be recyclable
7. The cabinet should give class 100 purity
8. Should have an wind velocity of 0.35-0.50 m/sec
9. Should have UV lamp 40 w x 2 EA, FL lamp 40 w x 2 EA
10. Material of construction
    Inner - Stainless steel
    Outer - Powder coated steel
11. Door should be made of tempered safety glass sliding door
12. Utility device - air cock, gas cock
13. Electricity Supply - 220 V, 50/60 Hz
14. Ensure noiseless operation and anti-vibration construction provides efficient working environment.
15. Filter replacement warning signal.
16. Should be FDA or CE or BIS approved product

Item No: 60

TOP LOADING BALANCE

1.	Readability	0.01 gm
2.	Capacity	upto 500 gm
3.	Linearity	+ 0.02 gm
4.	Repeatability	0.01gm
5.	Operating temperature	0- 45°C
6.	Pan Size (diameter)	100 - 110 mm
7.	Response time	1- 3 Seconds
8.	Calibration	External
9.	Display	Backlit LCD display
10.	Power supply	220 – 230 V AC +/- 10% 50 Hz

11. Should be FDA or CE or BIS approved product

Item No: 61

BINOCULAR MICROSCOPE

Should be identical for student's labs with high quality optics, having 4 objectives- low, high, oil immersion and scanner lenses, Halogen /Tungsten light source.

Optical System:

- Infinitely corrected optics par focal, plan achromatic lenses with anti fungal properties.

Illumination:

- Built in transmitted Koehler illumination.
- □ 6 V, 20 to 30 WHalogen /Tungsten light source.
- Power supply: 220-240V 50Hz

Focusing:

- Stage height movement by roller guide (rack & pinion)
- Upper limit stopper
- Tension adjustable on coarse focus adjustment knob
- Revolving nosepiece

- Quintuple

Observation tube:

- Tube inclination – 30° / 45°
- Interpupillary distance adjustment range– minimum 50 to 70 mm
- Stage Movement range – (75+/-5) mm X - direction X (50+/-5)mm Y - direction
- Rectangular scratch resistant stage with right hand control with double slide holder and vernier scale on X Y axis.

Condenser

- Type – Abbe condenser
- N.A. >/=1.25
- Aperture iris diaphragm - built – in
- Objectives - Plan Achromat 4x, 10x, 20x, 40x & 100x (oil)

Eyepiece

- 10X with F.N 20
- All the necessary adapters and power cords should be provided for functioning of microscope.

Accessories:
1) Eyepiece with pointers
2) Eyepiece with millimeter scale grid

Should be FDA or CE or BIS approved product

Item No: 62

NANO SPECTRO BIO PHOTOMETER

1. Description of Function:
The Nano drop spectrophotometer should be able to analyze the sample as small as 0.5ul and cuvette capability in a single instrument.

2. Operational Requirements:
System should combine micro-volume Pedestal technology and cuvette capability in a single instrument.

3. Technical Specifications:

a. Specifications for Nano drop

i. Instrument type – spectrophotometer to analyze the sample as small as 0.5 ul along with cuvette facility in single instrument
ii. Minimum Sample Size- 0.5 microliter
iii. Path length- 1 mm (auto-ranging to 0.05mm)
iv. Light Source- Xenon flash lamp
v. Detector Type- 2048-element linear silicon CCD array.
vi. Wavelength Range- 190-840 nm
vii. Wavelength Accuracy- 1 nm
viii. Spectral resolution- ≤ 1.8 nm
ix. Absorbance Precision- 0.002 (1 mm path)

x. Absorbance Accuracy- 2% (at 0.76 at 257nm)
xi. Absorbance Range – 0.02-300 (10 mm equivalent)
xii. Detection Limit – 2ng/microliter (dsDNA)
xiii. Max. Concentration- 15,000 ng/micro litre (ds DNA)
xiv. Measurement Time – <5 seconds
xv. Footprint – 14 x 20 cm.
xvi. Weight – 2.0 – 3.0 Kg.
xvii. Sample pedestal material of Construction – 303 stainless steel and quartz fibre
xviii. Operating voltage – 12 V DC.
xix. Operating power consumption – 12 – 18 W (max 30 W)
xx. Standby power consumption – 5 W.
xxi. Software compatibility – window ®XP and Vista ™ (32 bit)
xxii. Software – as mentioned in specifications branded PC with latest configuration along with UPS with 1 hour back up with printer to be compatible for smooth functioning of machine along with MS Excel and suitable spread sheet program for manipulating data.

b. Specifications for Nano drop cuvette:

i. Beam Height – 8.5 mm
ii. Heating – 37 ± 0.5° C
iii. Stirrer: 150 – 850 rpm
iv. Path Length: 10,5,2,1 mm
v. Absorbance range: 0.002 – 1.5A
vi. Detection limit: 0.4 ng/ul
vii. Maximum concentration: 750 ng/micro litre (dsDNA)
viii. Measurement Time: <3 seconds
ix. Weight: 2.1 kg
x. Variable size of cuvette: 50ul – 3ml one set of both glass and quartz cuvettes.

4. System configuration accessories, spares and consumables:
   i. Auto pipettes 2 in number 5 -10 micro litres along with a packet of tips.
   ii. A pair of extra cuvette (50ul of quartz)

5. Environmental factors:
   i. The unit shall be capable of being stored continuously in ambient temperature of 0-50 Deg C and relative humidity of 15 – 90 %.
   ii. The unit shall be capable of operating in ambient temperature of 20-30 Deg C and relative humidity of less than 70%.

6. Power Supply:
   i. Power input to be 220 -240 V AC, 50Hz
   ii. Suitable UPS with maintenance free batteries for minimum one hour back up should be supplied with the system.

7. Standards, safety and training:
   Manufacturer/ supplier should have ISO & FDA or CE certification for quality standards.

8. Documentation:
   i. User/ technical/ maintenance manuals to be supplied in English.
   ii. List of important spare parts and accessories with their part number and costing.

Item No: 63

TRINOCULAR INVERTED MICROSCOPE WITH EPI FLUORESCENCE & DIGITAL CAMERA ATTACHMENT/ FLURESCENCE MICROSCOPE

1. Microscope Body: Microscope with infinity optical corrected optical system with light path selector of 100:0, 0:100.
2. Eyepiece: 10x (Paired) with F O V 22mm and diopter adjustment facilities on both eyes, anti-fungus type.
3. Condenser: Extra long working condenser (suitable for phase contrast/BF/Fluorescence)
4. Illumination: Pre centred Mercury fibre Illuminator of 130W with facility for no heat Lifetime of 2000 hrs or more
5. Nosepiece: Quintuple nosepiece to accommodate 5 objectives at a time.
6. Stage: Attachable mechanical stage with universal holder to accept all types of specimen holders.
7. Objectives: 4x (N.A.0,10, W.D 30.0mm or higher), 10x (N.A 0.25, W.D 5.2 mm), 20x (N.A, 0.45, W.D, 8.2-6.9mm), 40x(N.A.0.60, W.D, 3.6-2.8mm)
8. Epi-Fluorescence Attachment: Noise terminator mechanism incorporated for high signal ratio images with pre centred mercury fibre illuminator of 130w. Main body must hold 2 fluorescence filter block and one empty position for bright field Epi-fluor filter block (Blue) consisting of excitation filter , Dichroic mirror and barrier filter Epi-fluor filter block (Green) consisting of excitation filter, Dichroic mirror and barrier filter, Epi-fluor filter block for UV Consisting of excitation filter Dichroic mirror and barrier filter.
9. Digital Camera: Camera attachment capable of handling bright field , fluorescence, DIC, dark field images with 2/3" high density CCD Chip, Approx 5.24 Million pixel resolution Built-in TFT LCD monitor (8.4-In) XGA 1024x768 Live Display Mode (5m Interlace Mode 5.9 Frames/Sec; 23 Frame per/Sec with roi & Binning); Binning Modes 2x2 , 4x4 Digital Zoom Upto 16x (8 Steps); Interval shooting 10 sec- 6 hr Intervals; White Balance adjustment, Image Adjustment (Gamma Correction, shading Adjustment, Black level adjustment, Hue Wheel variation, colour saturation adjustment)
10. Software: Built-in image analysis software that include length, width and circle measurements, comparisons of images, in the LCD screen
11. Consumable : Halogen lamp 4 no
12. UPS compatible for this system
13. Should be FDA or CE or BIS approved product

Item No: 64

Inverted Research Microscope for Bright field, Phase Contrast, fluorescence, along with High Resolution Digital Image Analysis System

A. Microscope Body:
Microscope body with Infinity optical corrected optical system, Extendable optical free space up to 80 mm for attaching other attachment in future, facility for 2 way (100:0, 20/80 left port) or more light distribution of light, up/down focusing, side port for attaching digital camera upgradable to one additional port for another camera, binocular tube with built-in to one additional port for another camera, binocular tube with built-in Bertrand lens & dark slide shutter along with dioptre adjustment facility.

B. Condenser:
Universal turret condenser (suitable for all microscopy techniques) with 5 positions

C. Illumination:
12V 100W Pre-centred Halogen Illumination.

D. Eyepiece:
10X with F.O.V 22 or better and dioptre adjustment facility on both eyes, anti fungus type,

E. Nosepiece:
Sextuple revolving nosepiece to accommodate six objectives at a time.

F. Stage:
Rectangular mechanical stage

G. Objectives:
High performance Objectives suitable for Bright field/Phase Contrast/fluorescence/ DIC Observation with facility of cover glass correction.

4X (N.A.0.10, W.D.30m), 10X (N.A0.25, W.D.6.2mm), 20X (N.A.O.45, W.D.8.2-6.9mm), 40X (N.A.0.6, W.D.3.6-2.8mm)

H. Fluorescent attachment:
With six position turret filter block, Noise Terminator mechanism incorporated for high signal ratio images with Pre centered Mercury Fiber Illuminator of 120/130W, lamp should have life time of 2000 hrs or more.

Bandpass Fluorescent filters for FITC/GFP, TRITC/Rhoda mine, DAPI/Hoechst applications so that no cross talk is available.

I. Digital Camera:
Digital Colour Camera capable of Handling Very Low Light, Fluorescence, Darkfield or Dic Images with 2/3' High Density CCD Chip, Approx. 12.7 Million pixel resolution (2200 TV Lines), 15 f/p/s with full screen Size, Cooling 10ºC below Ambient, 12-Bit Digitization, Exposure Time 1/16,000 to 60 sec., Dynamic Range 2000:1, USB port for attaching camera onto Desktop/Laptop through single wire.

J. Software should be with following features:

Acquisition and device control through four –dimensional acquisition, Image Acquisition, Time Lapse imaging, Z-stack, Multi-channel Fluorescence, Annotation, 2D/3D View, ND viewer, Filter, Morphology, Large Image, Macro, Segmentation, Auto-measurement, Report Generator facility, Data Base, Vector layer and Multi-Dimensional File Format (ND Format), Microscope Camera and Software should be from one source for better compatibility.

Data collection and processing unit: Branded, 4 GB RAM, DVD writer, 500 GB or higher HDD, 17" TFT Monitor, along with Colour Inkjet Printer

K. Consumables:
Mercury Lamp 1 No. and Halogen Lamp 6 Nos.
All the products have to be from same manufacturer for better compatibility.

L. Should be FDA or CE or BIS approved product

Item No: 65

CO2 INCUBATOR (AIR JACKETED) WITH AUTOMATIC STERILIZATION

1. Inner total volume 180 to 190 liters.
2. Temperature range: +50°C above ambient to +55°C.
3. Silicon removable autoclavable inner door gasket.

4. Built in HEPA filter Airflow System (100% HEPA filtered air within 1 minute) with internal blower but without FAN inside.
5. Thermal conductivity sensor with two year warranty.
6. On demand sterilization at 140°C with 12.
7. Alpha numeric character display screen and message screen.
8. Class 100 condition of air inside the chamber within five minutes after door closing.
9. Access code to lock the parameters
10. Alpha numeric message for HEPA filter replacement.
11. Certified by ISO 9001, CE mark, UL listed CSA approved.
12. Three Appreciation letter from the reputed institute for similar instruments supplied one & half years back towards it performance & services should be included with the offer.
13. CO2 Cylinder & Regulator should be quoted.

Item No: 66

ICE FLAKING MACHINE

1. The ice flaking machine with safety control against failure of refrigerant & water.
2. Machine should automatically shut off when water is not available in line and resumes when water is available.
3. Machine should automatically stop when the Bin is full and resumes when sufficient ice is taken from the Bin.
4. Machine should automatically shut off and indicate if the Refrigerant is not sufficient to produce Ice.
5. An out let should be provided to drain water from the Bin to protect it from contamination.
6. Production Capacity: Should produce at least 200 Kg/24 hrs
7. Storage Bin Capacity: Should have a capacity to store 100 Kg Ice Flakes
8. Freezing Cylinder : Stainless Steel Made
9. Compressor : Should be Hermetically sealed
10. Condensation/Cooling : Air Cooled
11. Cabinet : Should be of Stainless Steel, corrosion free with PUF insulation
12. Exterior (Chamber) : Stainless Steel
13. Control : Microprocessor Control
14. Alarms Indications : Visual LED
15. Should produce very Low Noise Level
16. Operating Temp. : 10 to 38 deg.C
17. Machine should have AgION Silver Antimicrobial product protection
18. Refrigerant : R-404a CFC Free
19. Safety control: Microprocessor control against failure of refrigerant & water.
20. Hardness : Atleast 70%
21. Power Consumption not more than 760 Watts
22. Power Requirement: 220-240V/50Hz
23. Machine should have CE, VDE and GS approved and ISO9001 certified.
24. Adjustable legs to keep the machine in level.

Item No: 67

AUTOCLAVE (VERTICAL)

1. Automatic adjustable working pressure system.
2. Double walled.
3. Inside boiler made of stainless steel & outside mild steel finished in cream enamel.

4. Radial locking system lid.
5. The panel is provided with on/off switch, pressure gauge, steam release valve & indicators to show the working of mains & pressure control system.
6. Electrically operated on 220V A/C with stainless steel basket.
7. Digital Temperature controller with inbuilt timer that will cut off the heaters automatically after lapse of pre set time at the pre set temperature.
8. Microprocessor based PID controller.
9. Height: 600mm.
10. Diameter inside: 450mm(24"x18")
11. Should be FDA or CE or BIS approved product

Item No: 68

LAB REFRIGERATORS

1. Capacity (as per user requirement) 300-380 Litres.
2. Temperature 2-8° C.
3. Preferably roller mounted.
4. Adjustable shelves.
5. Battery backup.
6. Durable rust free exterior.
7. Durable unbreakable interior.
8. Control panel with temperature alarm, on/off switch and digital thermometer.
9. Interior lighting, Drip tray and defrosting arrangement.
10. Adequate circulation of air to ensure even cooling by DUCT system.
11. Door with lock. Inside of door provided with racks. Door hinges and latches should be chromium plated.
12. Control panel with temperature alarm, ON /OFF switch with power on indicator, digital thermometer, temperature display.
13. Electronic automatic temperature control,
14. Operable at 220 V, 50 Hz, single phase AC supply.
15. Compressor unit to be hermetically sealed with guarantee for at least five years.
16. Training of laboratory staff for the purchased equipment.
17. Availability of spares/ disposables for at least 10 years.
18. All consumables required for installation and standardization of system to be given free of cost.
19. List of users and satisfactory report of quoted model from reputed institute preferably Government institute/ hospitals.
20. Should have all the accessories required for the functioning of the equipment.
21. CE / ISI mark or other equivalent quality certification.
22. All electrical peripherals required for smoothes functioning e.g. voltage stabilizer provided with the equipment.
23. There should be provision for demonstration before final approval of equipment.

Item No: 69

MICROBIOLOGICAL INCUBATOR (BOD)

1. The equipment should have Microprocessor controlled temperature.
2. The system should have a temperature control range from Ambient +5°C to 70°C.
3. The heat transfer to environment at 37°C should be 40 Wh/h.
4. The equipment should have inner chamber volume of 30-50 Litres.

5. The system should have a temperature deviation of+ 0.2°C at 37°C
6. The system should have heating up time of less than 45 min to achieve 37°C.
7. The equipment should have temperature recovery time of 10 min at 37°C.
8. The equipment should have rounded edges and corners for easy cleaning.
9. Equipment should have interface for the documentation of temperature during incubation.
10. Should work on 220 volts, 50 Hz.
11. Should be FDA or CE or BIS approved product

Item No: 70

ALL GLASS DISTILLATION APPARATUS

Technical specifications:

1. The glassware should be made of high quality borosilicate glass to withstand high heat.
2. Apparatus capacity should be of 4 litres/Hr.
3. Should be double stage.
4. Should have metallic stand and other accessories.
5. Stand should be made of rust free material.
6. Standards heating elements of 2.5-3KW to be used.
7. An automatic cut off device should be attached.
8. Heather should be of quartz for immediate output of distilled water. Apparatus should consist of high quality Borosilicate Boiler with built in water leveller.
9. Output water should be pyrogen-free with conductivity less than 1 micro siemen, ph 6.9-7, distillate temp 65-75 deg C.
10. Metal stand.
11. Automatic cut off device or safety control module.
12. Power input to be 220-240 VAC, 50 Hz.
13. Manufacturer should have ISO & CE certification for quality standards.

Item No: 71

FLOW CYTOMETER

1. Bench top flow cyto meter with air cooled argon ion laser (488 nm) and air cooled red diode laser (635 nm). All lasers & their excitation and collection optics should be fixed aligned.
2. The system should have the capability of at least 6 parameters measurement
3. The system should have built in sorter with cell concentrator module. The built in sorter should have 3 sort modes and sorting rate of at least 12,000 cells per minute.
4. The system should have upgradeability feature for inbuilt walk away automation for flow cyto meter analysis from 96 and 384 plates directly.
5. Should run on a PC based platform with window based software and should operate on 220 volts
6. Data management system: i5 3rd generation processor with licensed Windows operating system, 500GB hard disk, 4GB ram, 15" colour monitor, CD ROM/DVD Drive and colour DeskJet printer
7. The system should be capable of doing cytometric bead array and should be compatible with cyto metric bead array software.
8. Leucocyte immune phenotyping DNA analysis, reticulocyte enumeration, haematopoetic stem cell enumeration

9. The company should provide hands on training for working on the flow cytometer.
10. Starter up kit including sheath fluid, calibration kit, cleaning solution for sample tubes to perform 2000 assays.
11. Compatible UPS should be supplied.
12. Should be FDA or CE or BIS approved product

Item No: 72

PERISTALTIC PUMP

1. 2 channels
2. Choice of 6 rollers
   0.001– 68 ml/min (per channel)
3. Microprocessor controlled
4. Motor type : DC motor
5. Speed : 2-channel 1.6 -160 rpm
6. Speed setting : rpm, resolution 0.1 rpm
7. Flow rate setting : µl/min or ml/min
8. 6 – button membrane key pad
9. LED display
10. Flow rates and tubing : 2-channel 0.012, 0.24, 0.53, 0.68 (ml/min per channel)
11. Mains connection : 230V AC/50Hz, 115V AC/60Hz adjustable
12. Protection rating : IP 30
13. Should be FDA or CE or BIS approved product

Item No: 73

AGAROSE GEL ELECTROPHORESIS

1. Gel electrophoresis system (Horizontal) with power pack
2. Horizontal agarose gel electrophoresis apparatus
3. Buffer tank with platinum electrodes
4. Capacity to fun gel with at least 10 samples
5. Gel trays should be UV transparent
6. Power pack – max, voltage (300 V), max current (500 mA), Constant current (available) and constant voltage (available) and at least two outputs Accessories
7. Gel trays, Combs etc
8. Should be FDA or CE or BIS approved product

Item No: 74

RANDOM ACCESS SMALL THROUGHPUT FULLY AUTOMATED CLINICAL CHEMISTRY ANALYSER

1. SYSTEM: Floor/Bench top Model, Completely Open, Discreet, Multi-channel, Random Access, With automatic rerun, automatic reflex testing and capable of performing tests like Enzymes, substrates, Serum Proteins, Electrolytes, TDM assays and Immunoturbidimetric etc.
2. THROUGH PUT: About 400 Photometric tests/Hour and about 600 Tests /Hour with ISE.

3. ASSAY MODES: End point, Rate, fixed point and ISE.
4. Analytical Methods: Colorimetry, turbidometry, latex agglutination, homogeneous, ISE.

5. SAMPLE LOADING: Minimum of 50 sample positions with continuous Loading .Bar code reading facility for positive sample identification, real time test requisition downloading from host should be possible.
6. Cooled compartment for Standards and Controls.
7. SAMPLE CUPS: Primary and secondary tubes and paediatric cups.
8. SAMPLE TYPES: Plasma, Urine, Serum,CSF etc.
9. STAT FACILITY: Facility for continuous loading of stat samples without interrupting the routine run. Minimum 20 STAT sample positions for very urgent samples.
10. SAMPLE VOLUME: 1 to 30 micro litres in 1.0 micro litre increment.
11. SAMPLE PROBE: Probe should have liquid level sensor .Sample clot detection and crash prevention facility should be available.
12. REAGENT DISK: Refrigerated reagent disk with minimum 50 positions.
13. ON-BOARD PARAMETERS TESTS: Minimum 50 on-board parameters tests.
14. REACTION VOLUME: Should be from 150 ul to 300ul.
15. REAGENT PROBE: Probe with liquid level sensors and washing facility. Probe crash detection should be available.
16. STIRRER: More than 2 on board variable speed stirrers should be available.
17. CUVETTES: Must have permanent hard glass. It should have the facility to change individual cuvettes.
18. CUVETTE WASHING: Automatic on-board washing.
19. PHOTOMETER: Wavelength ranging from 300 - 800 nm.
20. LAMP SOURCE: Halogen / Xenon Lamp.
21. QUALITY CONTROL: Real Time, Individual and cumulative quality control. Automatic QC programming required.
22. Water Plant: Compatible RO/water purification plant to be supplied.
23. SOFTWARE: Window XP.
24. DATA STORAGE: 50000 patient samples.
25. INTER FACE: Unidirectional and Bidirectional communication possible.
26. REAGENTS: Manufacturing Company should have their own system reagents, controls and calibrators and the price list for the same should be enclosed with the price bid.
27. Accessories, reagents calibrator and control: company shall provide a list of accessories reagents calibrator and control to be use for running the instrument.
28. The equipment to be supplied should have FDA and CE certification and should have minimum 5 installations in reputed Institutes/labs in India.

Item No: 75

DEEP FREEZER (-20° C)

A. Specifications:

Ultra Low Temperature Freezer – with operating temperature of (-20) Deg C having internal volume approximately 400 Litres, External casing should be powder coated galvanized sheet metal, non corrosive.

B. Main Features:

1. Internal Casing: Stainless steel with 4 lockable castors.
2. Heated door sealing, lockable doors.
3. Five compartments, each with separate inner doors for better sample protection through minimum sample warming.
4. Adjustable shelves.
5. Polyurethane Insulation around 150mm for better thermal insulation and sample safety in case or power failure.

C. Refrigeration:

1. Refrigeration – CFC and HCFC free.
2. Cascade cooling system with two hermetic compressors.

D. Control Unit:

1. Microprocessor controlled.
2. Temperature deviation of maximum +/-3 K.
3. Ambient temperature: 16 to +32°C.
4. Actual temperature display with at least 20mm LED display for better visibility.
5. Key Board lockable Battery Powered.
6. Optical and acoustical alarm system for high and low temperature.
7. Voltage stabilizer.

E. Should be FDA or CE or BIS approved product

Item No: 76

DEEP FREEZER -70° C

1. Upright (vertical) model of international standard (ISO 9001/9002).
2. Capacity more than 350 litres (less than 400 litres).
3. Minimum Temperature up to – 70°C. Temperature control should be guaranteed at a min. ambient (surrounding) temperature of 30°C.
4. Temperature alarm (both visible and audible).
5. Minimum of 4 compartments with proper insulation of each. Preferable to have individual insulated door for each compartment, which enables maintenance of temperature in other shelves while one shelf is being opened.
6. Temperature stability for each shelf should be +/- 0.5°C of the set temperature.
7. Temperature homogeneity between the top shelf and bottom shelf should be
8. +/- 3°C of the set temperature.
9. Digital display of set and actual temperature.
10. Average power consumption should be less than 1000W.
11. Should work on 230V / 50Hz single phase electricity point.
12. Voltage stabilizer should be provided with the equipment (either inbuilt or add-on).
13. While the freezer is functioning, audible noise levels produced by it should not be more than 55 db.
14. Minimum one year warranty (labour and parts).
15. Should be FDA or CE or BIS approved product

Item No: 77

FULLY AUTOMATIC CHEMILUMENESCENCE IMMUNOASSAY ANALYZER

1. Fully Automated immunodiagnostic system based on latest Chemiluminescence technology.
2. Continuous loading facility of minimum 50 samples.
3. Can accommodate multiple sample tube size / sample cups.
4. Universal barcode reader should be able to read multiple barcode type.
5. Capability to do the assay in continuous, random, batch & stat mode.
6. Facility to process various body fluids like serum, plasma, urine etc.

7. Throughput of up to or more than 200 tests per hour with random access.
8. Facility for detection of clot, bubble, viscosity and inadequate sample.
9. Sample volume should be 10 to 200 µl depending upon the analyte.
10. Facility for onboard dilution and reflex dilution for high and abnormal samples.
11. Should have disposable tip sampling system / effective wash technique to prevent carryover.
12. At least 40 different parameters should be available on board and 15- 20 parameters must be done at one time.
13. The reagent should be ready to use.
14. Continuous access to loading and unloading reagents is possible.
15. Inbuilt refrigeration system with controlled temperature and humidity.
16. Capability of inbuilt inventory management system for reagent.
17. Calibration stability should be at least 2-4 weeks depending upon parameters.
18. Capability of bar-coded stored master curve with two point calibration.
19. Inbuilt QC system to monitor the quality of result obtained.
20. Should have the self-diagnosis and error recovery system with on board operation guides for efficient trouble shooting purpose.
21. Patient result should be available both test wise / patient wise with storage of at least 5000 results.
22. Online status for worksheet, sample, reagent, tips, quality controls.
23. Compatible to the laboratory information system for online computerization of patient report.
24. Should have the facility to collect both liquid and solid waste for disposal.
25. Should be CE and USFDA approved.

Item No: 78

ELISA READER

1. Photometer & Measurement channel.
2. Wave Length range 400 – 750nm.
3. Filters – 405, 450, 492 and 620nm (up to 8 filters that can be mounted).
4. Absorbance range – 0 to 4.0 OD.
5. Single Wave Length – 15 seconds.
6. Dual Wave Length – 20 seconds.
7. Multi label measurement and kinetic measurement.
8. Single LED lamp.
9. Lamp save feature MTBF >1,00,000 plates.
10. Up gradation option for fully automated Elisa processor.
11. Licensed window based software.
12. System should be FDA, IVD , CE and ISO certified.
13. Display: operation through PC.

Item No: 79

MICROPLATE MULTIMODE READER

A. General

1. Sample Format – Reads 6-, 12-, 24-, 48-, 96- and 384- well plate formats.
2. Detection Modes – Luminescence, Fluorescence, UV-visible Absorbance.
3. Read Type – Glow, Flash, Kinetic.
4. Shaking – Fixed or variable, linear and orbital modes.

5. Temperature Control -2°C temperature to 50°C.
6. Should have built in PC, Touch Screen navigation and operation.
7. Five years comprehensive warranty followed by CMC from 6th till 10th year.

B. Luminescence

1.	PMT(PHOTOMULTIPLIER TUBE) Detector	
2.	Spectral Range	350 – 650nm
3.	Detection Limit	at least 3 x 10^-21 moles of luciferase
4.	Linear Dynamic Range	>8 logs

C. Injector System

1.	Number of injectors	More than one injector
2.	Injector Dispense volume Range	Selectable between 25-200 ul in upto 5 ul increments

D. Fluorescence

1.	Light Source	Wavelength –matched LED
2.	Detector	PIN-Photodiode
3.	Read Position	Top Reading
4.	Wavelengths	Uv Blue, Green, Red
5.	Detection Limit	0.5 fmol/200 ul or 1 ppt of fluorescein 30 pg/ well dsDNA with DNA Quantitation Dye
6.	Linear Dynamic Range	at least 6 logs
7.	Read Out	Relative Fluorescence units, Direct Concentration

E. UV-Visible Absorbance

1.	Light Source	Xenon lamp
2.	Detector	Photodiode
3.	Spectral Range	200 – 1100 nm
4.	Wavelengths for installed Filters	260, 280, 450, 560, 600, 750 nm
5.	Photometric Measuring Range	0 – 4.0 OD
6.	Linear Dynamic Range	0 – 3.0 OD

F. Should be FDA or CE or BIS approved product

Item No: 80

FOR HPLC BASED AUTOMATED ANALYZER FOR HbA1c & HEMOGLOBINOPATHY TESTING

1. Automated, Integrated system, dedicated to HbA1c, Thalassaemia and hemoglobinopathy testing and screening based on HPLC technology.
2. The system should be able to screen and quantitate different variant haemoglobin and HbA1C.detect the most commonly occurring abnormal hemoglobins like Hb S, Hb D, Hb E, Hb C, Hb Q-India and other rare abnormal hemoglobins.
3. Complete ready to use kit should be provided with Buffers in transparent plastic tanks to view the level of buffers; columns, primers, calibrators & sample vials.
4. It should have a faster throughput.

5. The system should have optional feature to load atleast 50 samples simultaneously with continuous loading facility.
6. The system should have in-kit external standards for instrument calibration ensuring accurate quantization of results.
7. The system should have a bi-directional LIS.
8. The system should have a feature sample position identification to avoid error in case of bad/fault barcode reading.
9. The system should have a visible alarm system for low buffer reservoirs, low level value for cartridge injections and overflow for the waste tank, as well as built in alarms for calibration failure.
10. The system should be capable of positive sample identification using a Barcode reader.
11. The system should have the facility of primary tube sampling and direct dilution of the samples without manual intervention.
12. It should have an inbuilt system check facility which checks that all the system parameters (eg, cartridge, buffer, reagent, waste etc) are ready before the sample analysis.
13. The system should preferably have a independent mode to perform either HbA1c or HbA2/Hb, F/HbA1c without changing any reagents or columns.
14. The system should be able to detect correct A1c values in presence of abnormal hemoglobin variants like HbD, HbE, HbS & HbC
15. The System should be NGSP (National Glycohemoglobin Standardisation Program) Certified and traceable to IFCC reference method.
16. It should be able to print a hard copy report giving identification and information on the subtype and quantity of haemoglobins detected. It should have the facility to view current and stored chromatograms & should enable storage of chromatograms.
17. The company should be able to provide normal and abnormal controls for Hb A2, Hb F and Hb S and provide quality control program to help compare results with similar users worldwide.
18. The company should have external quality assurance service (EQAS) for haemoglobin variants.
19. The company should have minimum of 50 installations in India
20. The system should have software for real time viewing of the analysis of the sample.
21. The System should be both CE & FDA approved.
22. The company should have offline library of chromatograms for result interpretation
23. The company should have optional feature of capillary collection kit for remote sample collection with sample stability at 2-8 °C for 14 days.
24. Compatible UPS.
25. Computer with printer.
26. Appropriate software for data analysis.

Item No: 81

FRACTION COLLECTOR

1. Fraction collection vessels: should be from 16 to 140 (depending on the type of rack used).
2. Flow rate: Maximum upto 150 ml/min.
3. Precise peltier temperature control (4°C – 70°C) for automated collection of thermally-labile fractions.
4. Collection files: Upto 10 in memory.
5. Programmed operation via System controller.
6. Fraction collection flexibility: Collection based on 2-channel generated ratio chromatogram.
7. Fraction collection: With valve.
8. Cooling of fractions with sample cooler.
9. Drive system: Arm movement system.

10. Output of setting parameters: printout via chromatopac.
11. Detector signal input: 0.1V.
12. Ambient temperature range: 4°C – 85°C.
13. Power requirement: 220V.

Accessories:

14. Racks for 64 factions & 16 fractions
15. Mounting frame
16. Sample cooler
17. 20 ml test tubes (100Pcs.)
18. 50 ml vials (50 Pcs.)
19. 5 ml vials (100 Pcs.)
20. Should be FDA or CE or BIS approved product

Item No: 82

LYOPHILIZER

1. System should be compact, bench-top.
2. The system should have Microprocessor Controlled LCD system.
3. The Programmable controlled temperature.
4. Automatic defrosting system for ice condenser when necessary.
5. The system should have Vacuum Control / Break Valve.
6. The system should have Hot Gas defrosts and switch.
7. The refrigerant type should be CFC free.
8. The condenser capacity should be minimum 3.5 litres.
9. Stoppering should be top down pneumatic.
10. Preferably double compressor.
11. Should be CE or BIS approved product

Item No: 83

AUTOMATED PLATE READING LIQUID SCINTILLATION COUNTER/ BETA COUNTER

1. Automated plate reading LSC, which can count up to 4 ml vials in a single instrument.

2. Should count from the top of the plate, from the bottom of the plate, or from both top and bottom in coincidence for giving great versatility allowing gamma, beta, and luminescent counting in a wide variety of plate and tube formats. Should be able to count both in coincidence and Time Resolved-Liquid Scintillation Counting (TR-LSC) mode for best efficiency in clear bottom as well as opaque plates.

3. Should have twin phototube counting for greatest efficiency of counting while maintaining a minimal background count rate.

4. Should have a stacker/sample changer located wholly within the instrument to keep the sample cassettes protected and maintained at a temperature which is consistent with the detector of the counting system.

5. Should compensate for both optical and isotopic crosstalk allowing use of a wide range of micro plates. Important when counting higher energy beta and gamma emitters.

6. Performance data for Liquid scintillation counting:
   Counting efficiency:
   3H-equal to or more than 57%
   14C-equal to or more than 93%
   Maximum count rate: 3,000,000 CPM

7. Should be able to count filter plates & also intact filter mats.

8. Should have a sample loading capacity of more than fifteen 24/96 well plates at a time.
9. Should be FDA or CE or BIS approved product

Item No: 84

TRANSILLUMINATOR WITH UV STAND AND UV TORCH (IMPORTED)

1. For visualization of ethidium bromide stained nucleic acids.
2. High output UV tube with average life expectancy of 5000 hrs.
3. UV light facility with wavelength range 254-365 nm.
4. UV protective shield which can block 99.5% of UV radiation
5. Should be able to detect DNA less than 10 nanogarm.
6. Filter size approximately 20 x 20 cm.
7. Can be used in routine electrical point (220-230v)x 50Hz.
8. With spare bulbs.
9. UV face shield
10. UV Torch
11. Should be FDA or CE or BIS approved product

Item No: 85

WESTERN BLOT APPARATUS

A. Gel transfer apparatus:
Compact system to transfer proteins efficiently in less time from polyacrylamide gels onto the nitrocellulose or PVDF membrane with no buffer added. Should provide with the gel transfer stacks, to place on top and bottom of the gel.
Apparatus should be impervious to alcohol, alkali and acid.

B. Gel transfer apparatus
Dimensions: Should not be greater than 40cm (l)x 20cm (w) x 15 cm (h)
Weight: ≤ 2.5 kg
Features: Digital display to show the transfer conditions
Alarm
Suitable for transfer of mini (8x8cm) as well as medi (8x13cm) gel
Operating temperature: 4-40°C

C. Membrane processing device for western blot:
The device should be fully automated and fast for processing of routine western immunodetection steps. The device should allow processing of up to four membranes in parallel with up to four different reagent sets. The device should have digital program display.

D. Instrument specifications

Input power:	220-250V
Operating temperature:	4-40°C
Dimensions:	Not greater than 20"(w) x25"(d)x15"(h)
Features:	Digital display, LED light
Membrane size:	Suitable for mini blot (8.5x8.5cm)

E. Should be FDA or CE or BIS approved product

Item No: 86

Comparator, Nessler

The comparator consists of a robust pocket case made of solvent and acid-resistant plastics, which accommodates a comparator disc containing a range of colour standards and two sample cells of up to 40mm light path length. Measurement is made by comparison of a sample of the test solution against a disc representing the colour range produced by known concentrations of the test material. Viewing is carried out by transmitted light which may be north daylight or from the white light cabinet available as an accessory.

Accessories

- **White light cabinet**

Artificial day light, Dimensions (l x w x h) 290 x 180 x 140mm, Electrical requirements 240V 50 Hz, Supplied with daylight correction filter.

- **Portable daylight unit**

Pocket-size unit only 80x60x100mm. Powered by rechargeable batteries with 'battery low' indicator.

- **Nessler attachment**

Accepts Nessler cylinders of up to 250mm path length, for assessment of dilute or pale coloured solutions. May be used with natural daylight or with the white light cabinet.
Dimensions l x w x h, 110 x 100 x 370mm

- **Comparator discs**

Sl No.	**Test**	Method	**Range**
1	Ammonia	Nessler'sreagent	0.02 to 0.2mg/ltr NH3
2	Ammonia	Nessler'sreagent	0.1 to 0.52mg/ltr NH3
3	Ammonia	Nessler'sreagent	0.56 to 1.2mg/ltr NH3
4	Ammonia	Nessler'sreagent	1.2 to 2.0mg/ltr NH3
5	Chlorine	DPD tablets	0.1 to 1.0ppm
6	Chlorine	DPD tablets	0.2 to 4.0ppm
7	Hazen scale	Colour match	5 to 70mg Pt/ltr
8	Hazen scale	Colour match	70 to 250mg Pt/ltr
9	Hazen scale	Colour match	0 to 30mg Pt/ltr
10	Hazen scale	Colour match	30 to 70mg Pt/ltr
11	Ozone	DPD tablets	0.1 to 1.0mg/ltrO3
12	Ozone	DPD tablets	0.01 to 1.10mg/ltrO3
13	Ozone	DPD tablets	0.05 to 0.45mg/ltrO3
14	Ozone	DPD tablets	0.01 to 0 3mg/ltrO3
15	pH	Thymol blue	1.2 to 2.8
16	pH	Bromophenol blue	2.8 to 4.4
17	pH	Methyl red	4.4 to 6.0

18	pH	Bromothymol blue	6 to 7.6
19	pH	Cresol red	7.2 to 8.8
20	pH	Thymol blue	8.0 to 9.6
21	pH	Universal	4.0 to 11.0
22	Swimming	DPD for chlorine	0.5 to 6.0mg/ltr
23	pools	Phenol red for pH	7.0 to 8.0pH

Item No: 87

Barometer - Precision, (Manual)

The instrument should consists of scale, mercury –filled glass tube and Cistern.
Scale should be graduated in hPa (mb) and mmHg on a brass tube marking apex of ivory pointer as cardinal point and is read by the vernier in 0.1 mm graduation.
Measuring method –mercury column
Measuring range – 870 to 1090 hPa / 650 to 820 mmHg
Min graduation – 1 hPa/1mmHg
Vernier readings – 0.1hPa/0.1mmHg
Accuracy - +/- 0.5hPa
Mounted Thermometer – Mercury filled glass thermometer, measuring range - -20° C to 50°C,
Minimum graduation – 0.5°C

Item No: 88

Barometer - Aneroid with thermometer

Specification

Measuring range – 930 to 1070 hPa, 700 to 800 mmHg
Min .graduation – 1 hPa / 1 mmHg
Temperature compensation- Bimetal
Accuracy - +-1hPa at 980 to 1020hPa
+- hPa at other range
Temperature – Glass thermometer
Range: -10°C to 50°C
Accuracy: +- 2°C
Usable altitude – upto 500 m
Case material – Brass

Item No: 89

Masons Wet-Dry Bulb Hygrometer

Used to calculate the water vapour content (relative humidity) of air at a given temperature.

The instrument is made up of two identical thermometers, one a wet bulb, and the other a dry bulb. The wet bulb thermometer has it's bulb wrapped in a tight fitting muslin cloth material (wicking) which is soaked in water. When the thermometers are ventilated the wet bulb temperature will be lower than the dry bulb temperature.

Subtracting the wet bulb reading from the dry bulb reading yields the Wet Bulb Depression.

The relative humidity can now be read from the table provided.

Specifications
Range - 26 to 120 °F / -5 to 50 °C
Type - Spirit
Length - 8.75"
Reservoir - Approx 2.75" / 30 mL
Width - 3"
Depth - 1.25"

Item No: 90

Binocular Microscope (For students)

Student upright Binocular Microscopes (with inbuilt light source & imported achromatic optics)
1. Binocular microscope with universal infinity corrected optical system
2. Halogen / LED light source illumination.
3. Rigid frame with ergonomics design
4. Binocular observation tube with inclination of 45/30 degrees
5. Built in torque adjustable focusing knob
6. Mechanical stage with rigid hand coaxial control
7. Abbe condenser, Iris diaphragm
8. Revolving Quintuple nose piece (for objectives)
9. Plan achromat objectives 4X, 10X, 40X, 100X (Oil)
10. 40X, 100X objective should be spring loaded
11. Eye piece 10X (FOV 20)
12. Antifungal treatment should be applied to the observation tube, eyepiece and objective
13. Accessories, dust cover and power cord
14. Eye pieces with pointers – 10 nos.
15. Power requirement 220 V/50 Hz
16. Should be CE certified or FDA or BIS approved product.

Item No: 91

Binocular Microscope (For Teachers)

Frame
- Optical system – Infinity corrected optical system
- Focus - Stage height movement by roller guide (rack & pinion), stroke with coarse adjustment limit stopper, Stage mounting position variable, high sensitivity fine focusing knob.
- Illuminator - Built-in Koehler illuminator for transmitted light, 12V 100W halogen light source and built-in filters.
- Revolving nosepiece Interchangeable reversed quintuple nosepiece.

Observation tube
- Wide field trinocular, inclined 30°.

Stage
- Spill resistant, coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism.

Condenser

- Swing out Achromatic (N A. 0.9), for 1.25X- 100X (swing-out: 1.25X-4X)

Objectives

- 4x, 10x, 20x, 40x, 100x(oil)
- 40x and 100x should be spring loaded

Camera

- Photo system with beam splitter.
- Digital colour CCD camera with suitable mount.
- Camera specification – 2/3" CCD 1.45 MP, 12bit, USB interface.
- Image management software with High Resolution TFT Monitor & Computer
- Computer specification –Intel I5 3rd generation processor ,8GB RAM ,500GB hard disk, licensed operating system and HD LED display screen.
- Facility to interface with HD LCD projector.

Should be CE certified or FDA or BIS approved product.

Item No: 92

Continuous Dichotomous Ambient Particulate Monitor

- Measurement Method - Tapered Element Oscillating Microbalance (TEOM) technology
- Measurement Ranges - 0 to 1,000,000 µg/m3 (1g/m3)
- Precision - ±2.0µg/m3 (one-hour average), ±1.0µg/m3 (24-hour average)
- Accuracy - For Mass Measurement: ±0.75%
- Resolution - 0.1µg/m3
- Flowrate - Main flowrate: Fine PM filter, 3.9L/min.; Coarse PM filter, 1.67L/min.
- Bypass flowrate- 12.0L/min.
- Data Memory - Internal datalogging of user-specified variables; 5,00,000 record capacity
- Input Output - Four averaged analog inputs (0 to 5VDC) with user-defined conversion to engineering units; 8 User-defined Analog Outputs (0-1 or 0-5VDC); 2 User-defined contact closure alarm circuits; Ethernet with embedded FTP server, US, RS-232, and RS-485; touch screen with user interface, and software to view and change system operation from PC
- Data Output - Selectable from 10 sec. to 24 hour
- Operating Limits [Temperature Range] [CENTIGRADE] - Temperature of sampled air may vary between -40° and +60°C. TEOM sensor and control units must be weather protected within the range of 8° to 25°C.
- Power Supply – 220V, 50Hz

- Should be CE certified or FDA or BIS approved product.

Item No: 93

Continuous Emissions Monitoring System

- Should be configurable to measure various combinations of SO_2, NOx, CO, TRS, NH_3, HCl, THC, Hg, CO, O_2, PM, H_2S, Flow, Opacity
- Measurement ranges for most criteria pollutants from 0 to 10ppm to 0 to 10,000ppm full scale
- Should meets EPA performance specifications
- Should have wide dynamic range in different applications

System should accommodate devices utilizing the following technologies:

- NDIR - Nondispersive Infrared: Used to measure carbon monoxide, carbon dioxide, HCl, and other infrared-absorbing gases
- Chemiluminescence: For the measurement of nitrogen-based compounds
- Pulsed Fluorescence: For the determination of SO_2
- FID - Flame Ionization Detection: Measures hydrocarbons to meet the criterion of USEPA Methods 25A and 25B
- Atomic Fluorescence: The technology utilized by the Mercury Freedom System
- Transmissometers for opacity monitoring
- Cross-stack and in-stack ultrasonic monitors for determining flow of gas stream
- Both full extractive and dilution extractive probes

- Should be CE certified or FDA or BIS approved product.

Item No: 94

SO3 Analyzer

- Should be suitable for sensitive, continuous measurement of SO_3
- Should be based on Laser-based measurement technology
- Should be suitable for rack mounting
- Measuring range should be 0 - 200ppm
- Linearity should less than or equal to 1%
- Sample flow rate 250ml per minute or better
- Should operate on temperature range -10°C to 45°C
- Should have LCD display for parameter display and setting
- Computer connectivity through RS232 or RS 485 or better.
- Power supply – 220V,50Hz
- Should be CE certified or FDA or BIS approved product.

Item No: 95

CO Analyzer

- Should be based on gas filter correlation technology
- Measurement range 0 - 20000ppm
- Sample flow rate – 0.5 to 2.0 L/min
- Linearity – 2%
- Should have Temperature and pressure correction
- Alarms for different concentration levels

- Ethernet connectivity for efficient remote access
- Key pad programming and LCD display screen
- Flash memory for data storage
- Enhanced electronics design optimizes product commonality
- Improved layout for easier accessibility to components
- Power supply – 220V, 50Hz
- Operating temperature range 0°C - 45°C
- Should be CE certified or FDA or BIS approved product.

Item No: 96

Enhanced Trace Level SO2 Analyzer

- Should be based on Pulsed fluorescence measurement technology
- Measurement ranges from 0 - 1000ppb
- Sample flow rate should be 0.5 L/min
- Should have linearity of +/- 1%
- Should have temperature and pressure compensation facility
- Alarm for different concentration levels
- PC connectivity through Ethernet , RS 232 or RS 485
- Keypad programming and LCD display screen
- Flash memory for data storage
- Should be ideal for rack mounting
- Power supply – 220V ,50Hz
- Should be CE certified or FDA or BIS approved product.

Item No: 97

Dosimeter

Dosimeter is used for the routine measurement of electrons, x-rays and gamma rays from linear accelerators, cobalt-60 units and other radiation sources to standardize outputs before treatment. It can also control the precise dose delivered to the patient during treatment.

- Should be portable, rugged, and easy to operate
- Should have a measurement range of 30 kv to 140 kv
- Should have facility for pressure, temperature and chamber response compensation. Ambient Pressure: 500 to 1100millibars; Ambient Temperature: 0° to 40°C; Chamber Factor: 0.800 to 1.200
- Linearity should be +/- 0.05%
- Should have a built-in timer with preset facility
- Trip at dose limit
- Temperature range from 1 to 4000 sec.
- Should have a printer output
- The polarizing voltage divider provides quick and accurate determination of ionization chamber collection efficiency - using the two point technique
- ±V, ±V/2, ±V/4, ±V/8
- For continuous, pulsed and swept beam radiation
- Voltage ratios defined to better than ±2%
- Lockable selector switches
- LCD screen for parameter display

Item No: 98

DISSECTING MICROSCOPE

A. 1 Eye piece: Straight binocular type wide field (10 x)
2 Optic carriers with five steps magnification
3 Fine focusing- manual
4 Objective 250mm f & 400 mm f
5 Cold light co-axial illumination additional 10 spare bulbs
6 Solid metallic body with sturdy stand riding on heavy castor wheels with locking breaks.
7 Halogen illuminations 150W with power supply.
8 Should have 3 spare lamps with each unit.

B. **Power Supply**
Power input to be 220-240VAC, 50Hz

Should be CE certified or FDA or BIS approved product.

Item No: 99

Analytical Balance 200 gm

1 Description of Function

1.1 Electronic Balance is required for precision weighing of Lab samples.

2 Operational Requirements

2.1 Microprocessor based single pan Analytical Balance with High accuracy & precision is required.
2.2 Reading of the weight by digital display.
2.3 Electronic top loading balance with transparent case
2.4 The balance should have functions of piece counting, percent weighing, formulation, dynamic weighing with automatic and manual start and provision for data interface.

3 Technical Specifications

3.1 Weigh accurately up to 3rd decimal place
3.2 Fully automatic time and temperature controlled internal calibration and balance should be capable to adjust itself
3.3 Auto zero Setting
3.4 Weighing capacity up to 120g
3.5 Readability 0.001g
3.6 Repeatability 0.09mg
3.7 Setting time 1.5 second
3.8 Suitable for internal and external adjustment weights
3.9 PC connectivity through RS 232 or Ethernet or Bluetooth or PS/2 for efficient data capture and easy network integration.
3.10 Balance should have

- Liquid Crystal Display (LCD) for display
- Stainless steel square weighing pan
- IR sensors for hands free operation
- warns if balance is not correctly levelled
- automatic and detachable draft shield
- Detachable and adjustable terminal
- QM tool box, including user administration and password protection
- Integrated automatic safety function for external routine operations
- Alphanumeric data entry of 4 ID’s

4 System Configuration Accessories, spares and consumables

4.1 As specified

5 Environmental factors

5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

5.2 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz

6.2 Suitable Auto voltage corrector with spike protector should be available.

6.3 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

6.4 Resettable overcurrent breaker shall be fitted for protection

7 Standards and Safety

7.1 Should be FDA or CE or ISI approved product

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

Item No: 100

Centrifuge clinical

Should accommodate Max. Volume of 90 ml (6 x 15ml)
Should have an maximum speed of 4,000 rpm
Should have an Max. RCF 1,900 x g
Should have an LCD display for displaying the parameters
Should have a Timer programmable from 0 to 30 minutes or continuous mode
Should have alarm facility
Rotor radius 10cm
Maximum Admiss.density 1.2 kg/dm3
Power supply – 220V 50Hz
Should be FDA or CE or BIS approved product

Item No: 101

WATER PURIFICATION SYSTEM

1. The tap water should pass through a pre-filtration unit comprising of 5 & 1 micron filter. The system should be suitable to draw water directly from the tap for purification. There should be no need for any additional booster pump.
2. The water purification system will deliver pure (Type II) & ultrapure water (type I) directly from tap water to eliminate the need of two different systems in the same laboratory.

3. The system should have three discrete units, Type II. Reservoir and Type I. So that even if one unit malfunctions, rest of the system can be used without any interruption.
4. The system should incorporate inexpensive and easily maintainable purification components that will save on the running cost of the system,
5. The built-in TOC monitor (range lppb-999ppb) should be present.
6. The ultrapure water system will have a built-in UV lamp with emission at 185 and 254 nm wavelength.
7. The system should be able to take feed water without limitation on quality of feed water.
8. A 30 liter reservoir should be provided,
9. The ultrapure water delivery should be from a built-in dispenser displaying the water parameters like TOC. Resistivity, volume of water dispensed etc.
10. The system should produce water of the following quality

Type I

Resistivity: >18.2 typically, TOC : < 5 ppb, Bacteria: < cfu/ml
Conductivity < 0.055 uS/cm, Flow Rate: upto 2 lit/min

11. The system should have a built in facility for automatic complete system sanitization. This will eliminate bio-film formation and extend the life of purification components.
12. The system should have dual identical purification stages that ensure the water quality even if one stage fails.
13. The system should have a built in 0,05 Micron filter to stop any bacteria from entering the product water. The Micro filter should have a minimum life of one year.
14. DQ /IQ /OQ Documents required.

Accessory

1. The accessory should provide ultrapure water with extremely low levels of elemental contamination (ppt or sub-ppt level) from ultrapure feed water system,
2. Before the delivery point system should be accommodated with 0.1micron charged 0.05 Micron in-line filter to avoid the risk of trace elements/particles.
3. The system should accompany a long tubing to deliver water directly to the laminar hood and a glass holder to hold the tubing.
4. Essential water quality information should be clearly visible at the point of delivery.
5. There should be no metallic parts in the system delivering water to the laminar flow hood.
6. Should accompany a footswitch for water delivery, reducing the risks of external contamination, as scientists do not need to remove their hands from a laminar flow hood.

Should be FDA or CE or BIS approved product

Item No: 102

CO2 incubator

Technical Specifications:-

- Steam jacket with internal capacity 120 L (Approx) or as per user demand
- Minimum of 4 adjustable shelves (or as per user requirement) with separate air tight doors should be available.
- Interior chamber: Stainless steel for easy cleaning and decontamination

- Stable temperature control, excellent uniformity, and rapid recovery with no overshoot. Fanless convection circulation to provide chamber homogeneity, eliminate vibration & reduce sample evaporation.
- HEPA Filters (99.98% efficient) at the inlet to minimize contamination.
- Timer: 1 min. to 100 hours
- Temperature range: +5° C to +80°C
- Temp Accuracy +/-0.5°C of required temp, with inbuilt Temperature Sensor.
- Audiovisual Alarm to Indicate when temperature deviates more than 0.5°C from set point, and when program or time has finished, Alarm may be muted.
- There should be a Membrane Keypad with LCD/LED to set and display operating parameters, current status, running time and alarm conditions for time and temperature.
- Internal glass door for the observation
- CO2 Range- 0-20%; CO2 Accuracy: 1- 0.5%; CO2 Inlet pressure 1.5 bars (app) and fast recovery after opening door.
- Compensation: Temperature compensation @ 0.5 ° C min and CO2 Compensation up to 5 % +/-0.5% in 5 minutes.
- High Humidity Chamber to achieve 95% RH, minimizing sample evaporation. Independent door heater to eliminate condensation on inner glass surfaces should be available.
- 72-Hour Data Storage for CO2 concentration, temperature alarms and door openings should be automatically recorded for on-screen display.
- Data output for data acquisition and printing.
- PC Connectivity through RS232C
- Communication protocols HL-7 for Networked environments to HIS
- Interior lighting facility, insulated door fitted with heavy hinges handles locking, mechanical door lock.
- Low water alarm indication
- On castors for easy movements

System Configuration Accessories, spares and consumables:

- System as specified-
- CO2 cylinders 2 nos. (capacity at least 30 kg) with regular (at least one) compatible to machine
  part

Environmental factors:

- The unit shall be capable of operating continuously in ambient temperature of 10 -45°C and relative humidity of 15-90%.

Power Supply:-

- Power input to be 220-240VAC; 50Hz fitted with plug, compatible with local electrical socket
- Resettable overcurrent breaker shall be fitted for protection
- Suitable voltage corrector/stabilizer
- Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

Standards and Safety:-

- Should be compliant to ISO 13485/1S0 9001 quality systems or equivalent

- Should be compliant with IEC 61010- I: covering safety requirements for electrical equipment for measurement control and laboratory use.
- Should be FDA or CE or ISI approved product
- Attach original manufacturer's product catalogue and specification sheet Photocopy / computer print will not be accepted. All technical data to be supported with original product data sheet. Please quote page number on compliance sheet as well as on technical bid corresponding to technical specifications.
- Comprehensive onsite training for lab staff and support services till familiarity with the system.

Documentation:

- Certificate of calibration and inspection from factory.
- List of Equipments available for providing calibration and routine maintenance support as per
  manufacturer documentation in service / technical manual.
- List of important spare parts and accessories with their part number and costing
- User / technical / maintenance manuals to be supplied;
- 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.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.

Item No: 103

FULLY AUTOMATED CLINICAL CHEMISTRY – LOW THROUGH PUT

1. SYSTEM: Floor/Bench top Model, Completely open, Discreet, Multi-channel, Random Access, With automatic rerun, automatic reflex testing and capable of performing tests like Enzymes, substrates, Serum Proteins, Electrolytes, TDM assays and Immunoturbidimetric etc.
2. THROUGH PUT: About 400 Photometric tests/Hour and about 600 Tests /Hour with ISE.
3. ASSAY MODES: End point, Rate, fixed point and ISE.
4. Analytical Methods: Colorimetry, turbidimetry, latex agglutination, homogeneous, ISE.
5. SAMPLE LOADING: Minimum of 50 sample positions with continuous Loading. Bar code reading facility for positive sample identification, real time test requisition downloading from host should be possible.
6. Cooled compartment for Standards and Controls.
7. SAMPLE CUPS: Primary and secondary tubes and paediatric cups
8. SAMPLE TYPES: Plasma, Urine, Serum, CSF etc.
9. STAT FACILITY: Facility for continuous loading of stat samples without interrupting the routine run. Minimum 20 STAT sample positions for very urgent samples.
10. SAMPLE VOLUME: 1 to 30 microliters in 1.0 microliter increment.
11. SAMPLE PROBE: Probe should have liquid level sensor .Sample clot detection and crash prevention facility should be available.
12. REAGENT DISK: Refrigerated reagent disk with minimum 50 positions.
13. ON-BOARD PARAMETERS TESTS: Minimum 50 on-board parameters tests.

14. REACTION VOLUME: Should be from 150ul to 300u1
15. REAGENT PROBE: Probe with liquid level sensors and washing facility. Probe crash detection should be available.
16. STIRRER: More than 2 on board variable speed stirrers should be available.
17. CUVETTES: Must have permanent hard glass. It should have the facility to change individual cuvettes.
18. CUVETTE WASHING: Automatic on-board washing.
19. PHOTOMETER: Wavelength ranging from 300 - 800 nm.
20. LAMP SOURCE: Halogen / Xenon Lamp.
21. QUALITY CONTROL: Real Time, Individual and cumulative quality control. Automatic QC programming required.
22. Water Plant: Compatible RO /water purification plant to be supplied.
23. SOFTWARE: Licensed Window XP or licensed equivalent.
24. DATA STORAGE: 50000 patient samples.
25. INTER FACE: Unidirectional and Bidirectional communication possible.
26. REAGENTS: Manufacturing company should have their own system reagents, controls and calibrators and the price list for the same should be enclosed with the price bid.
27. Accessories, reagents calibrator and control: company shall provide a list of accessories reagents calibrator and control to be use for running the instrument.
28. The equipment to be supplied should have FDA and CE certification and should have minimum 5 installations in reputed Institutes/labs in India.

Item No: 104

Fat Extraction Apparatus

1. Extraction Apparatus, fat, complete
2. Fat Extractor used to determine fat and oil content in samples.
3. Measurement based on AOAC methods.
4. Frame is constructed of anodized aluminium or better.
5. Power consumption 700 watt,
6. Spring-loaded heater elements operated by control knobs / Key pads with variable heat input from 20-100% capacity;
7. Red pilot light:
8. Metal condensers with Type 304 stainless steel heads with automatic pressure-release valves:
9. On/Off switch;
10. Control valve for connection to cold water supply;
11. Water outlet for connection to an open drain
12. Accessories

1. 12 borosilicate glass 100 ml beakers.
2. 6 alundum extraction thimbles,
3. 6 heat covers,
4. 6 cork gaskets,
5. 6 beaker rings.
6. 6 upper condenser gaskets,

7. 9 sample tubes,
8. 6 support stirrups and
9. 9 borosilicate glass reclaiming tubes.

- Should be FDA or CE or BIS approved product

Item No: 105

Incubator, Electric

Description of function

- Incubator is a closed chamber which heats/chill a sample at a preset temperature for long term for application like culture growth etc.

Operation requirement

- Microprocessor /Microcontroller /Microcomputer controlled system.

Technical specification

- Capacity: 120L with 2 compartments having light in each compartment with UV light.
- Interior chamber: Stainless steel for easy cleaning and decontamination.
- Timer 1 min to 100 hours and hold position.
- Minimum turbulence and no cross contamination.
- Adjustable safety thermostat for temperature, with inbuilt temperature sensor.
- Internal glass door for the observation.
- With minimum two adjustable shelves one with shaking facility (lower shelf).
- Audiovisual alarm to indicate when temperature deviates more than 1°C from set point, and when program or time has finished, Alarm may be muted.
- Peltier heating with continuous air circulation and heating by natural /forced convection for homogenous temperature distribution.
- Temperature range: +5 to 80 deg and variable shaking speed.
- There should be a membrane key pad with LCD/LED to set and display operating parameters. Current status, running time and alarm conditions for time and temperature.
- Interior lighting facility, insulated door fitted with heavy hinges handles locking, mechanical door lock.
- System Configuration Accessories, Spares and consumables.
- Flask holding tray of different volume 25 -500ml.

Power Supply

- Power input to be 220-240VAC 50Hz fitted with Indian plug
- Suitable UPS with maintenance free batteries for minimum one hour backup should be supplied with the system

Standards, Safety and Training

- Electrical safety conforms to standards for electricity safety IEC-60601/IS-13450
- Should be complaint to ISO 13485: Quality systems-Medical devices-Particular requirement for the application of ISO 9001 applicable to manufactures and service providers that perform their own design activities
- Should be FDA or CE approved product

Item No: 106

Biological safety cabinet

Description of Function

- Bio-safety cabinets are used to provide primary containments in the laboratory when the investigator is using potentially infectious materials

Operational requirements

- Protection for operator, environment and the product from the aerosols and microorganisms
- Microprocessor/Microcontroller/Microcomputer controlled system

Technical specification

- Outer body made of stain less steel with epoxy powder coated(dimension 4x2x3 feet with variation range +/- 3 inches
- HEPA filters with 99.999% efficiency for particles 0.3mm(H14 class according to ENI 822)
- Automatic speed compensation system against clogged main HEPA filter pre-filtration unit with retention of 10 to 15 micrometer
- Air circulation to vertical with 30% exhaust and 70% recirculation
- Single stainless steel perforated working platform
- Alarms for power failure and door opening
- Should be fitted with UV light > 800lux
- High speed centrifugal blower with lifetime lubricated
- Noise level <58dBA elapsed hour counter
- DOP test outlet
- Fluorescent lamp to obtain powerful glare free lighting
- On /Off switch with key lock
- Gas connection should be provided in the cabinet
- Quote for BOP tested HEPA filter separately

Power Supply

- Power supply – 220V 50Hz. Fitted with Indian plug
- Reset table over current breaker shall be fitted for protection
- Suitable serve stabilizer

Standards, Safety and Training

- Electrical safety conforms to standards for electricity safety IEC-60601/IS-13450
- Should be complaint to ISO 13485: Quality systems-Medical devices-Particular requirement for the application of ISO 9001 applicable to manufactures and service providers that perform their own design activities
- Should be FDA or CE or ISI approved product

Item No: 107

Intra Uterine Device Insertion Trainer

1. Hand-held IUD Insertion Trainer Uterus for demonstrating and perfecting IUD insertion technique.
2. Coronal section of uterus, ovaries, and fimbriae
3. Clear plastic window permits easy viewing of IUD

Item No: 108

Ultrasound machine - B/W with 3 Probes

1. New generation Digital Beam former with dynamic receiver transmitter.
2. Wide bandwidth transducer with system frequency ranging from 2.6 — 10.0 MHz.
3. At least 30 Exam presets.
4. System should Support Convex, Linear and Sector transducer.
5. Should have at least 100 frames/sec frame Rate
6. Integrated with minimum 12inch High resolution Monitor
7. At least 30 steps selectable Dynamic Range
8. B Mode, 2D and M Mode scanning Mode should be available.
9. Image processing - Edge enhancement, Persistence, Post processing, Frequency Selection as standard
10. System should have standard Tissue Harmonic Imaging, should be available in convex and Linear Transducers.
11. Zoom facility should be available with real time, frozen images and including cine replay, Up to X20 should available.
12. Post processing features should be possible on freeze and cine images, ie zoom, gray maps and measurements, Reports, pictograms and annotations
13. At least 50 annotations should be available.
14. At least 8 slide controls should be available.
15. Scanning depth of 2-24cm with 1 cm increment should be possible
16. Should have an integrated workstation with inbuilt storage having minimum 40GB HDD and inbuilt DVD RW for transferring images and reports
17. DICOM print and store should be offered as standard.
18. Up to two probes should be connected simultaneously.
19. Complete measurement package for Obs/Gyne, Urology, Surgery, Orthopaedics and small parts along with reports for each should be available.
20. Required transducers:

- Convex transducer (2.0 - 5.0Mhz) with at least three selectable fundamental frequencies, Two tissue Harmonic imaging frequencies and at least 128 element as standard
- Endocavity (4.0-9.0Mhz) Transducer user selectable frequency with 140° ROI
- Linear transducer (5.0-10.0 Mhz) with tissue harmonic imaging and at least 128 elements as standard

21. Standard accessories – UPS for system with 30 minutes back up
22. Should be FDA or CE or BIS approved product

Item No: 109

Portable Flash Autoclave

1. The water reservoir shall have a capacity that is sufficient for minimum 10 cycles.
2. The reservoir shall have a float that reads the level of the water that indicates on the display when the reservoir needs to be refilled.
3. The sterilization chamber shall have a capacity of at least 5 litres, constructed of stainless steel.

4. The sterilizer shall function with a micro - processor which controls a defined volume of distilled water that is pumped into a boiler, converted into steam, and then injected into the sterilizing chamber.
5. The micro processor shall accurately control and monitor the sterilizing temperature and pressure.
6. The sterilizer shall have a keypad, which controls the pre-set programs and the start control with a single touch
7. Unwrapped Cycle - To sterilize unwrapped instruments the sterilizing cycle shall be constant at 134°C for 3.5 minutes. The total cycle time including warm up, pressurization and de-pressurisation shall not be more than be 11 minutes.
8. Wrapped Cycle - To sterilize wrapped instruments the sterilizing cycle shall be constant at 134°C for 6 minutes. The total cycle time including warm up, pressurization and de-pressurisation shall not be more than 15 minutes.
9. Cycle for Delicate Items - To sterilize certain rubber, plastic and delicate items the sterilizing cycle shall be constant at 121 degrees C for 15 minutes. The total cycle time including warm up pressurization and de-pressurisation shall not be more than 24 minutes.
10. LCD Display for monitoring the systems throughout the processing cycle including the temperature, pressure and time elapsed.
11. The unit shall have the facility for a internal printer, external printer or data logger that captures the date, time, temperature and cycle number.
12. Power supply - 220V, 50 Hz
13. The product should be CE or FDA Certified

Item No: 110

Binocular microscope – For Student

Should be identical for student's labs with high quality optics, having 4 objectives- low, high, oil immersion and scanner lenses, Halogen /Tungsten light source.
Optical System:

- Infinitely corrected optics par focal, plan achromatic lenses with anti fungal properties.

Illumination:

- Built in transmitted Koehler illumination.
- □ 6 V, 20 to 30 WHalogen /Tungsten light source.
- Power supply: 220-240V 50Hz

Focusing:

- Stage height movement by roller guide (rack & pinion)
- Upper limit stopper
- Tension adjustable on coarse focus adjustment knob
- Revolving nosepiece
- Quintuple

Observation tube:

- Tube inclination – 30° / 45°
- □ Interpupillary distance adjustment range– minimum 50 to 70 mm
- Stage Movement range – (75+/-5) mm X - direction X (50+/-5)mm Y - direction

- Rectangular scratch resistant stage with right hand control with double slide holder and vernier scale on X Y axis.

Condenser
- Type – Abbe condenser
- N.A. >/=1.25
- Aperture iris diaphragm - built – in
- Objectives - Plan Achromat 4x, 10x, 20x, 40x & 100x (oil)

Eyepiece
- 10X with F.N 20
- All the necessary adapters and power cords should be provided for functioning of microscope.

Accessories:
1) Eyepiece with pointers
2) Eyepiece with millimeter scale grid

The product should be CE or FDA or BIS Certified

Item No: 111

TRINOCULAR MICROSCOPE WITH CAMERA FOR TEACHING

Frame
- Optical system – Infinity corrected optical system
- Focus - Stage height movement by roller guide (rack & pinion), stroke with coarse adjustment limit stopper, Stage mounting position variable, high sensitivity fine focusing knob.
- Illuminator - Built-in Koehler illuminator for transmitted light, 12V 100W halogen light source and built-in filters.
- Revolving nosepiece Interchangeable reversed quintuple nosepiece.

Observation tube
- Wide field trinocular, inclined 30°.

Stage
- Spill resistant, coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism.

Condenser
- Swing out Achromatic (N A. 0.9), for 1.25X- 100X (swing-out: 1.25X-4X)

Objectives

- 4x, 10x, 20x, 40x, 100x
- 40x and 100x should be spring loaded

Camera
- Photo system with beam splitter.
- Digital color CCD camera with suitable mount.
- Camera specification – 2/3” CCD 1.45 MP, 12bit, USB interface.

- Image management software with High Resolution TFT Monitor & Computer
- Computer specification –Intel I5 3rd generation processor ,8GB RAM ,500GB hard disk, licensed operating system and HD LED display screen.
- Facility to interface with HD LCD projector.

The product should be CE or FDA or BIS Certified

Item No: 112

Perimeters, with charts (Priestly Smith model)

1. Should have a calibrated arc, revolving chart holder.
2. Should be able to rotate in any direction and fix at any position with a tightening screw. The arc should be graduated from 0° to 90° with a movable test object.
3. At the back of the arc arrangement should be provided for fixing of chart which has concentric circles corresponding to the degrees of arc.
4. Adjustable chin rest.
5. The above mentioned should be fitted over a sturdy base with receptacle for keeping charts.
6. Should be supplied with 20 packets each containing consist of 100 charts
7. Accessories – Objects should be of minimum 2 sizes, round and square shaped and of 5 different colors.

The product should be CE or FDA or BIS Certified

Item No: 113

Opthalmoscope

- Turret Type
- Illumination: 3.5V, 2.8W Mini Halogen Bulb
- Recharging unit: Input Voltage: 220V ± 10%V
- Input Frequency should be 50 Hz ± 1Hz
- Input Power should be around 8VA
- Battery should be rechargeable
- Viewing Lenses: 0, ±1, ±2, ±3, ±4, ±5, ±6, ±8, ±10, ±12, ±16, ±20, -25, -35
- Apertures: Large Spot, Small Spot, Slit, Central Net, and Red-free

The product should be CE or FDA or BIS Certified

Item No: 114

Olfactometer

- Detection Technique: Human Nose
- Discrete Dilution Ratios: 2, 4, 7, 15, 30, 60 D/T's
- (Standard Dilution-to-Threshold Ratios)
- Response Time: As fast as 10-seconds or better(2 inhalations)
- Accuracy: +/- 10% of D/T
- Repeatability: +/- 2%
- Inhalation Rate: 16-20 liters per minute
- Operating Temperature Range: 32° to 104°F, 0° to 40°C
- Odor Filter Cartridge - of suitable size
- Nasal Mask – of suitable size
- Provision for 9 inlet and outlet port.

- Power supply - 220V,50Hz

The product should be CE or FDA or BIS Certified

Item No: 115

Thermal aesthesiometer

- Should microprocessor controlled
- Should have computer connectivity for data logging.
- Should work on the temperature range of 5 Deg to 55 Deg
- Should have sampling rate of 18 samples/sec
- Should have a starting temperature 25° to 40°
- Temperature increment rate 0.2 deg/s to 2.5 deg/s
- Temperature decrement rate 0.2 deg/s to 2.5 deg/s
- Delay between the repeats should be 3 to 30 secs
- Power supply – 220v 50Hz
- The product should be CE or FDA or BIS Certified

Item No: 116

Electronic Von frey aesthesiometer

- Electronic von Frey is used to assess mechanical allodynia with rigid tips (threshold) and the flexible von Frey hairs are used for sensory test on all test subjects.
- Should plug up to 3 probes into a single unit.
- The systems should be supplied with 90, 800 and 1000 gram probe.
- Should be supplied with limit indicator with all probes.
- Should measure, store and display your test readings in grams based upon the amount of pressure applied.
- Should be calibrated at the factory.
- Should have MRI Probe.
- Should have LCD Readout.
- The product should be CE or FDA or BIS Certified

Item No: 117

DALE'S ORGAN BATH FOR INTERNAL ORGANS

Technical Specifications

- Dale's tissue organ bath should record intestinal movements and effects of drugs
- Should be thermostatically controlled with stirrer, Uprights, glass inner vessel & Oxygen tube with platinum tip, warming coil and frontal lever from SS capillary tubing.
- With chemical thermometer 0° c - 100° c
- The product should be CE or FDA or BIS Certified

Item No: 118

LAB REFRIGERATORS

- Capacity range 300-380L.
- Temperature 2-8^{o}C
- Preferably roller mounted
- Adjustable shelves
- Battery backup
- Durable rust free exterior
- Durable unbreakable interior
- Control panel with temperature alarm, on/off switch and digital thermometer,
- Interior lighting, Drip tray and defrosting arrangement .
- Adequate circulation of air to ensure even cooling by DUCT system
- Door with lock. Inside of door provided with racks. Door hinges and latches should be chromium plated.
- Control panel with temperature alarm, ON /OFF switch with power on indicator, digital thermometer, temperature display.
- Electronic automatic temperature control,
- Operable at 220 V, 50 Hz, single phase AC supply.
- Compressor unit to be hermetically sealed with guarantee for at least five years.
- Training of laboratory staff for the purchased equipment
- Availability of spares/ disposables for at least 10 years.
- All consumables required for installation and standardization of system to be given free of cost.
- List of users and satisfactory report of quoted model from reputed institute preferably Government institute/ hospitals
- Should have all the accessories required for the functioning of the equipment.
- CE / ISI mark or other equivalent quality certification.
- All electrical peripherals required for smoothes functioning e.g. voltage stabilizer provided with the equipment
- There should be provision for demonstration before final approval of equipment.

Item No: 119

Refrigerated centrifuge

- High speed refrigerated table top centrifuge, microprocessor controlled, freely programmable, spin control with LC graphic display screen (for centrifugation in angle rotors, swing out rotors and micro titer plate rotors)
- Max speed: 30,000 rpm, Max RCF: 65400 x g
- Max capacity: 6 x 85ml
- Temperature: -20°C to +40°C, CFC free refrigeration
- Single knob operation or equivalent key pad operation
- Maintenance free, noiseless, brushless induction motor drives
- Pre selection of run parameter in terms of RPM and RCF
- Pre selection of time up to 10 Sec,9 Hrs and 59 Min or continues
- 20 curves of acceleration and deceleration
- 10 freely programmable Accel / Deaccl curves with graphic display
- Storing of at least 50 run protocols
- Free programming of all parameters

- Self diagnostics error messages and alarms
- Display for end of rotor life
- Magnetic rotor identification and imbalance sensor
- Motorized lid locks and interlocks
- Facilities for automatic lid open after the run cycle
- Operates on 230V/50Hz power supply
- Angle rotor 10 x 10 ml, incl. cover max 26000 RPM; RCF: 57,450 x g
- Angle rotor 24 x 2.2/1.5ml,max .26000 RPM: RCF: 61990 x g
- Angle rotor 6 x 50ml. (Falcon) incl. cover max 14000 RPM; RCF: 20,380 x g
- Adapter for 1 x 15 ml culture tubes (set of 2)
- Swing out rotor 4 place without bucket, Max 5000 rpm: RCF: 3,770 x g
- The product should be CE or FDA or BIS Certified

Item No: 120

Electronic muscle stimulator

- Should do elicitation of muscle contraction using electric impulses
- Should be solid state microprocessor controlled unit with digital timer and intensity display
- Microprocessor controlled pulse duration 0.3,1,10,30,100,300ms
- Pulse repetitive Frequency: 0.3,1,3 seconds
- Intensity variation: 0 to 130volts
- Output Voltage: 100 ACV to 260 ACV
- Protection Class - I complies with IEC 601-1
- Accessories - Electrode set
- Power supply – 220 to 240 VAC, 50Hz
- The product should be CE or FDA or BIS Certified

Item No: 121

Specification of Stimulator, Isolator & Recorder system

The system should have the four component ie, stimulator, isolation unit for stimulation, average and an oscilloscope.

The system should be able to record electromyography, evoked potentials (motors, somatosensory, visual and auditory), monosynaptic reflexes from rats, mice and rabbits.

1) The stimulator should

- Have single pulse and train stimulation modes
- Provide option of current or voltage stimulation
- Current stimulation range of 1µA-100mA and voltage stimulation range of 0.01 -50V
- Provide stimulation frequency from 0.01 – 1000 pulses per sec
- Provide stimulation delay of 0.01 – 100ms
- Provide stimulation pulse duration of 0.01-100ms
- Be able to stimulate auditory and photic stimulation unit

2) The Isolation unit should be separate from the stimulation unit and should have

- Input and output ports
- Different modes(voltage and current with range in µV-V and µA –mA
- Allow fine adjustment for volts /current
- Adjustment for anodal and cathodal stimulation

3) The average should be a separate unit and should

- Be able to average between 1 to 9999 pulses
- Be compatible with and have input/outputs ports for stimulator and oscilloscope
- Have the option for manual calibration
- Have reset and read out option

4) The oscilloscope should

- Have at least 4 channels with options for up gradation of channel numbers
- Have option for external as well as auto triggering source
- Have low cut filter to be varied from 0.01 Hz – 200 Hz
- Have high cut filter to be varied from 10Hz -20KHz
- Have AC and DC adjustment option
- Have the option for manual calibration
- Have time scale range 1µs – 2 sec and sensitivity range range 1µV-5V
- Have option for online recording/saving the response
- Have a common mode input impedance > 1000 M ohm

Ear phone for auditory animal stimulation and photic stimulation
Sub-dermal needle electrodes 1000nos
Trolley to keep all units
UPS of 2 KVA
The product should be CE or FDA or BIS Certified

Item No: 122

Physiograph – three channel

Console with time & Event channel and stimulator for human experiments
Couplers
Strain gauge - 1 No.
Isotonic - 1 No.
Pulse respiration - 1 No.
Temperature - 1 No.
EKG (Clinical) with electrode.1 No. ,5 pin junction and belly
Biopotential (with electrodes, 1 No.s, 3 pin junction box, pastes and electrodes for action potential)

Transducers:
Pressure – 1 No.s
Volume – 1 No.s
Muscle activity /Force – 1 No.s
Respiration belt – 1 No.s
Isotonic Fine movement – 1 No.s
Pulse – 1 No.s
Respiration (Thermister type) – 1 No.s
Temperature – 1 No.s
Accessories: Following accessories are supplied along with each console:
Chart paper Z folds 250 folds 10 no.s
Fuses 10 no.s
Instruction manual
Earthing codes 01. No.s
Extra pen with Cradles 01 no.s
Ink ½ Ltr
Machine cover 01 no.s
The product should be CE or FDA or BIS Certified

Item No: 123

Water Purification System

Ultrapure water purification system:- Water quality required for molecular biology, tissue culture/HPLC application. The system should have three discrete units, Type II. Reservoir and Type I. So that even if one unit malfunctions, rest of the system can be used without any interruption.

Prefilter Unit:

- A prefilter unit with 1 & 5 micron filter to remove particulate motor and booster pump for feed pressure
- RO grade water system
- Prefilter with anti scaling and activated carbon reverse osmosis
- Conductivity cell monitoring event before RO stage
- Feed water handling of conductivity upto 2000 micro S/cm

Water quality:

- Flow rate: 2 L/hr
- Organic ion removal upto 99%
- Resistivity: 5-15 M ohm cm,TOC <30ppb, Collodal index SDI<3
- Feed water pressure bar : 0-5L capacity
- Electrical feed voltage 90-230V +-10% , 50 Hz

Ultrapure water machine producing water of the following quality:

- Output /Flow rate upto : 1 litre/min
- Conductivity of 0.055micro s/cm
- Resistivity of 18.2 M ohm cm
- Bacteria cfu/ml < 1
- Particles: < 1/ml@0.1um
- TOC: <5ppb
- Endotoxin: <0.001 EU/ml

Accessories: One set of Catridges / Filters extra
The product should be CE or FDA or BIS Certified

Item No: 124

LANGENDROF'S APPARATUS

The Langendorff system is designed as a perfusion system for isolated, small mammalian hearts. Some special features of the system include the stainless steel sink, the small reeling pump and specially designed two-way Teflon taps
Retrograde perfusion of isolated hearts from mouse, rat, guinea pig, hamster and rabbit
a) Measurements in constant pressure or constant flow mode on the same device
b) Equipped with two columns for using different buffers
c) Capable of recording aortic pressures as high as 250mmHg
d) Equipped for measuring left ventricular pressure (LVP)
e) Ports in the system are available for measuring pressure, flow, temperature and mechanical activity, and for the infusion or injection of drugs
f) Continuous filling of buffer columns with use of a pump
g) Continuous oxygenation of buffers
h) Water-jacketed system for precise temperature control
System should Included:

- Table with base plate, shelf, sink
- Console
- Perfusion buffer column
- Glass overflow tube Teflon tap set
- Heart suspension unit
- Heart chamber
- Spindle syringe
- Pressure sensor holders (2)
- Oxygenation bubbler set
- Oxygenation pressure equalizer set
- Latex pressure balloons for left ventricular pressure (LVP) catheter
- 2-channel peristaltic pumps (2)
- Circulating water bath
- Pressure transducers with cables (2)

The product should be CE or FDA or BIS Certified

Item No:125

PHYSIOGRAPH SINGLE CHANNEL WITH STANDARD ACCESSORIES

- Should be able to record simple muscle and nerve responses to nerve stimulations
- It should be made of light metal for compactness and lightness.
- Student Physiograph should be single channel console with 9 speed (.5,1,2,5,10,20,25,30 & 50 mm/sec) chart drive, time & event markers and appropriate transducers and stimulator
- Couplers: Strain Gauge and isotonic
- Transducers: Pressure, volume, muscle activity/ force, Isotonic fine movement

Accessories, spares and consumables

- Earth Lead
- Ink bottle
- EP to EP lead
- Perpex pen
- Steel wire
- Motor Belt
- III Pin junction box, action potential electrode
- V-pin junction box
- Chart paper Z- fold
- Fuse
- Cover

Power Supply

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

The product should be CE or FDA or BIS Certified

Item No: 126

ECG machine 12 channel

1. Real-time recording and printing of 12-channel ECG waveform
2. Graphic display of 12-Channel ECG waveform
3. Light, compact with A4 size thermal recorder
4. Simultaneous acquisition of 12-lead ECG data

5. Built-in analysis software of age which assures accurate analysis result
6. Auto-measurement, auto-interpretation, waveform playback and storage of ECG data
7. RS232 and USB interface cope with data-share or remote data management requirement
8. Option wireless function makes more convenient communication with PC
9. User friendly operation system
10. Literal and graphic operation interface
11. Powerful filters to minimize interference
12. Heart rate measurement and pace-maker protection circuit
13. Multiprinting formats: manual & automatic, standard 12 channel, 3 channel plus
3 rhythm lead, 6 channel, 6 channel plus rhythm lead, 60s analysis of arrhythmia, R-R histogram, trend graph
14. AC, DC or built-in lithium battery power supply, alarm of battery weak and lead-off
15. Tremendous ECG data can be saved in built-in SD card
16. 20 boxes of disposable electrodes
17. Certifications and standards: FDA / CE / UL / BIS approved product
18. Manufacturer should be ISO certified for quality standards.

Item No: 127

ECG Machine Single Channel

1 Description of Function
1.1 ECG Machine is primary equipment to record ECG Signal in various configurations

2 Operational Requirements
2.1 The ECG Machine should be able to acquire all 12 Leads ECG signals
2.2 Should print all the 12 leads in a single channel mode
3 Technical Specifications
3.1 Should acquire 12 lead ECG for both adult and pediatric patients .
3.2 Should have Artifact, AC, and low and high pass frequency filters.
3.3 Should have an integrated-high resolution, thermal array printer for print of ECGs
3.4 Should have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge
4 System Configuration Accessories, spares and consumables
4.1 System as specified-
4.2 Patient cable -02
4.3 Chest Electrodes Adult-(set of six) -2 sets.
4.4 Chest Electrodes Pediatric-(set of six) -2 sets
4.5 Limb Electrodes (set of 4)- 02 sets for Adult and 02 sets for Pediatrics.
4.6 Thermal print paper: 10 Rolls/Z Fold
5 STANDARDS
5.1 The product should be CE or FDA or BIS Certified

Item No: 128

Algometer:

1. Accuracy should be ±3% of reading
2. LCD Display should be 5 digits,
3. Display Update should be 8 per second
4. Power: 220 VAC charger
5. Should have rechargeable battery
6. Battery backup should be up to 50 hours

7. Tip Size should be 1 cm^2
8. Should have Bi-Directional RS232 (include RS232-USB convertor) communication with the computer
9. Should have auto calibration facility
10. Should have internal memory of 500 data
11. Should have USB patient response unit to record patient response during stimulation
12. The product should be CE or FDA or BIS Certified

Item No: 129

KYMOGRAPH

- Should run on electric motor,
- Speed should be adjustable with the minimum 2.5 mm/sec to maximum 640 mm/sec,
- Shaft with the groove on one side and screw lift at the top,
- Gear for adjusting the speed,
- Clutch to change the gear,
- Contact button with the striker or contact arms,
- Drum 15 x 15 cm,
- Levelling screw.
- The product should be CE or FDA or BIS Certified

Item No: 130

EEG machine

1) Capability to display and record at least 32 channels EEG along with necessary electrodes cables with input impedance more than 10 M Ohms
2) Facility to measure and display electrode impedance during recording
3) Electrode junction box for connection and electrode cap for placing, holding the electrodes with facility to have two linked system reference electrodes
4) Sampling rate of at least 200Hz and amplitude resolution at least 12 bit with dynamic range of +/-2mv
5) Adjustable display paper speed with minimum range of 1-60mm/sec, adjustable channel sensitivity with minimum range of 0.1-100Hz and facility for adjustable filters for display during review.
6) Notch filter of 50 Hz with minimum attenuation ratio of 1:20
7) LCD TFT monitor of minimum 15" for data and waveform display
8) Integrated hardware and software for sorting patient data, comments and annotation simultaneous display of two segments of same records for comparison, calculation of coherence between user selectable channels
9) Built – in digital calibration as well as bio calibration.
10) Suitable selector montages for 32 channels should be included.
11) Disk space to record least 12 hours of data continuously in all channels at optimum sampling rate.
12) Stimulation protocol for hyperventilation, eye closure manual and programmable photic stimulation protocols (minimum frequency range: 05-30Hz)
13) Should have printing device to print with 25-30 mm horizontal scaling with 200 data point per second
14) Upgradability to video EEG and polysomnography
15) UPS: 2 KVA
16) The product should be CE or FDA or BIS Certified

GENERAL TECHNICAL SPECIFICATIONS

GENERAL POINTS:

1. Warranty:

   a) Two years Comprehensive Warranty as per Conditions of Contract of the TE document for complete equipment (including Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey Work from the date of satisfactory installation, commissioning, trial run & handing over of equipment to Hospital/Institution/Medical College.
   b) 98% up time Warranty of complete equipment with extension of Warranty period by double the downtime period on 24 (hrs) X 7 (days) X 365 (days) basis.
   c) All software updates should be provided free of cost during Warranty period.

2. After Sales Service:

   After sales service centre should be available at the city of Hospital/Institution/Medical College on 24 (hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 8 hrs. The service should be provided directly by Tenderer/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply.

3. Training:

   On Site training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the consignee.

4. Annual Comprehensive Maintenance Contract (CMC) of subject equipment with Turnkey:

   a) The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment (including Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey (if any). The supplier shall visit each consignee site as recommended in the manufacturer's technical/ service /operational manual, but at least once in six months during the CMC period
   b) The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
   c) Cost of CMC will be added for Ranking/Evaluation purpose. The same will be taken at Net Present Value with a 10% discounting factor each year.
   d) The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee for 2.5 % of the cost of the equipment as per Section XV valid till 2 months after expiry of entire CMC period.
   e) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.
   f) During CMC period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
   g) All software updates should be provided free of cost during CMC.
   h) Failure of the above [4. e) to 4. g)] by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.
   i) The payment of CMC will be made as stipulated in GCC Clause 21.

Turnkey:

Turnkey is indicated in the technical specification of the respective items, wherever required. The Tenderer shall examine the existing site where the equipment is to be installed, in consultation with HOD of Hospital/Institution/Medical College concerned. Turnkey details of each Hospital/Institution/Medical College are given at the end of Technical Specification. The Tenderer to quote prices indicating break-up of prices of the Machine and Turnkey Job of each Hospital/Institution/Medical College. The Turnkey costs may be quoted in Indian Rupee will be added for Ranking Purpose.

The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such duties and taxes and no claim for the same will be entertained later.

The Turnkey Work should completely comply with AERB requirement, if any.

Note 1: Tenderer's attention is drawn to GIT clause 18 and GIT sub-clause 11.1 A (iii). The tenderer is to provide the required details, information, confirmations, etc. accordingly failing which it's tender is liable to be ignored.

Note 2: General: Bidders are requested to make sure that they should attach the list of equipments for carrying out routine and preventive maintenance wherever asked for and should make sure that Electrical Safety Analyzer / Tester for Medical equipments to periodically check the electrical safety aspects as per BIS Safety Standards IS-13540 which is also equivalent to IEC electrical safety standard IEC-60601 is a part of the equipments. If the Electrical Safety Analyzer/Tester is not available they should provide a commitment to get the equipments checked for electrical safety compliance with Electronic Regional Test Labs / Electronics Test and Development Centres across the country on every preventive maintenance call.

Section – VIII
Quality Control Requirements

(Proforma for equipment and quality control employed by the manufacturer(s)

Tender Reference No.

Date of opening

Time

Name and address of the Tenderer:

Note: All the following details shall relate to the manufacturer(s) for the goods quoted for.

01 Name of the manufacturer
- a. full postal address
- b. full address of the premises
- c. telegraphic address
- d. telex number
- e. telephone number
- f. fax number

02 Plant and machinery details

03 Manufacturing process details

04 Monthly (single shift) production capacity of goods quoted for
- a. normal
- b. maximum

05 Total annual turn-over (value in Rupees)

06 Quality control arrangement details
- a. for incoming materials and bought-out components
- b. for process control
- c. for final product evaluation

07 Test certificate held
- a . type test
- b . BIS/ISO certification
- c . any other

08 Details of staff
- a. technical
- b skilled
- c unskilled

Signature and seal of the Tenderer

Section – IX
Qualification Criteria

01. The tenderer must be a manufacturer. In case the manufacturer does not quote they shall give reasons for not quoting directly. They may authorise their agent as per proforma of Manufacturer authorization form as given in the tender enquiry document to quote and enter into a contractual obligation.

2. (a) The Manufacturer should have supplied and installed in last **Five** years from the date of Tender Opening, at least 33% of the quoted quantity of the similar equipment meeting major parameters of technical specification which is functioning satisfactorily. (For equipments which are consumable in nature, as identified in the list of requirement, proof of delivery/acceptance by consignee/purchaser shall also be considered acceptable)

2. (b) The Tenderers quoting as authorized representative of the manufacturer meeting the above criteria 2 (a) should have executed at least one contract in the last five years from the date of tender opening of similar equipment meeting major parameters of technical specification which is functioning satisfactorily, anywhere in India of the same manufacturer

Note:

1. The tenderer shall give an affidavit as under:

   "We hereby certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchaser in addition to forfeiture of the earnest money."

2. In support of 2 (a) & 2 (b), the Tenderer shall furnish Performance statement in the enclosed Proforma 'A'.

   The manufacturer (Tenderer) / Indian Agent shall furnish Satisfactory Performance Certificate in respect of above, duly translated in English and duly notarized in the country of origin, alongwith the tender.

3. The Tenderer shall furnish a brief write-up, packed with adequate data explaining and establishing his available capacity/capability (both technical and financial) to perform the Contract (if awarded) within the stipulated time period, after meeting all its current/present commitments. The Tenderer shall also furnish details of Equipment and Quality Control in the enclosed Section VIII.

4. Notwithstanding anything stated above, the Purchaser reserves the right to assess the Tenderer's capability and capacity to perform the contract satisfactorily before deciding on award of Contract, should circumstances warrant such an assessment in the overall interest of the Purchaser.

5. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre determined place acceptable to the purchaser for technical acceptability as per the tender specifications, before the opening of the Price Tender.

PROFORMA 'A'

PROFORMA FOR PERFORMANCE STATEMENT

(For the period of last five years)

Tender Reference No. : _____

Date of opening : _____

Time : _____

Name and address of the Tenderer : _____

Name and address of the manufacturer : _____

Order placed by (full address of Purchaser/ Consignee)	Order number and date	Description and quantity of ordered goods and services	Value of order (Rs.)	Date of completion of Contract		Remarks indicating reasons for delay if any	Have the goods been functioning Satisfactorily (attach documentary proof)**
				As per contract	Actual		
1	2	3	4	5	6	7	8

We hereby certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchser in addition to forfeiture of the earnest money.

Signature and seal of the Tenderer

**** The documentary proof will be a certificate from the consignee/end user with cross-reference of order no. and date in the certificate along with a notarized certification authenticating the correctness of the information furnished. If at any time, information furnished is proved to be false or incorrect, the earnest money furnished will be forfeited**

Section – X
TENDER FORM

Date_____

To

Head (P&CD), HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector - 62, Noida -201307, Uttar Pradesh

Ref. Your TE document No. _____dated _____

We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. _____, dated _____ (*if any*), the receipt of which is hereby confirmed. We now offer to supply and deliver_____ *(Description of goods and services)* in conformity with your above referred document for the sum of _____ (total tender amount in figures and words), as shown in the price schedule(s), attached herewith and made part of this tender.
If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery schedule specified in the List of Requirements.
We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract.
We agree to keep our tender valid for acceptance as required in the GIT clause 20, read with modification, if any in Section - III – "Special Instructions to Tenderers" or for subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal contract is executed, this tender read with your written acceptance thereof within the aforesaid period shall constitute a binding contract between us.
We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.
We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities.
We confirm that we fully agree to the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum if any

(Signature with date)

(Name and designation) Duly authorised to sign tender for and on behalf of

SECTION – XI PRICE SCHEDULE

A) PRICE SCHEDULE FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN LOCATED WITHIN INDIA

1	2	3	4	5							6
Schedule	Brief Description of Goods	Country of Origin	Quantity (Nos.)	Price per unit (Rs.)							Total Price (at Consignee Site) basis (Rs.)
				Ex - factory/ Ex -warehouse /Ex-showroom /Off - the shelf (a)	Excise Duty (if any) [%age & value] (b)	Sales Tax/ VAT(if any) [%age & value] (c)	Packing and Forwarding charges (d)	Inland Transportation, Insurance for a period including 3 months beyond date of delivery, loading/ unloading and Incidental costs till consignee's site (e)	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site (f)	Unit Price (at Consignee Site) basis (g) =a+b+c+d+e+f	4 x 5(g)

Total Tender price in Rupees: _____

In words: _____

Note: -

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warranty shall be quoted separately as per Section – XI – Price Schedule C

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

C) PRICE SCHEDULE FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD

1	2	3	4					5
Schedule No.	**BRIEF DESCRIPTION OF GOODS**	**QUANTITY. (Nos.)**	**Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.**					**Total Annual Comprehensive Maintenance Contract Cost for 5 Years [3 x (4a+4b+4c+4d+4e)]**
			1st	**2nd**	**3rd**	**4th**	**5th**	
			a	**B**	**c**	**d**	**e**	

*** After completion of Warranty period**

NOTE:-

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
2. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment and Turnkey (if any).
3. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of CMC will be added for Ranking/Evaluation purpose.
5. The payment of CMC will be made as per clause GCC clause 21.1 (D).
6. The uptime warranty will be 98 % on 24 (hrs) X 7 (days) X 365 (days) basis or as stated in Technical Specification of the TE document.
7. All software updates should be provided free of cost during CMC period.
8. The stipulations in Technical Specification will supersede above provisions
9. The supplier shall keep sufficient stock of spares required during Annual Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

D) PRICE SCHEDULE FOR TURNKEY

Schedule No.	BRIEF TURNKEY DESCRIPTION OF GOODS	CONSIGNEE CODE	Turnkey price

Note: -

1. The cost of Turnkey as per Technical Specification (Section VII) may be quoted on lump sum along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
2. Cost of Turnkey will be added for Ranking/Evaluation purpose.
3. The payment of Turnkey will be made as per clause GCC clause 21.1 (c).
4. The stipulations in Technical Specification will supersede above provisions

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

SECTION – XII

QUESTIONNAIRE

Fill up the Section XX – Check List for Tenderers and enclose with the Tender

1. The tenderer should furnish specific answers to all the questions/issues mentioned in the Checklist. In case a question/issue does not apply to a tenderer, the same should be answered with the remark "not applicable".

2. Wherever necessary and applicable, the tenderer shall enclose certified copy as documentary proof/ evidence to substantiate the corresponding statement.

3. In case a tenderer furnishes a wrong or evasive answer against any of the question/issues mentioned in the Checklist, its tender will be liable to be ignored.

SECTION – XIII

BANK GUARANTEE FORM FOR EMD

Whereas _____ (hereinafter called the "Tenderer") has submitted its quotation dated _____ for the supply of _____ (hereinafter called the "tender") against the purchaser's tender enquiry No. _____ Know all persons by these presents that we _____ of _____ (Hereinafter called the "Bank") having our registered office at _____ are bound unto _____ (hereinafter called the "Purchaser) in the sum of _____ for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____day of _____ 20____. The conditions of this obligation are:

1) If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
    a) fails or refuses to furnish the performance security for the due performance of the contract or
    b) fails or refuses to accept/execute the contract or
    c) if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty-five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

…….
(Signature with date of the authorised officer of the Bank)
…….
Name and designation of the officer
…….
…….
Seal, name & address of the Bank and address of the Branch

SECTION – XIV

MANUFACTURER'S AUTHORISATION FORM

Head (P&CD),
HLL Lifecare Limited, Procurement and Consultancy Division
B-14 A, Sector -62, Noida -201307, Uttar Pradesh

Dear Sir,

Ref: Your TE document No _____ dated _____

We, _____ who are proven and reputable manufacturers of_____(*name and description of the goods offered in the tender*) having factories at_____, hereby authorise Messrs_____(*name and address of the agent*) to submit a tender, 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 also state that we are not participating directly in this tender for the following reason(s):
_____*(please provide reason here).*

We further confirm that no supplier or firm or individual other than Messrs. _____ (*name and address of the above agent*) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.
We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorised agent

We also confirm that the price quoted by our agent shall not exceed the price which we would have quoted directly"

Yours faithfully,

[*Signature with date, name and designation*]
for and on behalf of Messrs_____
[*Name & address of the manufacturers*]

Note: 1. This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.
2. Original letter may be sent.

SECTION – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

Head (P&CD),
HLL Lifecare Limited, Procurement and Consultancy Division
B-14 A, Sector -62, Noida -201307, Uttar Pradesh

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of contract no_____ dated _____ to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of. _____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid up to 30 (thirty) months from the date of Notification of Award i.e. up to ---------- (indicate date)

…….
(Signature with date of the authorised officer of the Bank)
…….
Name and designation of the officer
…….
…….
Seal, name & address of the Bank and address of the Branch

SECTION – XVI

CONTRACT FORM - A

CONTRACT FORM FOR SUPPLY, INSTALLATION, COMMISSIONING, HANDING OVER, TRIAL RUN, TRAINING OF OPERATORS & WARRANTY OF GOODS

(Address of the Purchaser's/Consignee's
office issuing the contract)

Contract No_____ dated_____

This is in continuation to this office's Notification of Award No_____ dated _____

1. Name & address of the Supplier: _____
2. Purchaser's TE document No_____ dated_____ and subsequent Amendment No_____, dated_____ (if any), issued by the purchaser
3. Supplier's Tender No_____ dated_____ and subsequent communication(s) No_____ dated _____ (if any), exchanged between the supplier and the purchaser in connection with this tender.
4. In addition to this Contract Form, the following documents etc, which are included in the documents mentioned under paragraphs 2 and 3 above, shall also be deemed to form and be read and construed as integral part of this contract:

   (i) General Conditions of Contract;
   (ii) Special Conditions of Contract;
   (iii) List of Requirements;
   (iv) Technical Specifications;
   (v) Quality Control Requirements;
   (vi) Tender Form furnished by the supplier;
   (vii) Price Schedule(s) furnished by the supplier in its tender;
   (viii) Manufacturers' Authorisation Form (if applicable for this tender);
   (ix) Purchaser's Notification of Award

   Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under clause 1 of Section II – 'General Instructions to Tenderers' of the Purchaser's TE document shall also apply to this contract.

5. Some terms, conditions, stipulations etc. out of the above-referred documents are reproduced below for ready reference:
   (i) Brief particulars of the goods and services which shall be supplied/ provided by the supplier are as under:

Schedule No.	Brief description of goods/services	Accounting unit	Quantity to be supplied	Unit Price	Total price	Terms of delivery

Any other additional services (if applicable) and cost thereof: _____

Total value (in figure) _____ (In words) _____

(ii) Delivery schedule

(iii) Details of Performance Security

(iv) Quality Control

(a) Mode(s), stage(s) and place(s) of conducting inspections and tests.

(b) Designation and address of purchaser's inspecting officer

(v) Destination and despatch instructions

(vi) Consignee, including port consignee, if any

6. Warranty clause
7. Payment terms
8. Paying authority

_____

(Signature, name and address
of the Purchaser's/Consignee's authorised official)
For and on behalf of_____

Received and accepted this contract

(Signature, name and address of the supplier's executive
duly authorised to sign on behalf of the supplier)
For and on behalf of _____
(Name and address of the supplier)

(Seal of the supplier)
Date: _____

Place: _____

CONTRACT FORM – B

CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT

Annual CM Contract No._____ dated_____
Between

(Address of Head of Hospital (AIIMS)
And

(Name & Address of the Supplier)

Ref: Contract No_____ dated_____ (Contract No. & date of Contract for supply, installation, commissioning, handing over, Trial run, Training of operators & warranty of goods)

In continuation to the above referred contract

9. The Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

1	2	3	4					5
Schedule No.	**BRIEF DESCRIPTION OF GOODS**	**QUANTITY. (Nos.)**	**Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.**					**Total Annual Comprehensive Maintenance Contract Cost for 5 Years [3 x (4a+4b+4c+4d+4e)]**
			1st	**2nd**	**3rd**	**4th**	**5th**	
			a	**b**	**c**	**d**	**e**	

Total value (in figure) _____ (In words) _____

b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from_____ (date of expiry of Warranty) and will expire on _____ (date of expiry of CMC)

c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years as contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts, _____ & _____) and Turnkey (if any).

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

e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.

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

g) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. _____ [(fill amount) equivalent to 2.5 % of the cost of the equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of

21 (twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Purchaser/Consignee.

h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.

i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HOD concerned. The payment will be made in Indian Rupees.

j) **Paying authority:** _____ (name of the consignee i.e. Hospital (AIIMS) authorised official)

_____

(Signature, name and address of Hospital (AIIMS) authorised official)
For and on behalf of_____

Received and accepted this contract

(Signature, name and address of the supplier's executive duly authorised to sign on behalf of the supplier)
For and on behalf of _____
(Name and address of the supplier)

(Seal of the supplier)
Date: _____
Place: _____

SECTION – XVII

CONSIGNEE RECEIPT CERTIFICATE
(To be given by consignee's authorized representative)

The following store(s) has/have been received in good condition:

1) Contract No. & date :_____

2) Supplier's Name :_____

3) Consignee's Name & Address with telephone No. & Fax No. : _____

4) Name of the item supplied :_____

5) Quantity Supplied :_____

6) Date of Receipt by the Consignee :_____

7) Name and designation of Authorized Representative of Consignee :_____

8) Signature of Authorized Representative of Consignee with date :_____

9) Seal of the Consignee :_____

SECTION – XVIII
Proforma of Final Acceptance Certificate by the Consignee

No_____ **Date_____**

To

M/s _____
_____
_____

Subject: Certificate of commissioning of equipment/plant.

This is to certify that the equipment(s)/plant(s) as detailed below has/have been received in good conditions along with all the standard and special accessories and a set of spares (subject to remarks in Para no.02) in accordance with the contract/technical specifications. The same has been installed and commissioned.

(a) Contract No_____ dated_____

(b) Description of the equipment(s)/plants: _____

(c) Equipment(s)/ plant(s) nos.:_____

(d) Quantity: _____

(e) Bill of Loading/Air Way Bill/Railway Receipt/ Goods Consignment Note no_____ dated _____

(f) Name of the vessel/Transporters:_____

(g) Name of the Consignee:_____

(h) Date of commissioning and proving test:_____

Details of accessories/spares not yet supplied and recoveries to be made on that account.

Sl. No.	Description of Item	Quantity	Amount to be recovered

The proving test has been done to our entire satisfaction and operators have been trained to operate the equipment(s)/plant(s).

The supplier has fulfilled its contractual obligations satisfactorily ## or

The supplier has failed to fulfil its contractual obligations with regard to the following:

a) He has not adhered to the time schedule specified in the contract in dispatching the documents/ drawings pursuant to 'Technical Specifications'.

b) He has not supervised the commissioning of the equipment(s)/plant(s)in time, i.e. within the period specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
c) The supplier as specified in the contract has not done training of personnel.

The extent of delay for each of the activities to be performed by the supplier in terms of the contract is
The amount of recovery on account of non-supply of accessories and spares is given under Para no.02.
The amount of recovery on account of failure of the supplier to meet his contractual obligations is_____ (here indicate the amount).

(Signature)
(Name)
(Designation with stamp)

Explanatory notes for filling up the certificate:

i) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.
ii) He has supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the time specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
iii) Training of personnel has been done by the supplier as specified in the contract.
iv) In the event of documents/drawings having not been supplied or installation and commissioning of the equipment(s)/plant(s) having been delayed on account of the supplier, the extent of delay should always be mentioned in clear terms.

SECTION – XIX
ANNEXURES

Annexure 1

Deleted being domestic tender

SECTION – XX
CHECKLIST
Name of Tenderer:
Name of Manufacturer:

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
1. a.	Have you enclosed EMD of required amount for the quoted schedules?			
b.	In case EMD is furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	In case Bank Guarantee is furnished, have you kept its validity of 165 days from Techno Commercial Tender Opening date as per clause 19 of GIT?			
2. a.	Have you enclosed duly filled Tender Form as per format in Section X?			
b.	Have you enclosed Power of Attorney in favour of the signatory?			
3.	Are you a SSI unit, if yes have you enclosed certificate of registration issued by Directorate of Industries/NSIC			
4. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			
5. a.	Have you submitted satisfactory performance certificate as per the Proforma for performance statement in Sec. IX of TE document in respect of all orders?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
b.	Have you submitted copy of the order(s) and end user certificate?			
6.	Have you submitted manufacturer's authorization as per Section XIV?			
7.	Have you submitted prices of goods, turnkey (if any), CMC etc. in the Price Schedule as per Section XI?			
8.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
9. a.	In case of Indian Tenderer, have you furnished Income Tax Account No. as allotted by the Income Tax Department of Government of India?			
b.	In case of Foreign Tenderer, have you furnished Income Tax Account No. of your Indian Agent as allotted by the Income Tax Department of Government of India?			
10.	Have you intimated the name an full address of your Banker (s) along with your Account Number			
11.	Have you fully accepted payment terms as per TE document?			
12.	Have you fully accepted delivery period as per TE document?			
13.	Have you submitted the certificate of incorporation?			
14.	Have you accepted the warranty as per TE document?			
15.	Have you accepted terms and conditions of TE document?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
16.	Have you furnished documents establishing your eligibility & qualification criteria as per TE documents?			
17	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening?			

N.B.

1. All pages of the Tender should be page numbered and indexed.
2. The Tenderer may go through the checklist and ensure that all the documents/confirmations listed above are enclosed in the tender and no column is left blank. If any column is not applicable, it may be filled up as NA.

3. It is the responsibility of tendered to go through the TE document to ensure furnishing all required documents in addition to above, if any.

(Signature with date)

(Full name, designation & address of the person duly authorised sign on behalf of the Tenderer)
For and on behalf of

(Name, address and stamp of the tendering firm)

Section – XXI
Consignee List

Consignee Code	Medical Institutions	Contact Address.	Air Port	Sea Port
Bhopal	All India Institute of Medical Science, Bhopal	The Director, All India Institute of Medical Science, Near Saket Nagar Bhopal-462020	New Delhi	Kolkata
Bhubaneswar	All India Institute of Medical Science, Bhubaneswar	The Director, All India Institute of Medical Science, AIIMS-Bhubaneshwar Near Biju Patnaik Police Academy Village-Sijua Bhubaneshwar-751019, Orissa	Kolkata	Kolkata
Jodhpur	All India Institute of Medical Science, Jodhpur	The Director, All India Institute of Medical Science, Basani Ph-2 Jodhpur-342005, Jodhpur	New Delhi	Kandla
Patna	All India Institute of Medical Science, Patna	The Director, All India Institute of Medical Science, AIIMS-Patna, Phulwari Sharif, Infront of DAV School, WALMI, Danapur Patna-801105, Bihar	Kolkata	Kolkata
Raipur	All India Institute of Medical Science, Raipur	The Director, All India Institute of Medical Science, AIIMS-Raipur, Old TB Hospital, Tatibandh Raipur-492001, Chattisgarh	Kolkata	Kolkata
Rishikesh	All India Institute of Medical Science, Rishikesh	The Director, All India Institute of Medical Science, AIIMS-Rishikesh, Barrage Road, Pashulok Rishikesh-249203, Uttarakhand	New Delhi	Kandla

NB: The consignee will ensure timely issue of NMIC, CDEC, Octroi Exemption Certificates, Road Permits & Entry Tax Exemption Certificates, wherever applicable, to the suppliers.