

GOVERNMENT MEDICAL COLLEGE  
BALANGIR - 757001, ODISHA

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BID DOCUMENT

FOR

SUPPLY, INSTALLATION, COMMISSIONING  
AND MAINTENANCE

OF

LABORATORYEQUIPMENTS

AND

SUPPLY OF MODELS, CHARTS, SPECIMEN,  
CHEMICALS & REAGENTS,  
CONSUMABLES & DISPOSABLES ETC.

ON RATE CONTRACT

Reference No. 42/17-18/GMCH(Blng) Date: 26.10.2017

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#### A. Notice Inviting Bid

1. Bids are invited from eligible Bidders (Manufacturers/ Authorized Dealers) interested to Supply, Install, Commission & Maintain Laboratory Equipment and Supply Models, Charts, Specimen, Chemicals & Reagents, Consumable & Disposables etc. to Government Medical College , (District Head Quarter Hospital) Balangir-757001, Odisha vide a contract with specific terms and conditions as prescribed.
2. Interested Bidders can download the bid document containing detailed terms & conditions, scope and eligibility criteria from the official website: [www.dmetodisha.gov.in](http://www.dmetodisha.gov.in). The cost of the bid document for Rs.5,000/- (Rupees Five Thousand) only (non-refundable) shall be submitted along with the technical bid in the form of Demand Draft/ Pay Order from any Nationalized/ Scheduled Bank in India in favour of Dean & Principal, Government Medical College , Balangir, payable at Balangir.
3. The bids (both technical and financial) by eligible Bidders shall reach the Office of the undersigned within due date and time (i.e. 18.11.2017 up to 5-00 P.M.) in the prescribed format and manner. All bids must be accompanied by an EMD as specified in the Table in Point No.1 above. Electronic bidding is not permitted. Bids received after due date and time shall be rejected. Bids shall be received only through registered post/ speed post/ courier service.
4. Bids are invited under 4 (FOUR) Lots in this bid document i.e.
  1. Lot-1: Common High Value Items (26 Items)
  2. Lot-2: Department-wise High Value Items (9 Packages/ 119 Items)
  3. Lot-3: Department-wise Low Value/ Consumables/ Reagents/ Glassware Items (8 Packages)
  4. Lot-4 Department-wise Models, Charts & Specimens (6 Packages)
5. The informations to bidders for all the Lots are contained in a single bidding document. Bidders need not purchase more than one bid document even if they want to bid for more than one Lot.
6. The bidders have to submit information in the Proforma attached as Annexure I.
7. Delivery Sites are mentioned in Schedule of Requirement with Specification.

8. Key Information & Important Dates:

Sl. No.	Particulars	Information
1.	Start Date for sale or availability of bid document in the official website	28.10.2017
2.	Cost of bid document (non-refundable)	Rs.5,000/- (Rupees Five Thousand) Only to be paid along with Technical Bid.
3.	Date & Time for Pre-Bid Meeting	08.11.2017, 2-00 P.M.
4.	Venue of Pre-Bid Meeting	Office of the Dean & Principal, Government Medical College , Balangir-757001 Odisha
5.	Last date and time for receipt of bids	20.11.2017, up to 5-00 P.M.
6.	Date and time of opening of Technical bids	22.11.2017, 2-00 P.M.
7.	Venue of Bid Opening Meeting	Office of the Dean & Principal, Government Medical College , Balangir-757001 Odisha
8.	EMD	As mentioned under Point no.19 (EMD)
9.	Address for submission of bids	Office of the Dean & Principal, Government Medical College , Balangir-757001 Odisha
10.	Date and time of opening of Financial bids	To be intimated to the technically qualified bidders

Note: In case the closing date for sale of bid document or/ and date for Pre-Bid Meeting or/ and last date for receipt of bids happens to be a holiday for Government Medical College , Balangir for any reason, the activity will be held on the immediate next working day at the same time & place.

Sd/-  
Dean & Principal  
Government Medical College , Balangir

## B. Eligibility Criteria

The interested Bidders shall have to comply to the following criteria to participate in the tendering process -

1. The bidder should either be an Importer or Authorized Distributor or Original Manufacturer and must have successfully supplied the equipments similar to the type specified in this bid document up to at least 100% of the quantity required in any one or all of the last 3 Financial Years i.e. 2014-15 to 2016-17 to Government / Private Medical College or Central Government Autonomous Institutions, on the last date of bid submission.
2. The manufacturer should be in continuous business of manufacturing equipments similar to that specified in this bid document during the last three years prior to the last date of bid submission.
3. The equipments for supply must be of the most recent series models incorporating the latest technology and design.
4. The manufacturer should be ISO 9001 or ISO 13485 certified for design, development and manufacturing of the items under Lot 1 and Lot 2. In case of the items under Lot 3 and Lot 4, the ISO certification is not mandatory.
5. The bidder shall furnish the information on all past supplies and satisfactory performance for 1 above in the Proforma under Annexure III.
6. The bidder has to furnish a Declaration on Rs.10 Non-Judicial Stamp paper stating to set up a Registered Service Center by own company or some agency or a JV/ tie up with any existing registered Service centre for Medical Equipments in the state of Odisha. And that the Service center details will be furnished within 2 months of getting the PO. Also the declaration should state that the Service centre so established shall also cater to the spare parts requirement of the Consignee as per the tender requirement.
7. Financial Capability: The Minimum required average annual turnover in respect of the bidder in the last 3 Financial Years i.e. 2013-14, 2014-15 & 2015-16 or 2014-15, 2015-16 & 2016-17 is as follows –
  - a) Lot 1: Common High Value Items - Rs.10 Crore
  - b) Lot 2: Department-wise High Value Items - Rs.10 Crore
  - c) Lot 3: Department-wise Low Value/ Consumables/ Reagents/ Glassware Items/Chemicals - Rs.5 Crore
  - d) Lot 4: Department-wise Models, Charts & Specimens - Rs.2 Crore

8. All bids submitted shall also include the following information along with specified formats:
- (i) Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm, etc.
  - (ii) Copies of Purchase Orders for the similar equipments supplied during last 3 Financial Years i.e. 2014-15 to 2016-17.
  - (iii) Copies of Performance Certificates indicating satisfactory operation of similar equipments supplied during last 3 Financial Years i.e. 2014-15 to 2016-17.
  - (iv) Documentary evidence showing the bidder is providing annual maintenance service for such equipments in at least two centers in the country for over one year as on the last date of bid submission.
  - (v) A brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required equipments within the specified time of completion after meeting all their current commitments.
  - (vi) Details of Service Centers in Annexure IV and information on service support facilities that would be provided after the warranty period.
  - (vii) Reports on financial standing of the Bidder such as Profit and Loss Statements, Balance Sheets and Auditor's Reports for the past three (3) Financial Years i.e. 2013-14 to 2015-16 or 2014-15 to 2016-17.
  - (viii) Copies of PAN Card, Service Tax Registration Certificate, Up to date VAT Clearance Certificate, etc.
  - (ix) Affidavit in Annexure V that the bidder has not been debarred/ blacklisted by any Govt./ Semi-Govt./ Public Sector/ Corporate Organization.

### C. General Conditions of Contract

#### 1. General:

1.1 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

1.2 Government Medical College , Balangir is not responsible for the completeness of the Bidding Documents and their addendum/ corrigendum, if any.

2. Clarification on Bidding Documents:

A prospective Bidder requiring any clarification on the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than the pre-bid meeting, to be held on 06.11.2017 by 2-00 P.M.. The Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the due procedures.

3. Amendment of Bidding Documents:

3.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum.

3.2 Any amendment issued shall be part of the Bidding Documents and shall be communicated in the Website and institution Notice board.

3.3 To give prospective Bidders reasonable time in which to take an amendment into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids.

4. Cost of Bidding:

The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

5. Language of Bid:

5.1 The Bid as well as all correspondences and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.

5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.



## 6. Documents Comprising the Bid:

The Bid shall comprise the following:

- (a) Technical Bid:
  - i. Cost of Bid Document for Rs.5,000/- (Rupees Five Thousand) only in shape of B.D., payable to the Dean & Principal, Government Medical College , Balangir, payable at **Balangir**;
  - ii. EMD;
  - iii. Written confirmation authorizing the signatory of the Bid to commit the Bidder;
  - iv. Documentary evidence establishing the Bidder's eligibility to bid;
  - v. Documentary evidence that the Goods and Related Services conform to the Bidding Documents;
  - vi. Manufacturers' authorization form.
  - vii. Any other document required in the Bid Document other than Financial Bid;
- (b) Financial Bid:

Financial Bid in the Format at Annexure VI/1, Annexure VI/ 2 and Annexure VI/ 3.

## 7. Alternative Bids

Alternative bids shall not be considered.

## 8. Bid Prices:

### 8.1 Rate Contract:

8.1.1 This is a Rate contract Bid, the rate of which will be valid for a period of two years from the date of finalization of rate contract. However, the approx. quantity requirement is mentioned in the Schedule of Requirement – Section IV, which may increase or decrease. The bidders are expected to quote their best rates for the items. The technical specification, approx. quantity and locations, under the first instance of supply are also mentioned in this bid document. During the rate contract period, only Government Medical College , Balangir is authorized to place purchase orders for the supply of item (s) to be procured under this bid during the validity of the rate contract period.

8.1.2 If the Tender Inviting Authority chooses to place repeat order (s) during the rate contract period for supply of the item (s), then the successful bidder is bound to supply the same as approved at the same rates and under the same terms and conditions of this bid.

8.1.3 The bidders can't withdraw their bid within the minimum bid validity period of 180 days after the last date of submission of bid and also after accepting the Letter of Intent or entering into the rate contract agreement with Government Medical College , Balangir Issue of purchase order.

8.2 Prices shall be quoted as specified in the Financial Bid. The disaggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered.

8.3 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified in this bid document. A Bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected. However, if in accordance with the bid document, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

8.4 Prices should be quoted for Laboratory Equipments & Other Instruments as well as CMC for 3 years (wherever applicable), otherwise bids shall be rejected. Evaluation shall be made taking into consideration both the cost of Laboratory Equipments and CMC for 3 years (wherever applicable).

#### 9 Currencies of Bid:

The Bidder shall quote in Indian Rupees only.

#### 10 Documents Establishing the Conformity of the Goods and Related Services:

10.1 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid, the documentary evidence that the Goods conform to the technical specifications and standards specified in Annexure VII.

10.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the technical specifications.

10.3 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in this bid document following commencement of the use of the goods by the Purchaser.

10.4 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in this bid document, if any, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/ or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in this bid document.

#### 11 Documents Establishing the Qualifications of the Bidder:

The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:

(a) that, if a Bidder is the Original Equipment Manufacturer (OEM) of the Goods it offers to supply shall submit the Manufacturer's Offer Form using the form included in Annexure VIII;

(b) that, if a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Annexure IX to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods;

(c) that the Bidder meets each of the qualification criterion specified in Eligibility Criteria.

(d) Bids from Joint Ventures are not acceptable

#### 12. Period of Validity of Bids:

12.1 Bids for supply, installation & commissioning of high value items shall remain valid for a period of 180 days after the last date of submission of bid prescribed by the purchaser. The CMC is to be valid for 2 years from installation. The validity of low cost items including Models, Charts, Specimen, Chemicals & Reagents, Consumables and disposables etc., which would be procured on rate contract basis is to be valid up to 2018-19 financial year. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.



12.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. The EMD shall also be requested to be extended for a corresponding period. A Bidder may refuse the request without forfeiting its EMD. No Bidder shall be required or permitted to modify its bid.

### 13. Format and Signing of Bid:

13.1 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall be indicated by written Power of Attorney accompanying the bid.

13.2 Any interlineations, erasures or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

### 14. Submission, Sealing and Marking of Bids:

14.1 Bidders shall have the option of submitting their bids only through registered post/ speed post/ courier service.

- (a) The bid shall be submitted in a sealed envelope with clear inscription as "BID FOR SUPPLY, INSTALL, COMMISSION & MAINTAIN LABORATORY EQUIPMENT AND SUPPLY MODELS, CHARTS, SPECIMEN, CHEMICALS & REAGENTS, CONSUMABLE & DISPOSABLES ETC.", on top of it before due date and time.
- (b) The bid shall be in two parts i.e. Cover-A and Cover-B. "Cover-A" shall contain the Technical Bid and "Cover-B" shall contain the Financial Bid.
- (c) Technical Bid and Financial Bid shall be submitted separately in sealed covers with clear inscription as "TECHNICAL/ FINANCIAL BID FOR SUPPLY, INSTALL, COMMISSION & MAINTAIN LABORATORY EQUIPMENT AND SUPPLY MODELS, CHARTS, SPECIMEN, CHEMICALS & REAGENTS, CONSUMABLE & DISPOSABLES ETC" on top of respective covers and both the sealed envelopes shall be sealed in a third envelop with required inscription on it as mentioned in Clause (a) above.

14.2 The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Purchaser;
- (c) bear the specific identification of this bidding process and
- (d) bear a warning not to open before the time and date for bid opening.

14.3 If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

14.4 Telex, Cable or Facsimile bids will be rejected as non-responsive.

15. Deadline for Submission of Bids:

15.1 Bids must be received by the Purchaser at the address and no later than the date and time specified in the bid document i.e. 5-00 P.M. of 18.11.2017. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up to the appointed time on the next working day.

15.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

16. Late Bids:

The Purchaser shall not consider any bid that arrives after the deadline for submission of bids i.e. 5 P.M. of 18.11.2017. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected and returned unopened to the Bidder.

17. Withdrawal, Substitution, and Modification of Bids:

17.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney). The corresponding substitution or modification of the bid must accompany the respective written notice.

All notices must be:

- (a) submitted in accordance with the respective clauses of this bid document and in addition, the respective envelopes shall be clearly marked "Withdrawal," "Substitution," or "Modification;" and
- (b) received by the Purchaser prior to the deadline prescribed for submission of bids i.e. 5-00 P.M. of 18.11.2017.

17.2 Bids requested to be withdrawn shall be returned unopened to the Bidders.

17.3 No bid may be withdrawn, substituted or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder in the bid submitted or any extension thereof.

18. Cost of Bid Document:

18.1 The bidder shall submit along with the Technical Bid, the cost of Bid Document for Rs.5,000/- (Rupees Five Thousand) only (non-refundable) in the form of Demand Draft/ Pay Order from any Nationalized/ Scheduled Bank in India in favour of Dean & Principal, Government Medical College , Balangir, payable at **Balangir**.

18.2 Any bid not accompanied by cost of Bid Document for Rs.5,000/- (Rupees Five Thousand) only shall be rejected by the Purchaser as non-responsive.

19. EMD:

19.1 The bidder shall submit along with the Technical Bid, EMD as mentioned below only in form of Demand Draft/ Pay Order/ Bank Guarantee from any Nationalized/ Scheduled Bank in India in favour of Dean & Principal, Government Medical College , Balangir, payable at **Balangir**. As per the below criteria on total quoted value:

1. Less than Rs.20 Lakh: Rs.50,000/-
2. Between Rs.20 Lakh to Rs.1 Crore: Rs.1.5 Lakh
3. More than Rs.1 Crore: Rs.3 Lakh

In case of Bank Guarantee, it must be submitted in the prescribed format as at Annexure XIII, which is to be valid for a period of at least 45 days beyond the validity period of the bids.

19.2 Any bid not accompanied by the requisite Cost of Bid Document and EMD shall be rejected by the Purchaser as non-responsive.

19.3 The EMD of the unsuccessful bidders shall be returned once the successful bidder deposits the Performance Security and signs the Contract.

19.4 In case of the successful bidder, the EMD shall be adjusted towards Performance Security. The successful bidder shall deposit the balance amount (after adjustment of EMD) towards Performance Security.

19.5 EMD of a bidder may be forfeited:

- (a) If the bidder:
  - (i) withdraws its bid during the period of bid validity; or
  - (ii) does not accept the correction of errors requested by the Purchaser, or,
- (b) if the successful Bidder fails to:

(i) furnish the Performance Security; or

(ii) sign the Contract;

## 20. Technical Bid Opening:

20.1 The Purchaser shall conduct the bid opening in public at the address, date and time specified in this bid document i.e. Government Medical College , Balangir, Odisha-757001. In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

20.2 First, envelopes marked "Withdrawal" shall be opened and read out and the envelope with the corresponding bid shall not be opened and will be returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will not be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "Substitution" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "Modification" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only envelopes that are opened and read out at Bid opening shall be considered further.

20.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the presence of Cost of Bid Document, the presence of EMD and any other details as the Purchaser may consider appropriate. No Bid shall be rejected at Bid opening except late bids.

20.4 The Purchaser shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution or modification; and the presence or absence of Cost of Bid Document and EMD. The Bidders' representatives who are present shall be requested to sign the attendance sheet.



## 21. Financial Bid Opening:

21.1 The Financial Bids shall be opened of those bidders who will qualify in the technical evaluation.

21.2 Financial Bids shall be opened in the presence of the technically qualified bidders' representatives, who choose to attend in person at the address given below –  
Government Medical College , Balangir, Odisha-757001

Date of Opening of Financial Bids shall be intimated to the technically qualified bidders.

## 22. Confidentiality:

22.1 Information relating to the examination, evaluation, comparison and recommendation of contract award, shall not be disclosed to bidders or any other person not officially concerned with such process until publication of the Contract Award.

22.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison or contract award decisions may result in the rejection of its Bid.

22.3 From the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it shall do so in writing.

## 23. Clarification of Bids:

To assist in the examination, evaluation and comparison of the bids, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that changes the substance of the Bidder price of the bid shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the evaluation of the bids.

## 24. Responsiveness of Bids:

24.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.

24.2 A substantially responsive Bid is one that conforms to all the terms, conditions and specifications of the Bidding Documents without material deviation, reservation or omission. A material deviation, reservation or omission is one that:

- (a) affects in any substantial way the scope, quality or performance of the Goods and Related Services specified in the Contract; or
- (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (c) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

24.3 Bids from Agents, without proper authorization from the manufacturer shall be treated as non-responsive.

24.4 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

25. Nonconformities, Errors and Omissions:

25.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.

25.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non-conformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

25.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser, there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

25.4 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be rejected and the EMD may be forfeited.

## 26. Preliminary Examination of Bids:

26.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in the bid document have been provided and to determine the completeness of each document submitted.

26.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected and the EMD may be forfeited -

- (a) Cost of bid document in accordance with this bid document.
- (b) EMD in accordance with this bid document.
- (c) Financial Bid.

## 27. Examination of Terms and Conditions; Technical Evaluation:

27.1 Bids are invited for 4 (Four) Lots in this bid document. Evaluation will be done as follows –

- 1. Lot 1: Common High Value items - Item-wise
- 2. Lot 2: Department-wise High Value items - Package-wise
- 3. Lot 3: Department-wise Low Value/ Consumables/ Reagents/ Glass ware items - Package-wise
- 4. Lot 4: Department-wise Models, Charts & Specimens- Package wise

27.2 The Purchaser shall examine the bid to confirm that the Bidder has accepted all terms and conditions specified in Special Conditions of Contract without material deviation or reservation. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security, Warranty, Force Majeure, Limitation of Liability, Governing Law and Taxes & Duties will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

27.3 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with the provisions in the bid document, to confirm that all the

requirements specified in the bid document have been met without any material deviation or reservation. If required, the bidder may be requested for demonstration or sample verification of the items during the technical bid evaluation process.

27.4 If, after the examination of the terms and conditions and the technical bid evaluation including technical specification, the Purchaser determines that the Bid is not substantially responsive, it shall reject the Bid.

28. Financial Evaluation; Comparison of Bids:

The Purchaser shall compare the evaluated prices of all substantially technically responsive bids for each item in case of Lot 1 and for each Package in case of Lot 2, Lot 3 & Lot 4 to determine the lowest evaluated bid for each item in case of Lot 1 and for each Package in case of Lot 2, Lot 3 & Lot 4. Hence, the bidders are requested to quote for all the items of the individual Package under Lot 2, Lot 3 and Lot 4.

Prices shall be considered for evaluation like below –

The quoted rate should include excise / customs duty, transportation, insurance, packing & forwarding or any other incidental charges.

28.1 In case of bidders who have quoted CST (firms not registered under Odisha VAT), CST as mentioned in the Price Bid by the bidder shall be added to the quoted rate for price evaluation.

28.2 In case of bidders who have quoted VAT (firms registered under Odisha VAT), VAT as mentioned in the Price Bid by the bidder shall be excluded for price evaluation.

28.3 Entry Tax will not be considered for price evaluation.

28.4 After giving price preferences to eligible local MSE Units of Odisha.

28.5 As per the Govt. of Odisha Finance Deptt. Order No.13290/F dt.02.04.2013, “in comparing the cost of an article, if purchased from within the State with the price of similar article if purchased from outside the State, the amount of Odisha Sales Tax (OST), now VAT, shall be deducted from the total cost since it accrues back as revenue to the State. If after such deduction, the cost of articles to be purchased within the State is not more than the cost of including Central Sales Tax, transport and other charges of similar articles from outside the State, it would be economical to purchase articles within the State”.

28.6 The basic price, Installation cost (if any), CMC (wherever applicable as mentioned in list of item requirement) and Cost of reagents (wherever applicable) shall be taken into account for evaluation.

28.7 Bids which do not contain prices for CMC, wherever applicable, shall be rejected.

29. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids:

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

30. Award Criteria:

30.1 Contract for an Item/ a Package shall be awarded to the bidder whose bid will be determined to be substantially responsive and who has offered the lowest evaluated bid price for that Item/ Package as follows -

Lot 1: For each Item separately

Lot 2: For each Package separately

Lot 3: For each Package separately

Lot 4: For each Package separately

30.2 A bidder can be awarded contracts for more than one Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) if in more than one Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4), the bid of the bidder is determined to be substantially responsive and who has offered the lowest evaluated bid price for those Items (For Lot 1)/ Packages (For Lot 2, Lot 3 & Lot 4).

30.3 The Purchaser shall award multiple contracts to the Bidder that offers the lowest evaluated combination of bids (one contract per Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) and meets the eligibility criteria mentioned in this bid document.

The Purchaser shall take into account:

(i)The lowest-evaluated bid for each Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) and

(ii)The price reduction per Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) and the methodology for its application as offered by the Bidder in its bid.

30.4 In case more than one technically qualified bidders quote the same lowest price in case of an Item (For Lot 1)/ a Package (For Lot 2, Lot 3 & Lot 4), contract shall be awarded to the bidder for that Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) with the higher average annual turnover during the last 3 Financial Years i.e. 2013-14, 2014-15 & 2015-16 or 2014-15, 2015-16 & 2016-17or distributed among them as per Purchaser's discretion.

31. Purchaser's Right to Vary Quantities at Time of Award:

At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in this bid document, provided this does not exceed 15% of quantity mentioned in this bid document (rounded off to next full no.) and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

32. Notification of Award:

32.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted.

32.2 Along with the notification, the Purchaser shall send the successful Bidder the Agreement as at Annexure X and the Special Conditions of Contract.

32.3 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

33. Maintenance Service:

33.1 Free maintenance services shall be provided by the supplier during the period of warranty. After warranty period, annual maintenance and repairs of the entire system including supply of spares, etc. (excluding consumable items), wherever applicable, for next 36 months will be done by the supplier.

33.2 The supplier has to undertake routine maintenance service of the equipments mandatorily in every 6 months during the warranty period.

33.3 The maximum response time for a maintenance complaint from any of the destination specified in Annexure II (i.e. time required for supplier's maintenance engineers to report to the installations after a request call/ telegram/ fax is made or letter is written) shall not exceed 2 (Two) days.

33.4 It is expected that the average downtime of an item will be less than half the maximum downtime (i.e. defined as number of days for which an item of equipment is not usable because of inability of the supplier to repair it) as mentioned in the form of technical details. In case an item is not usable beyond the stipulated maximum downtime, the supplier will be required to arrange for an immediate replacement of the same till it is repaired. Failure to arrange for the immediate repair/ replacement, the supplier will be liable for penalty of Rs.2,500/- per day per item. The amount of penalty will be recovered from the Performance Security during warranty or annual maintenance period as the case may be.

34. Performance Security:

34.1 Performance Security shall be 10% of the contract value for equipments excluding Comprehensive Annual Maintenance Contract (CMC) Cost.

- 34.2 The successful bidder shall deposit the balance amount (after adjustment of EMD) towards Performance Security in the form of Demand Draft (DD)/ Pay Order (PO)/ Bank Guarantee as per Format in Annexure XI from any Nationalized/ Scheduled Bank in India in favour of Dean & Principal, Government Medical College , Balangir, payable at Balangir within 10 days of notification of award.
- 34.3 Performance Bank Guarantee shall be valid up to 60 days after the date of completion of performance obligations including warranty obligations. In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/ replaced material shall be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.
- 34.4 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD. In that event, the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.
- 34.5 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 34.6 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than sixty (60) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, but excluding CMC and following receipt of a Performance Security for 5% of the contract value for CMC.
- 34.7 The Performance Security for CMC shall be in the form of Demand Draft (DD)/ Pay Order (PO) from any Nationalized/ Scheduled Bank in India in favour of Dean & Principal, Government Medical College ,Balangir, payable at **Balangir**
- 34.8 The Performance Security for CMC shall be discharged by the Purchaser and returned to the Supplier not later than sixty (60) days following the date of Completion of the Supplier's performance obligations under the Contract for CMC.
35. Signing of Contract:  
Within ten (10) days of receipt of the Agreement, the successful Bidder shall submit the Performance Security and sign, date & return the Contract to the Purchaser.

### 36. Delivery Period:

The goods are required to be delivered within 60 days following the date of issue of purchase order. No credit will be given to deliveries before the earliest date and bids offering delivery after the final date shall be treated as non-responsive. Within this acceptable period there will not be any adjustment.

### D. Special Conditions of Contract

#### 1. Fraud and Corruption:

1.1 If the Purchaser determines that the Supplier and/ or any of its personnel or its agents or its consultants, service providers, suppliers and/ or their employees is engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Purchaser may, after giving 14 days notice to the Supplier, terminate the Supplier's employment under the Contract and cancel the contract, and the provisions of Clause 24 shall apply as if such expulsion had been made under Sub-Clause 24.1.

(a) For the purposes of this Sub-Clause:

- (i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party<sup>1</sup>;
- (ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation<sup>2</sup>;
- (iii) "collusive practice" is an arrangement between two or more parties<sup>3</sup> designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party<sup>4</sup>;

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<sup>1</sup> "Another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes Govt. and employees of other organizations taking or reviewing procurement decisions.

<sup>2</sup> "Party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

<sup>3</sup> "Parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.



(v) “obstructive practice” is

(a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of Government Medical College , Balangir’s inspection rights.

3.2 Should any employee of the Supplier be determined to have engaged in corrupt, fraudulent, collusive, coercive or obstructive practice during the purchase of the Goods, then that employee shall be removed.

## 2. Interpretation:

### 2.1 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

### 2.2 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

### 2.3 Non-waiver

(a) No relaxation, forbearance, delay or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

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<sup>4</sup>“Party” refers to a participant in the procurement process or contract execution.

- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

#### 2.4 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

#### 3. Notices:

- 3.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the bid document. The term "in writing" means communication in written form with proof of receipt.

- 3.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

#### 4. Governing Law:

The Contract shall be governed by and interpreted in accordance with the laws of the Govt. of India, Odisha General Financial Rules and Delegation of Financial Power Rules 1978 of Govt. of Odisha.

#### 5. Settlement of Disputes:

- 5.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

- 5.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified below.

The dispute settlement mechanism to be applied shall be as follows:

- (a) In case of Dispute or difference arising between the Purchaser and the supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator.
- (b) Arbitration proceedings shall be held at **Balangir**, Odisha, India and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (c) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.
- (d) Except otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute

5.3 Notwithstanding any reference to arbitration herein,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any money due the Supplier.

6. Inspection by Government Medical College , Balangir:

The goods supplied by the Supplier shall be inspected by the Purchaser prior to acceptance as described in Cl. 15 of Special Conditions of Contract.

7. Terms of Payment:

7.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as below –

(A) Equipments:

(a) On Delivery & Installation: 90% (Ninety Percent) of the contract price shall be paid by Bank transfer/ cheque on receipt of Goods and upon submission of the documents specified below -

(i) Two copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount;

(ii) Acknowledgement of receipt of goods from the Consignee;

(iii) Warranty Certificate;

(iv) Satisfactory installation/commissioning report

(b) On Final Acceptance: the remaining 10% (Ten Percent) of the Contract Price shall be paid within thirty (30) days after the date of the Acceptance Certificate issued by the Purchaser's representative in the proforma given in Annexure XII.

#### B. Comprehensive Annual Maintenance and Repair Cost (after warranty period)

7.1 Cost towards CMC shall be paid in equal quarterly installments within thirty days of receipt of claim at the end of each quarterly period, after completion of maintenance obligations of that quarterly period, at the rates quoted in the financial bid and as agreed.

7.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to the relevant Clauses in Special Conditions of Contract and upon fulfillment of all other obligations stipulated in the Contract.

7.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.

7.4 The payments shall be made in Indian Rupees to the Supplier under this Contract.

#### 8. Taxes and Duties:

The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

#### 9. Copyright:

The copyright of all drawings, documents and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

10. Confidential Information:

10.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any document, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.

10.2 The Purchaser shall not use such documents, data and other information received from the Supplier for any purpose unrelated to the contract. Similarly, the Supplier shall not use such documents, data and other information received from the Purchaser for any purpose other than the performance of the Contract.

10.3 The obligation of a party under Sub-Clauses 10.1 and 10.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with Govt. or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

10.4 The above provisions of this Clause 10 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

10.5 The provisions of this Clause 10 shall survive completion or termination, for whatever reason, of the Contract.

11. Sub-contracting:

Subcontracting is not allowed in this bid document.

## 12 Specifications and Standards:

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in this bid document.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in this bid document. During Contract execution, any change in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with the Special Conditions of Contract.

## 13 Packing and Documents:

- 13.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 13.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the Special Conditions of Contract, and in any other instructions ordered by the Purchaser.

## 14 Insurance:

- 14.1 Unless otherwise specified in the Special Conditions of Contract, the Goods supplied under the Contract shall be fully insured - against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in the manner specified in the Special Conditions of Contract.
- 14.2 Should any loss or damage occur, the Supplier shall -

- a) initiate and pursue claim till settlement, and
- b) promptly make arrangements for repair and/ or replacement of any damaged item/s to the satisfaction of the Purchaser and ensure supply/ commissioning as per terms of the contract, irrespective of settlement of claim by the underwriters.

#### 15 Inspections and Tests:

Inspection and tests prior to final acceptance are as follows:

- (i) The inspection of the goods shall be carried out to check whether the goods are in conformity with the technical specifications attached to the purchase order and shall be in line with the inspection/ test procedures laid down in the technical specifications and the manufacturer's warranty certificate. The purchaser will test the equipment after completion of the installation and commissioning at the site of the installation. The complete equipment should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
- (ii) The acceptance test will be conducted by the authorized person (s) of Government Medical College , Balangir, who will inspect and make recommendation on the specification of the equipments for acceptance by the Dean & Principal, Government Medical College , Balangir.

However, Dean & Principal, Government Medical College , Balangir, can co-opt any other subject matter specialist to facilitate the inspection. There shall not be any additional charges for carrying out acceptance tests. No malfunction, partial or complete failure of any part of hardware or excessive heating of motors attached to printers, drivers, etc. or bugs in the software should occur. All the software should be complete and no missing modules/ sections shall be allowed. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified. An average uptake efficiency of 98% for the duration of test period shall be considered as satisfactory.

- (iii) In the event of the equipment failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser.

## Manuals

- (a) Before the goods and equipments are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals of the goods and equipments. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- (b) The manuals shall be in the ruling language (English) and in such form and numbers as stated in the contract.
- (c) Unless and otherwise agreed, the goods and equipments shall not be considered to be complete for the purpose of taking over until such manuals have been supplied to the Purchaser.

For the System and Other Software the following will apply:

The Supplier shall provide complete and legal documentation of the equipments. The Supplier shall also provide licensed software for all software products, whether developed by it or acquired from others. The supplier shall also indemnify the purchaser against any levies/ penalties on account of any default in this regard.

Acceptance Certificates:

- (a) On successful completion of acceptability test, receipt of deliverables, etc. and after the purchaser is satisfied with the working on the system, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the systems.
- (b) The training as specified in this bid document shall be conducted by the supplier.

16 Liquidated Damage:

Except as provided under Clause "Force Majeure", if the Supplier fails to deliver any or all of the Goods by the Date (s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 1% (One percent) per week or part thereof up to a maximum of 4% (four percent) on the value of delayed goods or unperformed Services, so the maximum allowed penal period will be 4 (four) weeks. However, the Dean & Principal, Government Medical College & Hospital, Balangir reserves the right to allow an additional penal period of 4 (four) weeks



beyond the normal penal period (4 weeks) on the written request of the supplier with the condition that liquidated damage @ 1.5% will be charged for each week or part thereof during the extended penal period. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to Clause "Termination".

#### 17 Warranty:

- 17.1 The Supplier warrants that all the Goods are new, unused and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 17.2 Subject to Special Conditions of Contract Sub-Clause 12 (b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 17.3 The warranty shall be as specified in the detail list of requirement applicable for Lot 1 and Lot 2 items.
- 17.4 The Purchaser shall give notice to the Supplier stating the nature of any defect together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 17.5 Upon receipt of such notice, the Supplier shall expeditiously repair or replace the defective Goods or parts thereof within 15 days, at no cost to the Purchaser.
- 17.6 If having been notified, the Supplier fails to remedy the defect within 15 days of notice, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

#### 18. Patent Indemnity:

- 18.1 The Supplier shall, subject to the Purchaser's compliance with Special Conditions of Contract Sub-Clause 18.2 below, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the

Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

18.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in Special Conditions of Contract Sub-Clause 18.1 above, the Purchaser shall promptly give the Supplier a notice thereof and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

18.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

18.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

18.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

## 19. Limitation of Liability:

Except in cases of criminal negligence or willful misconduct,

- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement.

## 20. Change in Laws and Regulations:

- 20.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in India, where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/ or the Contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with Contract Price.
- 20.2 This clause will apply only to variations in VAT/ Octroi, etc. payable in India on the final product which is being supplied and not for the individual components / raw materials which go into the product.

## 21. Force Majeure:

- 21.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages or termination for default if and to the extent that its delay in performance

or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

21.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

21.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

## 22. Change Orders and Contract Amendments:

22.1 The Purchaser may at any time order the Supplier through notice in accordance Special Conditions of Contract Clause 3, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

22.2 If any such change causes an increase or decrease in the cost of or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/ Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

22.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

22.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

### 23. Extension of Time:

23.1 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to Special Conditions of Contract, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

23.2 Except in case of Force Majeure, as provided under Special Conditions of Contract Clause 21, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to Special Conditions of Contract Clause 16, unless an extension of time is agreed upon, pursuant to Special Conditions of Contract Sub-Clause 23.1 above.

### 24. Termination:

#### 24.1 Termination for Default:

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
  - (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract or within any extension thereof granted by the Purchaser pursuant to Special Conditions of Contract Clause 23;
  - (ii) if the Supplier fails to perform any other obligation under the Contract; or
  - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in Special Conditions of Contract Clause 1, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to Special Conditions of Contract Clause 24.1 (a) above, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the

Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

24.2 Termination for Insolvency:

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

24.3 Termination for Convenience:

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) to have any portion completed and delivered at the Contract terms and prices; and/ or
  - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

25. Assignment:

Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

SCHEDULE OF REQUIREMENT WITH TECHNICAL SPECIFICATION

A) **LOT-1 SCHEDULE OF REQUIREMENT FOR COMMON ITEMS**

Sl.	Item Name	Qty.	Warranty	CMC Required (3years after warranty)
1	Monocular Microscope	265	2 Years	YES
2	Binocular Microscope	116	2 Years	YES
3	Research Binocular Microscope	19	2 Years	YES
4	Semi automatic Rotary Microtome	5	2 Years	YES
5	Incubator	12	2 Years	YES
6	Hot plate	7	2 Years	YES
7	Hot air oven	10	2 Years	YES
8	Analytical weighing balance	17	2 Years	YES
9	Water still for distilled water	9	2 Years	YES
10	Stethoscope	48	2 Years	YES
11	BP Apparatus	54	2 Years	YES
12	Digital pH meter	11	2 Years	YES
13	pH meter (hand held)	6	2 Years	YES
14	Water bath	30	2 Years	YES
15	Autoclave	7	2 Years	YES
16	Water distillation plant (Glass)	7	2 Years	YES
17	Centrifuge Machine	21	2 Years	YES
18	Elisa Reader and Washer	5	2 Years	YES
19	Deep freezer	4	2 Years	YES
20	Automatic Tissue Processor	1	2 Years	YES
21	5-Part Diff Random Access Hematology Analyser	1	2 Years	YES
22	Parafin Embedding Bath	1	2 Years	YES
23	Micropipettes Set (Variable Volume)	4	2 Years	NO
24	Octapipette Set ( 8 channel )	1	2 Years	NO
25	Micropipettes Set (Fixed Volume)	21	2 Years	NO
26	Automatic Slide Stainer	1	2 Years	YES

1. MONOCULAR MICROSCOPE

- Should be CE / BIS approved product
- Should have sturdy stand with convenient location of focus controls
- The monocular tube should be 45 degrees inclined, and 360 degrees rotatable,
- Should be an integrated wide field eyepiece- 10x,18mm with foldable eye guard,
- Should have an anti-fungus coating,
- Should have quadruple nose piece with ball bearings with rubber grip.

- Objectives should be semi-plan, achromatic, 4x ,10x, 40x, 100x spring loaded, oil immersion with anti-fungus coating,
- Should have a mechanical stage of dimension: 135x125 mm, with low dry coaxial control, ball bearing slides with graduated scale,
- Should have an SS holder for slide 75x50mm movement.
- Should have coaxial coarse and fine focusing system with ball bearing guide ways.
- Should have an abbe condenser,
- Should have NA 1.25 with aspheric lens,
- Should have an iris diaphragm with removable blue filter.
- LED illumination with variable intensity control.
- Input 220v – 240V , AC

## 2. BINOCULAR MICROSCOPE

Product should be CE certified.

Illumination:

- Built in transmitted Koehler illumination.
  - 6 V, 20 W LED bulb
  - Should work on voltage 220-240V AC.

Focusing:

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

Revolving nosepiece:

Quadruple click-stop, revolving mechanism with multiple ball bearings; Elastic nosepiece grip-ring

Observation Tube: All DIN type

Binocular head

Tube inclination: 30degree

Diopter adjustment for both eyepiece lenses;

Inter pupillary distance adjustment range – approximate 50 to

70mm Stage:

- Movement range – 75 mm X - direction X 25mm Y direction.
- Rectangular scratch resistant stage with right hand control with double slide holder and vernier calipers on X Y axis.
- Should have rounded edges of the stage corners.

Condenser:

- Type – Abbey condenser
- N.A. = 1.25
- Aperture iris diaphragm - built –

in Objectives: All DIN type

Plan Achromatic (Anti Fungus)

- ❖ 04xN.A .01 WD 6.50mm
- ❖ 10x N.A 0.25 WD 5.6mm
- ❖ 40x N.A 0.65 WD 0.6mm
- ❖ 100x (Oil).N.A 1.25 WD .13mm

Minimum working distance for 100X should be 0.13 to 0.2 mm

Eyepiece: DIN type

- 5X/10X with F.N 18 wide field

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

## 3. BINOCULAR RESEARCH MICROSCOPE

Should be CE approved product Technical Specification



Built-in 5 mega-pixel digital camera, image data can be easily retained without external computers and other equipment, they can improve the efficiency of research and analysis.

9-inch digital LCD screen, high definition and bright colors

Large storage capacity, with SD card, print pictures instantly without being connected to PC.

Two kinds of observation modes, binocular eyepiece and LCD screen, which can meet different needs. Combine the compound microscope, digital camera and LCD together.

Optical System: Optics par focal, plan achromatic lenses with anti fungal properties.

Illumination: Built in transmitted Koehler illumination.

6 V, 20 W LED bulb

Should work on voltage 220-240V AC.

Focusing

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

Revolving nosepiece: Quadruple click-stop, revolving mechanism with multiple ball bearings

Elastic nosepiece grip-ring.

Observation Tube: All DIN type

Binocular head

Tube inclination – 30deg

Diopter adjustment for both eyepiece lenses;

Interpupillary distance adjustment range – approximate 50 to 70mm. Stage:

- Movement range: 75 mm X - direction X 25mm Y direction.
- Rectangular scratch resistant stage with right hand control with double slide holder and vernier calipers on X Y axis.
- Should have rounded edges of the stage corners.

Condenser:

- Type – *Abbey condenser*
- N.A. = 1.25
- *Aperture iris diaphragm - built –*

in Objectives: All DIN type

Plan Achromatic (Anti Fungus)

- ❖ 04x N.A .01 WD
- 6.50mm ❖ 10x N.A 0.25
- WD 5.6mm ❖ 40x N.A 0.65
- WD 0.6mm
- ❖ 100x (Oil).N.A 1.25 WD .13mm

Minimum working distance for 100X should be 0.13 to 0.2 mm

Eyepiece: DIN type

- 5X/10X with F.N 18 wide

field Power Supply:

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

#### 4. SEMI AUTOMATIC ROTARY MICROTOME

Calibrated controls should make assessable variable on the x/y axis for re – cuts

Section Thickness                      Section Thickness Setting range 0.5 mm - 90mm

Setting Values from 0.5 mm - 1 mm in 0.5 mm increments, from 1mm -99 mm in 1mm increments

Trimming Section

Thickness setting Range                      0.5 mm - 99mm

Setting Values from 0.5 mm - 1mm in 0.5 mm increments, from 1mm - 99 mm in 1mm increments

Motorized Operation	Varying with section speed
Horizontal Specimen Feed	Approx. 30mm
Vertical Specimen Feed	Approx. 60mm
Sectioning Modes	1 Manual Mode
Maximum Specimen Size	50mm (L)x60mm(H) x 40mm(W)
Specimen Orientation	Horizontal:8°, Vertical:8°, Z:360°
Operating Voltages	Nominal Supply Voltages 230V/240V

#### *General*

Compact Ergonomic Overall Design

Accurate Specimen orientation with zero point reference

Easy shift between trimming and sectioning operation

Two motorized forward specimen coarse feed speeds

Automatic Specimen retraction

Section – Handed function universal cassette clamp

Absolutely new knife holder replica for disposable blades, with finger guard in contrasting color User safety incorporated into overall design

Smoothing – running hand wheel with incorporated quick – lock method

Accurate knife holder lateral movement

Ergonomically optimized hand wheel handle

Communication display incorporated in instrument housing enclosed micrometer mechanism

Enclosed micrometer mechanism

Spacious section waster tray

Wide range of accessories

Automatic retraction

*The equipment is supplied complete with :-*

- |                             |                             |
|-----------------------------|-----------------------------|
| i. Cassette holder          | ii. Knife holder base       |
| iii. Standard knife holder. | iv. Object orientation unit |
| v. Section waste tray.      | vi. Microtome knife 15cm    |

#### 5. INCUBATOR

Should be BIS approved as per IS 3118 standard.

Temperature range should be from 5 degree C above ambient temperature to 80degreeC with accuracy of 0.5 degreeC .

- The control panel should have digital indication of chamber temp. with visual indication of heating process and ergonomically designed controlled panel.
- The inner chamber should be made from SS 316 grade or higher stainless steel with outer chamber of mild steel having duly primer coated for rust proofing and powder coated.
- The heating coil should be placed inside stainless steel chamber to provide uniform temp. inside the chamber
- The inner chamber should be provided with air circulatory system to maintain contact chamber temp.
- The inner and outer chambers should be well insulated with glass wool and should have appropriate air gap to maintain minimum air loss and maximum heat retention capacity.
- The door must be well insulated and provided with thermal resistant glass to visualize inside of chamber during heating process.
- The control panel should have alarm (audio/visual) for abnormal increment of chamber temp. than setting and door opening
- Should be provided with 2/3 detachable perforated steel rack for placement of samples.
- Inner chamber dimension should be 600x600x800(D x W x H) mm.(Approx.) with  $\pm 5\%$  tolerance.

Should operate on 230V, 50Hz power supply.

6. HOT PLATES: It should be a rectangular flattening table. Stainless steel Surface ensuring very high thermal conductivity rates & exceptional resistance to mechanical exploitations temperature ranging from ambient to 300degreeC can be selected. The programmed as well as set temp should be displayed on the instrument.

Top Plate Size: – Length xWidth : 300 mm x 250 mm

#### 7.HOT AIR OVEN

Should be BIS approved as per IS 3119 standard.

Microcontroller based temperature setting from ambient temp. up to 200<sup>0</sup>C with increment in steps of 1<sup>0</sup>C.

The control panel should have digital indication of chamber temp with visual indication of heating process and ergonomically designed controlled panel.

The inner chamber should be made from SS 304 grade or higher stainless steel with outer chamber of mild steel having duly primer coated for rust proofing and powder coated.

The heating coils should be placed inside stainless steel chamber to provide uniform temp inside the chamber.

The inner chamber should be provided with air circulatory system to maintain constant chamber temp.

The inner and outer chambers should be well insulated with glass wool and should have appropriate air gap to maintain minimum heat loss and maximum heat retention capacity.

The door must be well insulated and provided with thermal resistant glass to visualize inside chamber during heating process.

The incubator should be provided with cooling fan to re-stabilize the inner temp.

The control panel should have alarm (audio/visual) for abnormal increment of chamber temp. than setting and door opening

Should be provided with 2/3 detachable perforated steel rack for placement of samples.

Inner chamber dimension should be 400x400x600(D x W x H) mm.(Approx.) with ±5% tolerance.

#### 8.ANALYTICAL WEIGHING BALANCE:

The machine should be made of high grade chemical resistant die-cast aluminium housing

Should have quick and comfortable dismantling of the draft shield

It should have overload protection that is the machine should protect the weighing call against excess weight overload.

The machine should have side loading facility.

The machine should have facility of internal automatic calibration.

The machine should have LCD display with freely programmable smart keys to operate the balance quickly

The maximum capacity should be 1000g.

The readability should be 0.01gm.

The accuracy should be 0.01gm

Adjustment Pan should be built in.

Weighing pan dimension should be 120mm.

The machine should operate both on battery and electric supply.

#### 9.WATER STILL FOR DISTILLED WATER

Free standing, electrically operated water still that is capable of producing Pyrogen free distilled water as per IP/BP standards. All contact parts should be made of stainless steel, fitted with ISI Marked immersion water heater, low water protection & electrical control box. It should be mounted on a sturdy MS tubular stand. Capacity: 5ltr./hr. Should be BIS certified as per IS 3830 standard.

### 10. STETHOSCOPE (ADULT & PAEDIATRIC)

1. Manufacturer should be ISO 13485 certified.
2. Should be CE/UL approved product.
3. Stethoscope of standard size, chromium plated metal binaural, V rubber tube in one piece and rotating piper fitting for both flip functions.
4. Double sided adult & paediatric stethoscope.
5. Extra-soft, replaceable and pivot able ear-tips for perfect sealing at the ear canal.
6. Designed with precision chest-piece made of stainless steel/ chromed brass.
7. Good quality diaphragm of maximum -Ø 45mm.
8. High quality membrane for precise acoustics with non-chill rims for improved adaptation on the skin and for excellent sound transmission.

### 11. BP APPARATUS

1. Manufacturer should be ISO 13485 certified.
2. Should be CE/BIS/UL approved product.
3. Corrosion resistant shock proof body, chrome plated metal/ stainless steel /ABS body with pressure control valve, scale 0 to 300 mm hg with accuracy of +/- 3mmHg.
4. Air release at closed lap with maximum 4mmHg/Minute.
5. Manual setting of deflation possible upto 2/3mm Hg/sec. From 260mmHg to 15mm Hg in a maximum deflation time of 10 seconds.
6. Gauge's background in white colour.
7. Graduated scale for ever/ 2mmHg, every 10 units and every 20 units.
8. Nylon straps cuff with pouch, latex bulb with completely chromium plated valve with regulation of vent-hole air by screw valve.
9. Settings-The cuff is inflated just to fit in the limb for which an inflation bulb is used to control the air pressure within the cuff.
10. User's interface-manual
11. Dimensions (metric)-The rubber tubes used should have an internal diameter of  $3 \pm 0.5$ mm and the external diameter should not be less than 8mm; The dial manometer with diameter of 50 mm-60mm
12. Accessories (mandatory, standard, optional)- Arm cuffs of size ( Large, Medium& Small) with inflation bulb and tubing

### 12. DIGITAL PH METER (BENCH TYPE)

Should be CE approved model.

	<u>p<sup>H</sup> Mode</u>	<u>mV mode</u>
1. Range:	0.00 to 14.00	0 to +/- 1999 mV
2. Resolution:	0.01 p <sup>H</sup>	
3. Accuracy:	0.01 p <sup>H</sup> +/- 1 digit	1mV +/- 1 digit
4. Input Impedance:	100 ohm	
5. Buffer calibration:	7.00 pH, 4.00 p <sup>H</sup> and 9.20 p <sup>H</sup>	
6. Temperature Range:	0-100 ° C with continuous digital display	
7. Resolution:	1.0 °C	
8. Temperature compensation:	Automatic and Manual	
9. Display:	16 character x 2 lines LCD	
10. Polarity and Decimal:	Automatic	
11. Supply:	220 V AC ±10%, 50Hz	
12. Optional:	Printer Interface	

### 13. pH METER (HAND HELD)

Should be CE/UL/BIS approved model.

Manufacturer should have ISO 9001 certification.

1. pH Range: 0.00 to 14.00

2. Temperature: 32.0 to 212 °F (0 to 100 °C)
3. pH Resolution: 0.01 units
4. Temperature Resolution: 0.02 °F (0.1 °C)
5. pH Accuracy: +/- 0.2 units within 20°C
6. Temp Accuracy: 0.6°F (+/- 0.3°C)
7. pH temp compensation: Auto
8. pH Buffer Recognition: USA (4.01, 7.00, 10.01) NIST (4.01, 6.86 and 9.18)
9. pH calibration temp: 32.0 to 140.0°F (0.0° to 60°C)
10. pH offset Recognition: +/- 90 mV at pH-7.00 or +/- 98.3 mV/-81.7 mV at pH-6.86
11. pH slope Recognition: +/- 30% at pH 4.00, 4.01, 9.18 or 10.01
12. Data memory: Non volatile; 50 sets (p<sup>H</sup>, temp, date and time stamp)
13. Battery life: 200 hours or greater

#### 14.WATER BATH

Should be BIS approved as per IS 3119 standard.

General purpose water bath is required

Small (approx. dimensions 40-45 x 35-40 x 20-25 cms) light Stainless steel body

Complete inner chamber should be made of HIGHLY POLISHED STAINLESS STEEL

Microprocessor controlled programmable, digital display for temperature etc.

Temp range: 37<sup>0</sup> C to 60<sup>0</sup> C with deviation range of +/- 0.5<sup>0</sup>C.

Should be fitted with mechanical stirrer to circulate uniform temperature all around the water

Capacity: 8 to 10 litre.

#### Accessories:

Stirrer with 1/20 hp motor with S.S. rod & blades

Rack- S.S. 13mm dia x 24 holes

Should work with 220-240 V AC, 50Hz power supply having Indian plug pins

#### 15.AUTOCLAVE

Pressure range 10 to 20 PSI adjustable with working temperature of 121<sup>0</sup>C.

Automatic pressure control switch with digital display for controlling preset pressure valve.

Should have digital temp. Indicator with timer 0 to 60 min.

Should have automatic low water cut-off facility for safety of heating coil.

Outer and inner chamber made of stainless steel of SS 304 grade

Inner chamber made of at least 18 SWG SS Sheet

Should have inner chamber size of 400(D) x 600(H).

Stainless steel steam jacket insulated with high grade glass wool.

Water level indicator with automatic low water level cut off

device. Should have jointless gasket.

Water inlet and drain valves with steam release valve.

With the feature of double safety radial locking facility.

Supplied with pressure gauge, pressure release valve as standard accessories.

Power input should be 220 -240 VAC, 50 H fitted with Indian plug

Should be CE certified.

#### 16.GLASS DISTILLED WATER PLANT

The assembly consists of a heat-resistant glass flask with embedded heating elements fused in spiral type glass coil internally at bottom

A double wall coiled condenser has standard ground glass joints.

Complete with glass fitting, metallic stand, rings clamps and electrical fittings.

Capacity: 5 Liters per Hour

Stage: Double

Supplied with low water level cut-off device for general safety of the heating element.

Should be CE certified.

#### 17.CENTRIFUGE

1. Aerodynamic compact construction for vibration free performance.
2. Microprocessor controlled with digital display of speed
3. Digital countdown timer with quick deceleration facility
4. Imbalance detection and centrifugation stop with error display
5. Stable speed output under unstable voltage condition
6. Tube capacity should be minimum 16 tube of 15ml.
7. Stainless steel centrifuge chamber with metallic total body with glossy painting
8. Body should be made of strong fabricated and corrosion resistant steel.
9. Control panel should have display of speed
10. Body should be made of strong fabricated & corrosion resistant steel
11. Control panel should have display of speed digital timer, start/stop switch
12. Rotation speed should be regulated by dedicated button switch with dynamic brake for quick deceleration.
13. Maintenance free brushless drive motor with exact speed pre-selection and display
14. Speed range 1000 to 6,000 RPM and above, accuracy 10 RPM.
15. Should be supplied with Tachometer for measurement of rpm.
16. CE or BIS certified

Should work with 220-240 V AC, 50Hz power supply having Indian plug pins

#### 18.ELISA READER & WASHER

1. Product should be CE certified.
2. Should have 96 wells and should have reading capability of 1 to 96 wells individually.
3. Should have a linear measurement range of 0 to 3.000 Abs.
4. Should have wavelength range from 405 to 630nm or better.
5. Should have a photometric accuracy of 2% or better.
6. Should have a resolution of 0.001Abs.
7. Should have variable speed plate shaking capability.
8. Machine should be supplied with 4 standard filters 405, 450, 492 & 630 nm.
9. Should have provision to add 2 additional filters.
10. Should have automatic filter selection.
11. Should have automatic calibration before each reading.
12. Should have facility for storage of calibration curves.
13. Capable of doing multi standard tests and controls.
14. Should have different types of blanking facility like air wise and well wise.
15. Should be capable of reading U,V and flat type wells.
16. Should use halogen light source and two spare bulbs should be provided.
17. Should have inbuilt or external thermal printer for direct printing from the equipment 5 rolls of thermal papers should be supplied along with the unit.
18. Should have external printer connectivity option.
19. Should work with input 200 to 240Vac 50 Hz supply.
20. Should have display option and storage of plates readings.
21. Should have graphical display of plate layout for specifying controls, standards, blanks etc. Elisa Washer
  1. Should have capability to wash flat, U or V bottomed micro plates or 8 strip plates.
  2. Should have 8 way manifold.
  3. Should have 25 wash program software memory or more.
  4. Should have programmable washing time, volume and soaking time.

5. Should have minimum 6 wash cycle.
6. Should have residual volume less than 3 ul with proper demo during technical demonstration.
7. Should have removable and autoclavable plate carrier.
8. Should have in-built vacuum and dispensing pumps to ensure accurate and quiet washing.
9. Should have waste bottle with full bottle alarm or sufficient mechanism to avoid spillage and damage to equipment.
10. Should have suction based wash buffer intake.
11. Should work with input 200 to 240Vac 50 Hz supply.
12. Should be supplied with online pure sine wave UPS of sufficient capacity for both reader and washer.

#### 19. DEEP FREEZER:

1. Should be USFDA or CE or UL approved product
2. Manufacturers should have ISO certification.
3. Microprocessor controlled vertical freezer with single or double door.
4. Should have 4 or more adjustable shelves.
5. Should have CFC / HCFC free refrigerant.
6. Should maintain low temp. of -20degree C.
7. Should have digital indicator & controller for inside temp.
8. Capacity should not less than 170 litre.
9. Digital display of set and actual temperature with audiovisual alarm.
10. No condensation on storing material with automatic electric defrosts.
11. Solid cabinet casing with phosphate cold rolled sheet, steel to prevent corrosion, Acrylic varnishing of high quality and lockable castor.
12. Should have powder coated CRCA steel for outer body and stainless steel of 304 grade.
13. Heavy duty refrigeration system, maintenance free with hermetically sealed refrigeration rotary compressors.
14. It should also have audio visual alarm system independent of power supply.
15. Should have high efficient PUF insulation to minimize heat loss.
16. Power input to be 220-240V AC, 50 Hz fitted with Indian plug.

#### 20. AUTOMATIC TISSUE PROCESSOR / HISTOKINETTE

- 1.1. Fully automatic carousel type with 12 stations with 10 reagent stations and 2 wax baths.
- 1.2. Connection for optional third wax bath.
- 1.3. The system should have inbuilt vacuum and with fume control.
- 1.4. Metal tissue basket having less base diameter compare to upper diameter to avoid baskets getting stuck and capacity >100 cassettes.
- 1.5. Audible alarms, error message and warning codes.
- 1.6. Ergonomic control panel with full protected keyboard and LCD.
- 1.7. Easy editing and changing of programs, even during a processing run.
- 1.8. Delayed start function up to > 7 days.
- 1.9. Infiltration time separately programmable for each station.
- 1.10. More than 8 freely selectable programme
- 1.11. Drain time 60 seconds between stations
- 1.12. Machine should have the option of interrupting an automatic process for reloading or removing cassettes if needed to before the end of a run.
- 1.13. Baskets should be automatically immersed in a station during the power failure.
- 1.14. Indication of date, time, remaining time in process step, step number and reagent description.
- 1.15. Permanent memory capacity for up to 10 programs.
- 1.16. Mains voltage: 100-240 V/50-60 Hz;

1.17. Should have Power back up (UPS)

**21.AUTOMATED 5-PART DIFF RANDOM ACCESS HEMATOLOGY ANALYSER WITH  
AUTOMATED RETICULO CYTE COUNT**

1. The instrument should be Fully automated fluorescence flow cytometry based 5-part differential hematology analyzer offering automatic start-up, shutdown and sample-analysis.
2. The instrument should have random access discrete analysis modes for CBC, CBC+DIFFERENTIAL, CBC+RETIC, CBC+RETIC+DIFFERENTIAL.
3. The instrument should have 33 PARAMETERS reported:  
WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, NEUT %, LYMPH %, MONO%, EOS %, BASO %, NEUT #, LYMPH #, MONO #, EOS #, BASO #, RET %, RET #, RDW-SD, RDW-CV, PDW, MPV, PCT, P-LCR, HFR, MFR, LFR, IRF, PLT-(OP).  
TWO HISTOGRAMS – RBC, PLT. FIVE SCATTERGRAMS - DIFF, WBC-BASO, RET, PLT-O, RET-EXT.
4. The instrument should have throughput of 80 samples per hour in all the four discrete analysis modes.
5. The instrument should have MULTI-CHANNEL ANALYSIS FOR BETTER RESOLUTION
6. The instrument should have Hydrodynamic focusing / impedance method for rbc/plt channel.
7. The instrument should have Cyanide free Sls-hb /colorimetric method for the hemoglobin measurement
8. The instrument should have Fluorescence based semiconductor laser flow cytometry for WBC/BASO and Differential channel.
9. The instrument should have Fluorescent dye /semi conductor laser flow cytometry for retic analysis.
10. The instrument should have COMPREHENSIVE INFORMATION PROCESSING SYSTEM
11. The instrument should have option of attaching AUTOLOADER.
12. Product should be CE and USFDA certified.
13. The cost of reagent along with QC for measurement of all parameters for 100 tests in terms of pack size/volume must be quoted along with the base price of the equipment, which shall taken into account of price evaluation and same shall be approved for 5yrs from date of installation.

**22.PARAFFIN EMBEDDING BATH (ORDINARY)**

1. Automatic controlling procedure, time of power on/off can be reset in any time of each day of a week.
2. Adopted with new-type heating element, heated quickly and evenly, and energy-saving.
3. Temperature-measuring chip, high precision, stable performance, display as icon in the state of working.
4. Paraffin tank, dispenser nozzle, left preservation box, right preservation box, embedding workstation can be separately controlled, work itself. Five different modes of controlling temperature and multiply over-heating protection, safe, reliable, and energy-saving.
5. Automatic memorization, and self-recovery, reserving resetting temperature when starting up.
6. Embedding center, cooling system, and heating table can be combined randomly.
7. Cooling system adopted with new-type inverter compressor, cooling temperature should be adjusted freely.
8. Range of setting temperature of cooling system is -35 C ~ -50 C.
9. Small cooling plate makes embedding medium solidified quickly.
10. High capacity (approx. 5 liter) paraffin dispenser.
11. Low-voltage lighting system, safe and reliable, manual drive and foot-drive power on/off mode.



12. Workstation, forceps table can be heated, easy for embedding.
13. High-precision time indication, easy to reset.
14. Technical parameters:
15. adopted int'l advanced heating theory.
16. Volume of paraffin dispenser: 5 liters.
17. range of temperature-control of forceps table: ambient~99 C
18. range of temperature in paraffin dispenser: ambient~99 C.
19. range of temperature in storing box: ambient~99 C.
20. range of temperature at workstation: ambient~99 C.
21. precision error :  $\pm 1\%$
22. mode of wax-flow: automatic soft-touching switch on/off, foot-operated control.
23. time reset: time of power on/off can be set freely in a week.
24. temperature of cryo-plate: ambient $\leq$  -20 deg.C, protection requirement of time delay.
25. Enjoy the function of power-off protection self-check and automatic correction
26. Auto prompting to preparing next sample and sample reaction time
27. Power supply 220V $\pm$ 22V 50Hz  $\pm$ 1Hz
28. Servo stabilizer of suitable rating should be supplied with the machine.
29. Minimal lot-to-lot variance (no lot-specific calibration necessary)

### 23.MICROPIPETTES (Variable Volume)

1. Should have ergonomic design with light & smooth plunger action.
2. Totally adjustable, air-displacement pipette.
3. Usable for dispensing of aqueous fluids of moderate viscosity.
4. Should have soft feel handle grip having both left & right hand operation
5. Pipette handle should have thermoplastic elastomeric to prevent transfer of body heat to pipette volume during continuous usage
6. The parts of pipette likely to be exposed to chemicals should have provisions for autoclaving so as to sustain temp. of 121degC
7. Long self life and high resistance to aggressive chemicals Permissible volume errors should be a minimum.
8. Should have larger & clear 4 digit display giving smaller increment for wider selection of volume
9. Volume range should be of adjustable type of set range (0.1-0.5 $\mu$ l)(0.2-10 $\mu$ l); (10- 100 $\mu$ l); (20-200 $\mu$ l); (200-1000 $\mu$ l).
10. Should have locking mechanism to prevent accidental volume change during pipetting
11. Should have one hand eject facility.
12. Should have in house clinical, repair and calibration facility.
13. The tip cone should have leak free operation, smooth and light loading operation with choice of using variety of tips
14. Should be available with different color codes.

#### Pipette range with Qty

0.1-0.5  $\mu$ L : 1no. , 0.5-10  $\mu$ L: 3nos., 10-100 $\mu$ L: 3nos., 20-200  $\mu$ L: 3nos., 100-1000  $\mu$ L: 3nos.

### 24.OCTAPIPETTE (8 CHANNEL MICROPIPETTE) (Variable Volume)

1. Should be octa pipetting head.
2. Should have ergonomic design with light & smooth plunger action.
3. Totally adjustable, air-displacement pipette.
4. Usable for dispensing of aqueous fluids of moderate viscosity.
5. Should have soft feel handle grip having both left & right hand operation

6. Pipette handle should have thermoplastic elastomeric to prevent transfer of body heat to pipette volume during continuous usage
7. The parts of pipette likely to be exposed to chemicals should have provisions for autoclaving so as to sustain temp. of 121degC
8. Long self life and high resistance to aggressive chemicals Permissible volume errors should be a minimum.
9. Should have larger & clear 4 digit display giving smaller increment for wider selection of volume
10. Volume range should be of adjustable type of set range (50-200µl)
11. Should have locking mechanism to prevent accidental volume change during pipetting.
12. Should have one hand eject facility.
13. Should have in house clinical, repair and calibration facility.
14. The tip cone should have leak free operation, smooth and light loading operation with choice of using variety of tips
15. Should be available with different color codes.

#### Pipette range with Qty

20-200 : 2nos., 100-1000 µL: 2nos.

#### 25. MICROPIPETTES (Fixed Volumes)

1. Volume of 200uL, 500uL, 1000uL.
2. Should have ergonomic design with light & smooth plunger action.
3. Air-displacement pipette.
4. Usable for dispensing of aqueous fluids of moderate viscosity.
5. Should have soft feel handle grip having both left & right hand operation
6. Pipette handle should have thermoplastic elastomeric to prevent transfer of body heat to pipette volume during continuous usage
7. The parts of pipette likely to be exposed to chemicals should have provisions for autoclaving so as to sustain temp. of 121degC
8. Long self life and high resistance to aggressive chemicals Permissible volume errors should be a minimum.
9. Should have larger & clear 4 digit display giving smaller increment for wider selection of volume

#### 26. AUTOMATIC SLIDE STAINING INSTRUMENT

- Automated Slide stainer imported model. The quoted item must be manufactured by a foreign (excluding China) manufacturing company.
- ¾ The system should have high specimen slide throughput up to 200 – 600 slides/hour depending up on the selected program.
- ¾ Programmable for 15 programs of up to at least 25 steps with incubation time setting from 0 sec to 99 mins or more
- ¾ Minimum loading Capacity up to minimum 11 slide racks at one time with at least 30 specimens slides/rack
- ¾ Integrated oven with temperature setting from (30- 65)°C for optimal slide drying
- ¾ Provision of various staining protocols (e.g. routine H&E Stain, PAP Stain & other various special types of stains) must be available
- ¾ At least 18 reagent station of minimum 450 ml capacity and minimum 5 wash stations
- ¾ Provision of continuous loading and unloading of slides via Rack entry and Exit door.
- ¾ Fume extraction fan with Charcoal filter to remove hazardous fume
- ¾ Gentle vibration to slide rack during lifting to reduce carryover contamination
- ¾ Audible warning Buzzer in case of any error during operation
- ¾ Easy-to-clean and resistant surfaces made out of polyester epoxy resin and stainless steel.

- ¾ Suppliers should have good after sales service with manufacturer's factory trained engineers and proven track records.

LOT 2: ITEMS UNDER VARIOUS DEPARTMENTS

**1. Lot 2/ Package 1: DEPARTMENT OF ANATOMY**

Sl.	Item Name	Qty.	Warranty	CMC Required
1	Drill Machine	2	2 years	YES
2	Band saw for body& limb sectioning	1	2 years	NO
3	Brain Knife	3	2 years	NO
4	X-ray viewing lobby	3	2 years	NO
5	Dissecting instruments	15 sets	2 years	NO
6	Meat cutting machine for thin body sections	1	2 years	YES
7	Dissection Microscope	5	2 years	YES
8	Sledge large cutting microtome	1	2 years	YES
9	Weighing Balance (6kg)	2	2 years	NO
10	Embalming machine	2	2 years	YES

1. DRILL MACHINE WITH REAMING SAW

Universal Drill Hand piece (Autoclavable)

- Pistol grip
- Stainless steel Jacob's Drill check (0-1/4" )
- Weight 800 gms approx
- Ergonomically designed Grip
- Maximum speed 1200 RPM 5.5 cannulated

Sagittal Saw Hand piece (Autoclavable )

- Pistol grip
- To difficult cuts at depth
- Ideal for TKR THR
- Five types of Blades can be set at 450 , 900
- Weight 750 Gms approx

Flexible Reamers (Autoclavable)

Reaming Handpiece

- Pistol grip
- Max speed 400 rpm
- AO type quick coupling
- 5.5 mm cannulated
- Ideal for Intra Medullary reaming
- Autoclavable
- Weight 700 Gms

Flexible Reamers

- Flexible reamer shaft 8 mm dia fixed head (j)
- Flexible reamer shaft for detachable
- Heads up to 12 mm (K)
- Heads up above 12 mm (M)
- Detachable reamer heads from 8.5 to 12 mm, step of 0.5 mm (L1)
- Heads from 12.5 to 15mm, step 0.5 mm (L2)
- Guide wires std length 440 mm.

### BAND SAW

Width/Depth/Height: 900 x 600 x 1500 mm

Working height approx. 900 mm

Cut height max. 210 mm

Cut width max. 350 mm

Should comply with Safety standard EN 13849-1

Band speed about 200–1200 m/min

For precise alignment and guidance, should have Line laser for cut orientation, parallel stop

Should have LED light strip provides optimal illumination of the workspace

Should have Water jet cleaner to effortlessly remove tissue residues from the work table while working.

Extended spray containment cabinet over the entire workspace provides additional safety

### BRAIN KNIFE

Straight cutting edge 30cm, thickness/1.77mm,

Alloy Material or Stainless steel

X-RAY VIEWING LOBBY: Should be six viewing lobby, LED type having minimum 50,000hr.of life.

DISSECTING INSTRUMENTS: Should consisting of cartilage knife bone cutting forceps scissors, straight and curved Enterotome Scalpels, knives with spare blades, probe metal scale graduated in cms. Etc.

### MEAT CUTTING MACHINE FOR THIN BODY SECTIONS

Size of cutting table 780 × 580 mm approx.

Total Table Travel 1245 mm Extension Table 450 × 760

mm Size of Wheel 450 mm approx. Height 1700 mm approx

Motor Capacity : 1 H.P. Crompton / A.U.E. Make

The table should be made of thick S.S. sheet with special heavy axles for easy and firm movement. Supplied complete with one blade, starter, cord and plug. Suitable to work on 220 V, single phase, 50 Hz, AC supply.

DISSECTION MICROSCOPE: Should be a Trinocular microscope. Should have High resolution 16 to 32 mega pixel with provision to attach with digital software and CCTV camera, and can be transmitted to web.

MICROTOME, SLEDGE, LARGE CUTTING : - CE Approved product A sledge microtome, where the sample can be placed into a fixed holder (shuttle), which then moves backwards and forwards across a knife. Used for cutting thin sections. Section thickness: 5 microns and up calibrated 5-40 microns Sledge Cutting Knife : 6" (17 cm)

### WEIGHING BALANCE (6KG)

- Capacity: 6Kg
- Least count: 0.5gram
- Accuracy: 2gram
- Table top
- Platform size: 180mm×250mm
- CE Certified

### EMBALMING MACHINES:

- Cadaver injector electrically operated on pressure generation. Fitted with rotary compressor suitable for embalming the cadaver with stellate and required needle and should complete 1 cadaver within 1 to 1 and ½ hours.
- Driving Unit: 220 Volts/5 Amp AC
- Foot control for on/off and speed
- Shaft: Weight approx 1000 gms Autoclavable

## 2. Lot 2/ Package 2: DEPARTMENT OF PHYSIOLOGY

Sl.	Item Name	Qty.	Warranty	CMC Required
1	Large extension kymograph	3	2year	YES
2	Operation table	3	2year	YES
3	Dale's bath for internal organ	15 sets	1year	NO
4	Animal weighing machine (big)	1	1year	NO
5	Animal weighing machine (small)	1	1year	NO
6	Mary's Tambour	20	1year	NO
7	Haemocytometer	40	1year	NO
8	Perimeter Priestly Smith	6	2year	YES
9	Polygraph	2	2year	YES
10	Venus pressure apparatus	2	1year	NO
11	Spirometer (ordinary)	6	1year	NO
12	Gas analyser (CO <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> )	1	2year	YES
13	Thermanaesthesiometer	3	2year	YES
14	Olfactometer	2	2year	YES
15	Ophthalmoscope	2	2year	YES
16	Phakoscope	1	2year	YES
17	Dynamometer	1	2year	YES
18	Otorhinolaryngoscope	3	2year	YES
19	Physiograph (3ch.) with all accessories	1	2year	YES
20	Physiograph (1ch.) with all accessories	6	2year	YES
21	Calorimeter	4	1year	NO
22	Electronic stimulator	10	1year	NO
23	Stethograph	10	1year	NO
24	Bicycle ergometer	4	1year	NO
25	ECG Machine (12 Ch.)	2	2 Year	YES

### LARGE EXTENSION KYMOGRAPH

- Microprocessor controlled drum with stepper motor,
- 16X2 Blue LCD display
- Highly accurate 7 Speeds- 0.12, 0.25, 0.50, 0.75, 1.00, 1.25, 2.50 mm/sec
- Sturdy and corrosion resistant
- Chrome plated rod and MS Powder coated body
- Auto concentration response curve (CRC) and Normal Mode
- Timer and timer multiplier with audio and visual Alarm
- Height of rod: 340mm

- Should be Maintenance Free

### OPERATION TABLE

- 1) Should be a manually controlled operating table, working range from floor level: 700-1040mm.
  - 2) Should be adjustable to all essential positions.
  - 3) Should be equipped with movement controls at side of the table.
  - 4) Should have Frame and bottom made of Stainless Steel 304 material.
  - 5) Should have reinforced three section stainless steel top.
  - 6) Height should be adjustable by oil pump, foot step control.
  - 7) Should have detachable head rest which can be easily adjustable to any desired position, above or below table top.
  - 8) Table top can be rotated 360° through base.
  - 9) Trendelenburg:  $\geq 25^\circ$ - $30^\circ$
  - 10) Reversed Trendelenburg:  $\geq 30^\circ$
  - 11) Kidney Position should be achievable by breaking the table.
  - 12) Table-top should be radio-lucent.
  - 13) Should have handset for position selection by in-built stand-by control.
- Dimensions (metric) Table top dimension (1900 mm x 525 mm)  $\pm 15\%$   
Table elevation: (700mm to 1000 mm)  $\pm 10\%$   
Weight (lbs, kg): Should be able to bear patient having weight upto 120 kg.  
Should be BIS or CE certified.

### DALE'S BATH FOR INTERNAL ORGAN

The System should have:-

A high quality Perspex single unit organ bath with inbuilt water-pump, gas diffuser, digital temperature controller, filling/draining knobs with easy set up for conducting experiments to record the movements/displacements through the force transducer (0-50 gms) along with required accessories.

At-least 50 ready to use experiments for animal physiology with sample data & real time recording/analysis & easy customization of the experiments.

Simulated Experiments/Pre-configured Experiments list should include :- Chick Biventer Cervicis, Mammalian Atria, Mammalian Jejunum, Mammalian Uterus, Stimulated Ileum, Stimulated Rat Vas Deferens, Toad Rectus Abdominis, Unstimulated Ileum, Unstimulated Rat Vas Deferens, Vascular Resistance Vascular Smooth Muscle, Mammalian Blood Pressure -Drug Effects and Frog Heart Experiments :-Temperature Effects, Starling's Law of the Heart, Drug Effects, Conduction Block, Hear Refractory Period, Vagal Escape, Frog Neuromuscular Junction:- Twitch Recruitment – Nerve, Muscle, force, latency, fatigue, Tubocurarineetc, Frog Sciatic Nerve & Skeletal Muscle:- Twitch Recruitment, Effect of Stretch on Contractile Force, Muscle Summation, Muscle Tetanus, Muscle and Nerve Fatigue, Nerve Threshold, Nerve Refractory Period,

The software should be provided with free experiments and software updates for at least 5 years.

It should be supplied with signal conditioners & force transducer (0-50g) and PC with Printer.

It should allow students and educators to access experiment material as well as the recorded data anywhere from outside the lab through internet.

System should be compatible with both WINDOWS & MACINTOSH operating systems.

Manufacturer should be ISO & CE Certified with all standard certifications.

Power Back Up by Online UPS for 30 minutes

### ANIMAL WEIGHING MACHINE (BIG)

- Bright RED LED Display.
- High resolution up to 15,000/100000 counts.
- Built-in rechargeable battery for continues use.
- Surrounding strong Back Rail support provided
- Door provided for Animal in & out
- MS heavy fabrication structure with powder coating
- Use Micro-controller based software suitable for Animal weighing.
- High accuracy / stability & Readability
- Over load protection, Digital auto calibration facility
- Power sources:AC220 -10%, 50/60Hz.,
- Rugged construction suitable for industrial environment.
- Should be BIS or CE certified.

#### ANIMAL WEIGHING MACHINE (SMALL)

Capacity: 30 kg, 50 kg, 60 kg, 100 kg,

Division: 20 g

Platform size:, 40x50 cm

Material: ABS plastic + stainless iron

Power: 110 V-230 V, AC and should have inbuilt battery. Should have LCD display.

#### MARY'S TAMBOUR

#### HAEMOCYTOMETER

1. Good quality scratch proof glass Improved Neubauer's chamber with brightline markings,
2. WBC pipette with white bead in the chamber and markings at 0.5, 1.0 and 11 and attached suction bulb at back.
3. RBC pipette with red bead in the chamber and markings at 0.5, 1.0 & 101 and attach suction bulb at back

#### PERIMETER-PRESTELY SMITH

- Priestly – Smith perimeter for accurate charting of the field of vision pivoted vertical stand,
  - semicircular metallic arc with removable shield, chart marker, hand wheel, spring clock,
  - adjustable chin stand, leveling bar, movable test object for white and color object, circular back disc with tightening screw. Free chart paper marked with isopters.
9. Length should be 27" to 29" with colour -black.
  10. The Y-tube should be made of Latex-free treated rubber.
  11. Easy to dismantle, and therefore to clean and disinfect.
  12. Accessories (mandatory, standard, optional)- 1 x spare set of earpiece, 1 x spare diaphragm.

#### POLYGRAPH

1. Digital Polygraphs (window based) 8 channel with provisions for recording EMG,SPO2, Finger tip Oxygen saturation, Nerve conduction, Evoked Potential, HRV, ECG,EEG, Capillary pulse tracing, Spirometer, Stethography and GSR.
2. System should have 8 channels for recording and 32 channels for analysis aggregate sampling rate 400KHZ via 2.0 High speed USB, ADC resolution should be 16 or more.
3. Bioamplifiers and isolated stimulator for real time cardiac, neurological analysis.
4. Stethography should include digital stethoscope to hear the heart sound and lung sound while recording them.
5. Isolated GSR amplifier along with finger clips.

6. HRV Options-beat to beat and continuous blood pressure analysis to assess sympathetic/parasympathetic during rest and exercise.
7. Should meet CE or USFDA standard.
8. Data transfer and storage facility.
9. Separate Computer/Printer along with online up gradation facility for 5 years free.

## VENUS PRESSURE APPARATUS

### SPIROMETER

Ordinary students Spirometer 6l capacity, chain, calibrated wheel, counter weight, stainless steel water chamber with drainage facility, aluminium or plastic inverted chamber, complete with corrugated rubber and mouth piece. CE certified.

### GAS ANALYSER, AUTOMATIC FOR CO<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>

Should be computerized metabolic gas analysis system to provide all vital parameters such as ECG, heart rate, pulmonary volumes and capacities, respiratory gases and metabolic measurements.

The system should calculate VE Expired minute volume , VO<sub>2</sub> oxygen consumption , VCO<sub>2</sub> carbon dioxide production , RER respiratory exchange ratio, ECG, HRV, Body Temperature and Pressure Saturate BTPS, Standard Temperature and Pressure Dry STPD, (VE / VO<sub>2</sub>), (VE / VCO<sub>2</sub>) etc. and should generates a number of graphs like Metabolic Log Window , VE (BTPS) vs. VO<sub>2</sub>, VE (BTPS) vs. VCO<sub>2</sub>, VCO<sub>2</sub> vs. VO<sub>2</sub>, RER vs. time, VO<sub>2</sub> vs. time, VCO<sub>2</sub> vs. time , VE (BTPS) vs. time.

The gas analyzer should have an Oxygen sensor with minimum range of 5-100% oxygen and resolution of at least 0.02% & the carbon dioxide sensor with minimum range 0-8% of carbon dioxide and resolution of at least 0.1% and variable flow range of 0-185 ml/min for best performance and results.

Facility for recording ECG leads (I, II, III, aVL, aVF, aVR and V1 to V6) for real time cardiac axis & vector analysis etc.

Should be supplied with multichannel recording unit with a range of +2 mV to +10 V and Sampling rate of 400 KHz (aggregate speed),

ADC resolution of 16 bits on all gain ranges and variable sampling speed on each channel with continuously record and display up to 32 channels of data.

The system should provide wireless monitoring of Posturography, 4 channel force sensor balance board should communicate with the Software via inbuilt blue tooth.

Non Invasive Tonometer should be provided for beat to beat pressure waveforms from Human subject.

Compatible Computer/Laptop & trolley should be provided.

### THERMANAESTHESIOMETER

Compact Size with Mobility and Flexibility

Should work on temp. range of 5deg. To 55deg.

Sampling rate: 18 sample/sec

Control and Heater Fuses

Serial/Ethernet Communications

Available Integrated EMO

Detachable Probe with Protection Cap

Temperature Controller

Temperature Controller Cord

Thermocouple Extension Cable for Data Logger

Carrying Case

### OLFACTOMETER

1. Detection technique: Human Nose



2. Discrete dilution ratio: 2,4,7,15,30,60 D/T
3. Response time: 10 seconds or less
4. Accuracy:  $\pm 10\%$
5. Readability:  $\pm 2\%$
6. Inhalation rate: 16 to 20ltr./min
7. Odour filter cartridge, nasal mask of suitable size

#### OPHTHALMOSCOPE

- Should have on/off button for illumination and battery operated;
- Should have rotating knob to control the intensity of the ophthalmoscope and should be used with filters that eliminate UV radiation ( $<400\text{nm}$ ) and whenever possible, filters that eliminate short- wavelength blue light ( $<420\text{nm}$ );
- Should have the range of +20 to -20 in single dioptre steps to ensure easy examination of all ocular structures;
- Should have apertures shape: Large spot, small spot, slit, central net, and red free. ➤ Should be Hand held.
- CE or BIS certified.

PHAKOSCOPE: Good quality lens and prism

DYNAMOMETER: Adjustable grip distance with easy to read dial from 0 to 100kgs graduation 500grms. strong enough for long durability.

#### OTORHINOLARYNGOSCOPE

1. Should be wide angle straight forward telescope  $0^\circ$
2. Enlarged view Diameter 4mm Length 18cm
3. Should be autoclavable
4. Fiber optic light transmission Incorporated
5. Color Code: Green
6. Manufacturer should be ISO certified for quality standards.

#### ELECTRIC STERILISER

1. Should have seamless shell & lever operated Lid fitted with full proof mechanism control excessive steam escape and restricts condensate within the shell.
2. Synchronized manoeuvrability of lid, due to statistically perforated tray for flushing & entry of water.
3. SS 304/316 deep drawn seamless construction
4. Thermostatically controlled
5. Drainage plug at the bottom
6. Size ideally: 12x6x4 inch
7. Input voltage- 220V-240V AC, 50Hz

#### PHYSIOGRAPH (3 CHANNEL)

The system should have ready-to use experiments with step-by-step instructions for a wide range of experiments including human & animal experiments.

It should have report pages which include study questions as well as students' recorded data, analysis tables and graphs from their completed experiments. It should allow students to type their answers and the reports can saved for easy review or printing.

It should allow students and educators to access experiment material as well as the recorded data anywhere from outside the lab through internet.

The software should allow user to customise experiments as per their lab requirement.

The software should be provided with free experiments and software updates for at least 5 years.

Recorder with high sampling rate 100 KHz and an two channel for bio-potential & isolated stimulator with a software controlled filtering, Voltage Range: 0-10 V & Current Range: 0-20mA with software selectable pulse duration (50-200  $\mu$  sec).

Simulated Experiments/Preconfigured Experiments with sample data for Frog Heart:- Temperature Effects, Starling's Law of the Heart, Drug Effects, Conduction Block, Heart Refractory Period, Vagal Escape, Frog Neuromuscular Junction:- Twitch Recruitment – Nerve, Muscle, force, latency, fatigue, Tubocurarine etc, Frog Sciatic Nerve & Skeletal Muscle:- Twitch Recruitment, Effect of Stretch on Contractile Force, Muscle Summation, Muscle Tetanus, Muscle and Nerve Fatigue, Nerve Threshold, Nerve Refractory Period, Conduction Velocity and other physiological parameters.

Should have clinical pharmacology/Medical case laboratories live videos & Patient data to provide student an interactive solution for learning.

Human ECG, EOG, HRV, EMG, BVP, Grip Strength transducer, spirometer. Reflective Drop Counter.

Transducers & accessories:- pulse transducer, teaching force transducer (0-500g) , animal nerve & bar stimulating electrode, nerve chamber, bio-amp cable, shielded wires, alligator clips, muscle holder, manipulator with stand, needle electrode and other related accessories.

Desktop Computer with 17" TFT Monitor, 4GB RAM, 380GB HDD, DVDR/W, Laser Printer & UPS PHYSIOGRAPH

#### (1 CHANNEL)

The system should have ready-to use experiments with step-by-step instructions for a wide range of experiments including human & animal experiments.

It should have report pages which include study questions as well as students' recorded data, analysis tables and graphs from their completed experiments. It should allow students to type their answers and the reports can be saved for easy review or printing.

It should allow students and educators to access experiment material as well as the recorded data anywhere from outside the lab through internet.

The software should allow user to customise experiments as per their lab requirement.

The software should be provided with free experiments and software updates for at least 5 years.

Recorder with high sampling rate 100 KHz and an two channel for bio-potential & isolated stimulator with a software controlled filtering, Voltage Range: 0-10 V & Current Range: 0-20mA with software selectable pulse duration (50-200  $\mu$  sec).

Should have clinical pharmacology/Medical case laboratories live videos & Patient data to provide student an interactive solution for learning.

Transducers & accessories:- Human ECG, EOG, EEG, HRV, EMG, BVP, Grip Strength transducer, spirometer. Cardio microphone, Push button switch, Wireless Heart rate variability transducer.

Desktop Computer with 17" TFT Monitor, 4GB RAM, 380GB HDD, DVDR/W, Laser Printer & UPS

#### ELECTRONIC STIMULATOR

Different pulse rates per second starting from 5 pulses/sec pulse width 2 ms. Pulse voltage from 0 V onwards, should be able to give single or train of pulses , can be triggered by external source.

#### STETHOGRAPH

Corrugated rubber tube which should be 60 cm long and 2 cm diameter.

One end should be blind and other end is connected to pressure rubber tubing.

Dale's acrylic (glass) Jar Bath, rectangular about  $\frac{3}{4}$  L to 1L Capacity, metal stand, fitted with electrical heating element, provision to run out the fluid inner vessel, facilities for oxygen tube, and thermometer held firmly with screw clamp lever.

The product should be CE or FDA or BIS Certified

### BI CYCLE ERGOMETER

Bicycle Ergometer to study mechanical work based on electromagnetic principle.

Fitted an a strong wooden board/stand Break Band an rear wheel with revolution counter attached, work done in Kg-meter-per minute from the electric power produced with digital display of work/distance/calorie /time/Heart-rate. Adjustable string balance dynamo wheel resistance, low height.

### ECG MACHINE:

Shouldbe a 12 channel with 10 lead measurement, sampling atleast 4000channel/lead/sec., atleast 5inch display, 2hrs.battery, 100 or more memory storage. CE or USFDA certified.

### **3. Lot 2/ Package 3: DEPARTMENT OF BIOCHEMISTRY**

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Weighing balance Semi-micro (0.0001gram to 100gram.)	1	1year	NO
2	Vortex mixer	2	1year	NO
3	Urinometer	10	1year	NO
4	Magnetic stirrer	2	1year	NO
5	Spectrophotometer	1	2year	YES
6	Digital Calorimeter	4	1year	NO
7	Submarine gel Electrophoresis with power pack	2	2year	YES
8	Auto analyser (300 throughput)	1	2year	YES
9	Auto analyser (150 throughput) Bench top	1	2year	YES
10	Semi auto analyser	1	2year	YES
11	Electrolyte analyser with ISE	2	2year	YES
12	Water treatment plant (Class 1 )	1	2year	YES
13	Table top Refrigerated Centrifuge	1	2year	YES
14	Laminar Flow Bench	1	2year	YES
15	Thermal Cycler Gradient	1	2year	YES
16	Gel Documentation System	1	2year	YES

### SEMI MICRO WEIGHING BALANCE

The manufacturers should be ISO 9001 certified for quality and environmental standard

The model should be CE approved.

The machine should be made of high grade chemical resistant die-cast aluminum housing

Should have quick and comfortable dismantling of the draft shield

It should have overload protection that is the machine should protect the weighing call against excess weight overload.

The machine should have side loading facility

The machine should have facility of internal automatic calibration.

The machine should have LCD display with freely programmable smart keys to operate the balance quickly

The maximum capacity should be 200g.

The readability should be 0.0001g.

The accuracy should be 0.1mg

Sensitivity Temperature Drift (10oC .....30oC) 2.5 ppm/oC

Setting Time: 4s to 15s.

Adjustment Pan should be built in.

Weighing pan dimension should be 80mm.

Suitable Laser Printer as per General Specification should be provided.

The machine should be provided with certified weights for customized testing and adjustment.

The machine should operate both on battery and electric supply.

### VORTEX MIXER

Short, rapid, eccentric stroke, motor driven Neoprene cup imparts vigorous agitation to tubes or small flask held in or against it. The housing should be minimum 150 × 150mm approx. The Vacuum Rubber pads should be provided at bottom. Machine should be supplied with complete with speed control, cord and ON/OFF switch and indicator to work on 220V, 1Ph, 50 Hz. AC supply.

### URINOMETER

Should be made from best quality glass. Graduations should be rechecked in distilled water and temperature should be indicated in the body of the Urinometer. ISO certified

### MAGNETIC STIRRER

- Work plate Dimensions(mm)--  $\Phi$ 135(5 inch)
- Work Plate Material-- Stainless steel with ceramic coated
- Max. Stirring Quantity:[H<sub>2</sub>O], L----20 Litre
- Speed and Temperature Display –LCD
- Heating Power in Watt—550
- Max. Work plate Heating Temperature[<sup>o</sup> C]-- 340<sup>o</sup> C
- RPM--100- 1500
- External temperature sensor PT1000 is available for hotplate model, real-time controls medium temperature.
- PID temperature technology precise controls heating process, rapidly reaches target temperature and enhances control accuracy.
- Brushless DC motor maintenance free and explosion proofed, accurately control speed
- Separate safety circuits, fixed safety temperature of 360<sup>o</sup>C, Automatically stops heating once exceed secure temperature
- HOT warning indicates residual hotplate temperature. LCD display would show “Hot” when hotplate temperature over 50<sup>o</sup>C warning point, even if switched off
- Electrical Requirements –As per Indian Standard

### SPECTROPHOTOMETER

- Spectrophotometer to be used for 0.5microliter droplet, sample within standard 10mm path length cuvette.
- Should be usable for Life Science Spectrophotometer also with onboard software for DNA, RNA and Protein measurements dsDNA, ssDNA, RNA, Oligonucleotides, 260/ 280, 260/ 230, Variable ratio, Pierce 660, BCA, Bradford, Lowry, Biuret, Direct UV
- The instrument should be warranted for at least 3years including lamp.
- Only 0.5 $\mu$ l sample volume required

- Detects DNA concentrations as low as 2ng/μl
- Method and result saving to USB memory stick
- Wavelength Range : 198 to 1000nm
- Absorbance Range : 15 to 125A (10mm equivalent)
- Absorbance Accuracy : ± 2% at 260nm
- Absorbance Precision : < 0.005A between 0 and 1A (at 260nm and 0.5mm)
- Light Source : Xenon lamp
- Online UPS with minimum 1 hour backup, etc), power backup

### CALORIEMETER

1. Table model
2. Should have 8 no filters wave length from 400 nm to 700 nm, minimum volume – 1 ml
3. Should have a 3 digit display calibrated directly in optical density, selenium photocell/ photodiode
4. Detector should be encased spill proof photocell
5. Should provide standard accessories
  - a. turret -mounted filters
  - b. 10 cuvettes, 2 test tube stand
  - c. 3 standby lamp
6. Should have facilities for concentration, calculation, percentage transmission and optical density
7. Should work on 200-240 V AC 50Hz power supply

### ELECTROPHORESIS

Cell Size :9.2 X 25.5X 5.6 Cm

Gel Tray Size : 7 X 10 Cm

Sample Through Put: 8-30

Base Buffer Volume: 270 Ml.

Ready Agarose Gel to be Accommodated:

Bromophenol Blue Migration: ~4.5 Cm/Hr.(75 V)

The System should Include:

- Gel Caster,
- 8 Well And 15 Well Combs

#### **-POWER PACK**

Power Supply includes power cord

Volts : 500 V

Current : 4 - 400 mA

Power : 75 W ( Max )

Type of Output : Constant Voltage, constant current

Output terminals : 4 pair in parallel.

Timer : 1 - 999 min

Display : 3 digit LED Operating condition : 0-40 deg C, 0- 95%

humidity AUTOANALYSER (300 Throughput/hr.)

- Throughput: 00 tests/hr excluding ISE . Completely open system
- ? Number of tests performed simultaneously up to 100 tests
- ? Measurement method: End assay, rate assay (kinetics)
- ? Wavelength 340-800 nm
- ? Sample dispensing volume: 2.0 to 40 micro ltr/ test (selectable in 0.1 – 0.5 micro ltr/step)
- ? Reagent dispensing volume: 50 to 350 micro ltr/reagent (selectable in 1-5 μ ltr/step)
- ? Reaction volume : upto 150-200 micro ltr(preferance for lowest volume)
- ? Sample positions minimum 150 with continuous loading facility
- ? Reagent position: 70 or more

- ? Reaction cuvettes: hard glass (air heated ) with temperature option at 25°C and 37 °C
- ? On board refrigeration, on board laundry
- ? STAT position should be present
- ? More than 100 tests programmed in memory
- ? Data processing: Fully computerized (windows based with printer and online interface).
- ? UPS integrated backup for at least 30 minutes.
- ? System with dedicated water deionizer.

#### AUTOANALYSER (150 Throughput/hr.)

Should be CE certified.

1. Microprocessor controlled general purpose bichromatic photometer system with at least 6 filters ranging from 300-800 nm

Throughput: 150 tests/hr excluding ISE . Completely open system

2. Self monitoring built in incubation system for temperature controlled absorbance reading

3. Light source: Tungsten/halogen or higher grade with one additional bulb

4. Wavelength: from 300-800 nm free to choose spectral band width; 6mm

5. Linearity range: 0.000 ~3.000 Abs

6. Sample volume: 2-10µl

7. Temperature: 25°C, 30°C, 37°C, control by pettier element

8. Test mode: Endpoint, kinetic, two point kinetic, fixed time, bio chromatic, differential.

9. Flow cell measuring device

10. Inbuilt printer

11. LCD display of results

12. QC .survey of at least 30 points, Levy Jennings plot.

13. Test programme of at least 150 programmes

14. Must have sample carry over prevention facility.

15. Power failure protection: test result can be recalled & printed out when power failure.

16. Communication with R S 232

17. Must be supplied with one variable (10-100µl) & one fixed volume (500µl) pipettes

18. Supply online UPS of capacity for a minimum back of 30 min.

#### SEMI AUTO ANALYSER

Should be USFDA or CE (As per IVD directive) of the quoted model.

Manufacturer should be ISO 13485 certified for quality standards.

Semi automated Chemistry analyzer with built in software for the calculation and curve plotting.

User programmable memory for up to 50 chemistries with programmable by the user.

Light Source : Quartz Halogen Lamp

Wavelength Range: Automatic selection from 340 to 700 nm.

Photometric Range: 0 to 3.0 Absorbance.

Should have real time graphical LCD

display. Calculation Modes:

- Absorbance/concentration
- End point with factor or standard.
- Enzyme kinetics with factor or standard.
- Fixed time with factor or standard.
- Differential mode with factor or standard.
- Polygonal multi standard (Calibration Curve).

Aspiration system:

- Programmable sipping volume from 200 – 1000µl.

- Automatic calibration of sipping volume.
- Automatic adjustment of sipping time.
- Facilities for air purge in between 2 samples to avoid carry over.
- Quality Control - At least 2 controls per test.
- Programme : Levey jennings's plot -High/Low flags.
- Flow Cell- Metal with quartz window, measuring volume of about 30-40 µl.
- Temperature control by pettier element
- Computer connection: Possibility to take repeat readings of reaction solution aspirated flow cell for kinetics.
- The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%
- Input Power: 220 VAC+10%, 50Hz;
- Should have inbuilt battery or suitable UPS with maintenance free batteries of minimum one hour back up should be supplied with the system.

### ELECTROLYTE ANALYSER

1. Should be CE certified.
2. The Analyser should have option to measure Blood/Serum/Plasma/Urine /and other biological fluid.
3. The Analyser should be able to measure Na, K, Cl .
4. Should have Integrated Pack to avoid Wastage Handling.
5. Should have at least 100 Samples results Storage.
6. Sample volume should be less than 120 ul.
7. Should have economy mode to save Reagents Consumption.
8. Should have In-Built Thermal Printer.
9. Should have option to feed Patient Name and Patient ID.
10. Suitable UPS with maintenance free batteries of minimum one hour back up should be supplied with the system.

### WATER PURIFICATION SYSTEM (Type-I)

Should be CE/USFDA/UL approved model.

Manufacturer should confirm to ISO 13485:2012 for Medical devices- Quality management systems.

*(All the documents should be furnished in the technical bid towards meeting the quality standards.)*

Should have facility to provide both Type- I (ISO 3696:1987) water directly from tap water for use in HPLC system.

#### Type – I

- Conductivity :<0.2uS/cm @ 25 Deg. C
- Resistivity at 25 degC : 18.2 Mega-Ohm –cm
- Dispensing flow Rate: 1 to 2 Liters/Min
- TOC : 2 – 5 < 5 ppb
- Bacterial : 1CFU/ 10ml
- Bacterial Endotoxin :<0.001 EU / ml .
- Particle using 0.2 µmfilter : less than 20 particle/100 ml

Storage Capacity : 30 liters or more made up of Non Shedding HDPE material

Should have RO, UV treatment for output water.

RO cartridges life should be indicated & must be replaced at specified interval without no additional cost within warranty period.

Should have provision for monitoring of self-test, filter replacement, Auto-rinsing & Service check.

Should run on power supply of 230 V (50–60 Hz) with standard Indian plug/adapter.

Should be provided with UPS for power back up for entire system upto 120 minutes

#### TABLE TOP REFRIGERATED CENTRIFUGE:

- Automatic rotor detection, check of presence of accessories and compatibility with maximum speed
- Safety speed limiter function
- 10 storable programs with protection function
- Setting of speed in RPM and RCF
- Short Spin function and precool
- Temperature range from 0°C to +40°C
- Controlled by microprocessor and backlit color LCD display with contemporary visualization of all parameters
- Digital adjustment of acceleration and deceleration levels
- Stainless steel internal bowl with optimal height for loading of samples
- Imbalance detection system with automatic functioning stop to avoid accidents
- Automatic locking system of the lid
- Safety opening of the lid in case of absence of electric power
- Brushless motor maintenance free and no carbon deposits

Maximum capacity: 6 x 50 ml (fixed angle)

Maximum speed : 16000 rpm (fixed angle)

Setting RPM /RCF

Timer: 00:30 to 99:50 (mm:ss) and continuous mode

Date and Time

Acceleration levels: 0-9 (0 = min – 9 = max)

Deceleration levels: 0-9 (0 = min – 9 = max)

Spin function

Programs: 10 programs with protection function with indication of rotor

Noise: ≤55db

External dimensions WxDxH/Weight: 450 x 590 x 330 mm / 40 Kg

Rotor:

: 24x2ml

: 36X0.5ml

: 6X50ml

#### LAMINAR FLOW BENCH

SIZE OF THE WORKING TABLE: 6 X 2 X 2 FT.

Microprocessor based switches and speed control.

CONSTRUCTION: Should be made of steel with powder coated, 1.5 mm. thickness.

TABLE TOP: Made of stainless steel, approx. 1.2mm thickness, mat finish and pressed on 25mm. solid nuwood board.

SIDE DOOR : Float glass with 6mm. thick and encased in S.S. channel.

FRONT DOOR: Spring loaded swinging type made of Poly carbonate with 6 mm. thick.

MOTOR BLOWER ASSEMBLY: variable speed motor.

VELOCITY: 100 FPM at 6" from face of the filter.

NOISE LEVEL: 60 db at 1 meter from face of the equipment

PRESSURE GAUGE : Minihelic gauge

WHEELS AND LEVELLING LUGS: PU solid wheels with S.S. 304 brackets and 304 S.S. lugs.

DESIGN CLASSIFICATION: Angle front slope of 10° to reduce operator fatigue while working,



CLEANNESS CLASS: ISO Standard 14644. 1.Class 5

STAGE FILTRATION:

- I) Pre-filter-10µm with efficiency of 90% washable HDPE media PU coated with 304 S.S. frame.
- II) Mini Pleat HEPA filter of 0.3 micron with an efficiency of 99.995%

THERMAL CYCLER GRADIENT:

- Method of heating/cooling- Peltier
- Method of temp monitoring- Calculated &
- Block Programming: Step-based graphical
- Reporting: Exportable run logs, system logs
- Instant Incubation:
- Memory: 500 typical programs onboard; unlimited
- With USB flash drive expansion
- Communication: 1 USB port
- Electrical Approvals: IEC, CE
- Display: 5.7" VGA color touch screen
- Operating Temp: 15-31 deg C ambient
- Sample capacity: 96 wells x 0.2ml
- Temp Range- 4 to 100 deg C
- Accuracy- +/- 0.5 deg C
- Uniformity-  $\pm 0.5^{\circ}\text{C}$  well-to-well within 30 sec of
- Arrival at target temperature
- Heated lid - Up to 110 deg C
- Maximum Ramp Rate - Up to 4.0 deg C / s
- Average Ramp Rate - Up to 2.5 deg C / s
- Reaction Volume: 1 to 100 µl
- Gradient capability and Gradient Accuracy:  $\pm 0.5^{\circ}\text{C}$  of programmed Temperature
- Row uniformity:  $\pm 0.5^{\circ}\text{C}$  well-to-well (within row)
- Within 30 sec
- Gradient range: 30-100°C
- Temperature Differential Range: 1-25°C .

GEL DOC, MOLECULAR IMAGER GEL DOCUMENTATION SYSTEM

- Includes camera, Darkroom, UV transilluminator, epi- white illumination, cables, Image Lab Software, Instructions.
- Features-
- Fluorescent, Densitometry, 1 D and 2 D Gels, Blot, Films & Colony counting applications.
- Image DNA electrophoresis gels
- CCD Resolution(H x V) : 1392 x 1040 pixels
- Pixel Density : 12 - bit (4096 gray levels)
- Pixel size (HxV) : 4.6x4.6 micrometre
- Dynamic range : More than 3 orders of magnitude
- Max. Sample Size- 28 X 36
- Motorized zoom lens: Upgradable to Chemiluminescence
- Illumination modes: Trans-UV, white, epi-white
- Excitation source: Built-in UV transilluminator with white light also.
- Built in UV protection with prep mode, UV Safety
- Filter positions:Flourescence: 2
- Emission filters: Special Amber filter for applications; EtBr,
- SYBR Green, GFP, SYBR Gold, Fluorescein, CY3, Rhodamine, SYPRO Ruby, Texas Red, Hoechst, Cumarin

- Transluminance area: 25 x 26cm
- Software compatibility: Windows98, XP, NT,2000 Mac
- SOFTWARE: Image Lab 2.0 software: Unlimited copies

#### 4. Lot 2/ Package 4: DEPARTMENT OF COMMUNITY MEDICINE

Sl.	Item Name	Qty.	Warranty	CMC Required
1	Weighing machine (Adult)	4	2years	NO
2	Ice lined refrigerator	1	2years	YES
3	Electric steriliser	2	2years	NO
4	Dissecting microscope	30	2years	YES

#### ADULT WEIGHING SCALE

1. Sturdy dial type mechanical platform weighing machine for adult and children.
2. Zero adjustment facility should be there.
3. Sensitivity: 100 g
4. Range of weighing: 0 to120kg
5. The manufacturer shall have the valid manufacturing license and should have model approval by the legal metrological Deptt. and the weighing scale must be stamped by the by legal metrological Deptt. In case of distributor, the bidder should have valid distributor and repair license from legal metrological Deptt., Govt. of Odisha.
6. ISO 9001 certified manufacturer (certificate to be submitted).

#### ICE LINED REFRIGERATOR (ILR)

Quoted model should be BIS or CE or USFDA approved.

Manufacturer should be ISO 9001, ISO 14001 and ISO 18001 certified.

Certificate of inspection for the quoted model from an independent laboratory approved /recognized by WHO/UNICEF/National Accreditation Board /STQC labs should be furnished.

1. Load must remain at +2 to +8 deg C with accuracy of  $\pm 1^{\circ}\text{C}$  during 43 deg C continuous ambient temperature with holdover time of more than 48hrs.
2. Storage capacity in volume: 150 ltr. $\pm 5\%$ .
3. Construction: Internal: Stainless steel Galvanised steel (min.0.9 mm, 22 G) and External: Corrosion Resistance Galvanized steel (at least 1 mm thickness)
4. Chest type with CFC free polyurethane insulation.
5. Should have adjustable upright SS mess type trays to be provided.
6. Unit should be fitted with a digital electronic temperature controller with temperature indicator for easy readability along with high & low alarm system.
7. Should have data logger with export facility to pdf format.
8. Should use CFC Free Refrigerant R-134a (both for refrigeration and insulation)
9. The Cooling coil should be of Copper. The compressor should have five (5) years replacement warrantee.
10. Should have auto defrost facility.
11. Provision for drainage for the waste water. Easy access to this waste water container for disposal of waste water. Compatible water trap system should be provided.
12. Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
13. Should have ON/OFF Switch and Power indicator should be available

The following spares should be provided with machine:

- Digital Thermometer-01no.

Should work on 230-240V, 50Hz mains supply.

Appropriate rating Automatic servo stabilizer ISI marked (Copper core) 90V-270V must be provided with the machine.

**ELECTRIC STERILISER**

1. Should have seamless shell & lever operated Lid fitted with full proof mechanism control excessive steam escape and restricts condensate within the shell.
2. Synchronized maneuverability of lid, due to statistically perforated tray for flushing & entry of water.
3. SS 304/316 deep drawn seamless construction
4. Thermostatically controlled
5. Should have drainage plug at the bottom
6. Size ideally: 18x8x6 inch
7. Input voltage- 220V-240V AC, 50Hz
8. Power consumption not less than 2KW

**DISSECTION MICROSCOPE:** Should be a Trinocular microscope. Should have High resolution 16 to 32 mega pixel with provision to attach with digital software and CCTV camera, and can be transmitted to web.

**5. Lot 2/ Package 5: DEPARTMENT OF PATHOLOGY**

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Grossing Station	1	2years	YES
2	Water bath (Tissue flowing)	2	1year	NO
3	Band saw	1	1year	NO
4	Autopsy table	1	1year	NO
5	Weighing balance	3	1year	NO
6	X-ray view box	2	1year	NO
8	Sickle cell Thalasemia & Heamoglobinopathy	1	2year	YES
9	Paper Electrophoresis apparatus (horizontal)	1	2year	YES
10	Cyto Centrifuge	1	2year	YES
11	Freezing Microtome	1	2year	YES

**Grossing Station:**

- Grossing tables should be specially designed in accordance with International Standards and guarantee a Laboratory environment free of pollutants while slicing, and must be suitable for small sections.
- Air flow must travel over the entire working area and sucked out so as to provide optimal removal of unsanitary vapours.
- MAC (Maximum Allowable Concentration) values for formalin should be below target throughout the entire suction covered worked area.
- The contaminated air & formalin vapours from work table must be sucked out by built-in high efficiency blowers.
- Salient Features: • Low Overall height of the upper structure increases leg room • Stable, self-supporting under carriage with adjustable leveling screws • Construction is of complete Body made of S.S. 304 as per GMP Std. • Workstation has a large surface area • Seamlessly welded basin measuring 400mm x 350mm x 165mm • Built in U.V. Germicidal

Light • Exhaust duct flange • Stable, perforated S.S. 304 working plate (Optional) • Formalin dispensing tank with sieve insert (Optional) • Poly Ethylene cutting table board

- These are provided with: SS table, S.S. Sink, Hot-Cold Mixer taps, lighting system, swivel-magnifier, 2 Nos. metric rulers. 2 Nos shelves, storage drawer above the work table, storage compartment under the table with sliding doors, Towel ring, Tissue paper holder, and waste bin.
- The working area sides are made of dark acrylic Work Area: (L x W x H) 5' x 2½' x 3'
- Accessories:– (a) Built in U.V. Germicidal Light b) Exhaust duct per running ft.
- TURN KEY FOR INSTALLATION : Price quoted in tender must include accessories necessary for installation of instrument/equipment (Table, A.C., voltage stabiliser/ UPS with minimum 1hour backup etc), power backup, strong after- sales service, maintenance and list of installations to be enclosed. The bidder is to verify the site and discuss with the Prof. & HOD of the Department before quoting the price of turnkey.

### TISSUE FLOATATION BATH

Should Be Microprocessor Controlled.

Elegantly designed & fabricated and tested for carrying out distortion less and wrinkle free tissue specimens. In the field of diagnostic Histo-Pathology and Cyto-Pathology Laboratories. *Outer Wall* : Made of CRCA Sheet duly powder coated after surface treatment

*Inner Chamber* : Should be rectangular in construction & is made of stainless steel sheet polished bright. seamless (Die pressed)

*Insulation* : High Grade insulation, filled around

*Power Supply* : 220 Volt, 50 Hz, Single Phase, A.C.

*Heating Element* : Embedded heater element plate.

*Temperature Controller* : Micro Processor Based Digital Temperature Controller fitted on the control panel.

*Temperature Range* : Ambient to 70oC ± 1oC

*Chamber Size (mm)* : 240 (L) x 150 (W) x 50 (D)

### BAND SAW

Width/Depth/Height: 900 x 600 x 1500

mm Working height approx. 900 mm

Cut height max. 210 mm

Cut width max. 350 mm

Should comply with Safety standard EN 13849-1

Band speed about 200–1200 m/min

For precise alignment and guidance, should have Line laser for cut orientation, parallel stop

Should have LED light strip provides optimal illumination of the workspace

Should have Water jet cleaner to effortlessly remove tissue residues from the work table while working.

Extended spray containment cabinet over the entire workspace provides additional safety

### AUTOPSY TABLE

The Autopsy table should be mounted to a central support column and is made entirely from stainless steel 304 grade.

Through a three-piece, removable, perforated test area, all unsanitary orders should be safely vacuumed away.

The work surface should be equipped with a high surrounding border with a negative inclination to the waste sieve (detachable).

A tub with drainage channel should be located under the perforated work surface.  
An integrated sprinkler system should be available for continuously sanitization of the table. The table is to be connected to the side-mounted ventilation system, which should have minimum capacity of 1000 m<sup>3</sup>/h. the Autopsy table should includes the following features:

*Features:*

Hydraulic Height Adjustable & Exhaust System  
Self cleaning / washing sprinkler on sides  
Central support column with 2 access doors  
Basin W / D / H 400x500x200 mm  
Knee-operated mixing tap for cold and warm water  
3 m shower hose with hand sprinkler  
2 splash proof electrical outlets

2 buttons for height adjustment  
Regulator valve for integrated sprinkler system  
3-piece work top with large waste basin/sieve insert  
Circumferential perforation for safe removal of all odours  
Height adjustable from 750 to 1000mm

Dimensions (mm) : 2600 (W) x 850 (D) x 750/1000 (H)

Carrying Capacity : 200Kg.

Dead Weight : 250Kg.

Material of Construction : S.S. 304 grade.

MICRO WEIGHING BALANCE

The machine should be made of high grade chemical resistant die-cast aluminium housing  
Should have quick and comfortable dismantling of the draft shield  
It should have overload protection that is the machine should protect the weighing call against excess weight overload.

The machine should have side loading facility

The machine should have facility of internal automatic calibration.

The machine should have LCD display with freely programmable smart keys to operate the balance quickly

The maximum capacity should be 200g.

The readability should be 0.0001g.

The accuracy should be 0.1mg

Setting Time: 4s to 15s.

Adjustment Pan should be built in.

Weighing pan dimension should be 80mm.

Suitable Laser Printer as per General Specification should be provided.

The machine should be provided with certified weights for customized testing and adjustment.

The machine should operate both on battery and electric supply. Should be CE certified.

The manufacturer shall have the valid license and should have model approval by the legal metrology Department and the weighing scale must be stamped by the by legal metrological Department.

X-RAY VIEW BOX

Should be ultra-thin X ray film illuminator using light  
It should have a thickness of 30 mm

It should be suitable for viewing 14"x17' film.

Should have position to insert 4 films in 2 rows.

The LED light must have a life span of more than 1,00,000 hours.

It should have easy insertion & removal of the film.

It should have homogeneous illumination more than 95% and maximum intensity of over 10,000 lux.

It should have an on-off switch along with digital feather touch dimmer and a button to set the intensity

It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.

It should have directly connectable to power supply without any external adapter. It

should have flicker free high frequency light for reduction of eye strain.

It should have external fuses for protection against power surge.

10 step Digital dimmer facility with step up/step down intensity of 500 lux or less. Should have automatic film sensor

Should have facility to switch on only the section where the film needs to be viewed.

230V, AC, 50Hz. 3 Amps, Single phase

#### SICKLE CELL THALASSAEMIA AND HEMOGLOBINOPATHY TESTING /SCREENING EQUIPMENT

1. Automated closed HPLC system, dedicated to Thalassaemia and hemoglobinopathy testing and screening.
2. The system should be able to screen and quantitate hemoglobins Hb A2, Hb A and Hb F and detect the most commonly occurring abnormal hemoglobins like Hb S, Hb D, Hb E, Hb C, Hb Q-India, Hb D-Iran and other rare abnormal hemoglobins.
3. The system should have the provision of presumptive identification of Hb Barts and Hb H and various alpha chain variants like Hb J Meerut, etc
4. The company should have an installation base of 100 systems in India and should be able to provide the relevant product and service support
5. The HPLC system should have at least 10 years of presence in India with availability of reagents for thalassemia and Hemoglobinopathy testing.
6. The system should have spinning of vacutainer before aspiration to avoid improper sampling.
7. The system should have automatic barcode positioning facility.
8. The system should be quoted with a Complete ready to use reagent kit and not individual items so that all the reagents are of the same lot.
9. The buffers should be provided with in plastic tanks to view the levels of buffers during the run.
10. The system should have an offline CD-ROM which should be a searchable database with approximately 200 chromatograms of fully classified abnormal hemoglobins and thalassemsias.
11. The system should be used in Thalassemsia screening programme in India and the user list of the thalassemsia kit users should be provided.
12. The system should have an on board QC Menu capable of storing the quality control data and printing the standard deviation and Coefficient of Variation values.
13. The company should 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.

14. The system should have dedicated computer and software, which enables the system for bidirectional interfacing. Moreover the software should have customized reporting format, giving info on the subtype and quantity of hemoglobin detected. Also the software should enable result storage of minimum 5000 chromatograms.
15. It should have a built in column thermostat for reproducibility of results.
16. The system should be capable of holding 10 racks at a time so that it can be used for atleast 100 vials at a time
17. The system should have alarms for overflow of waste tank.
18. The reagent containers should have a capacity of more than 1.5 litres so that the user does not need to change buffers regularly.
19. The HPLC system should have a dual piston pump so that each elution buffer has a different pump and the buffers work efficiently.
20. Should be CE or USFDA approved model.
21. The system should be supplied with power back up cum stabilization system with power backup of upto 2hrs.

#### HORIZONTAL ELECTROPHORESIS APPARATUS WITH POWER PACK

1. Number of gels 1–4
2. Gel size (W x L) Precast: 8.6 x 6.8 cm; handcast: 8.3 x 7.3 cm
3. Glass plate size (W x L)
4. Short plate 10.1 x 7.3 cm
5. Spacer plate 10.1 x 8.2 cm
6. Total buffer volume for 2 gels 700 ml
7. Total buffer volume for 4 gels 1,000 ml
8. Typical run times for SDS-PAGE 35–45 min (at 200 V constant)
9. Display 3 digit LED.
10. Timer 1-999 min

#### Specification for Power Pac:

11. Volts : 10-300 V
12. Current : 4-400Ma
13. Power : 75 W(Maximum)
14. Automatic recovery after Power Failure must be present
15. Safety features like load detection, sudden load change detection, overload, short –circuit detection, over voltage protection.
16. Operating Conditions: 0-400C
17. Four sets of output jacks should be available.

#### Specification for Horizontal Electrophoresis

18. The electrophoresis unit should be able to resolve upto 30 samples.
19. The cell size should be(WxLxH) 9.2x25.5x5.6cm
20. Gel Tray sizes should be 7x7 and 7x10cm.
21. Sample throughput should be 8 to 30 samples.
22. The base buffer volume can be around 270 to 300ml.
23. It should accommodate ready gels also.
24. It should accommodate both 8 well combs and 15 well combs.
25. The bromophenol blue migration should be around 4.5cm/hr (at 75V)

### CYTO CENTRIFUGE:

1. The equipment should be a Bench-top centrifuge for cytology specimens
2. The equipment should be capable of thin-layer cell preparation for retrieving cells from various body fluids especially paucicellular fluids and preserving their morphology.
3. Should be capable of processing up to 12 specimens at one time.
4. Should be equipped with Biological safety cabinet for safety of the operator.
5. Should be designed for easy disinfection and also have a wipe- clean control panel.
6. Should be resistant to fluid spillage on the electronic components with capped disposable sample compartments/chambers for elimination of aerosol.
7. May have different sizes of disposable chambers.
8. Safety alarms during all stages of operation should be available
9. Microprocessor based controls and programming for time and speed with pull-out program card for fast retrieval.
10. Should be compliant with international standards for electrical equipment requirements for laboratory use.
11. 220 V, 50Hz.
12. Speed 100 to 4,000 rpm.
13. Noise levels < 50 Db.
14. The equipment should be European CE or US FDA approved.
15. Added function of cell block preparation is desirable.

### FREEZING MICROTOME WITH A STAND FOR CARBONDIOXIDE CYLINDER

1. The Cryostat should be a floor standing model with power requirements of 230V, 50-60 Hz.
2. Cryo chamber temperature setting should be 0°C to 40°C Cooling via two separate compressor systems with specimen cooling.
3. Specimen cooling facility available should be in the temperature range of – 10 to – 50<sup>0</sup>C.
4. Maximum cooling time up to maximum low temperature should be less than 4 hours after start up.
5. Actively cooled quick freezing shelf should be at -45°C.
6. Specimen storage shelf should store up to 8 chucks.
7. Maintenance free microtome with section thickness setting range from 0.5 to 30 micrometer should be available.
8. Fully Automatic Sectioning with an option of manual operation should be available.
9. Equipment should be suitable for sectioning of maximum specimen size: 40mm x 55mm.
10. Vertical specimen stroke length available should be 45-60mm, with a horizontal specimen feed of 20 to 30mm.
11. Motorized rapid and slow coarse feed preferably at two speeds 500µm/s & 1000 µm/s should be available.
12. Trimming facility from 5 to 150 µm +/- 0.5 µm, in steps of 5, 10, 30, 50, 100, 150 µm should be available.
13. Disposable blade holder system with lateral displacement and integrated glass anti-roll guide should be available.
14. Glass anti-roll guide with anti-static feature to facilitate perfect stretching of sections should be available.
15. Specimen precision orientation by 8 deg. (in x/y/z axis) should be available.
16. Instrument should have closed drainage system to allow controlled disposal of fluids.
17. Automatic & manual chamber defrost facility should be available with one automatic defrost cycle / 24 hours.
18. Duration of the defrost cycle should be 6 – 15 minutes.



19. Electronic locking key to avoid any inadvertent changes in program setting should be available.
20. Manual disinfection facility should be available.
21. System should be quoted with Disposable Blade system.
22. The equipment should be USA- FDA/European- CE approved.

#### Lot 2/ Package 6: DEPARTMENT OF MICROBIOLOGY

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Refrigerated centrifuge	1	2years	YES
2	Anaerobic apparatus	3	2years	YES
3	Electrophoresis set	1	2years	YES
4	BOD incubator	2	2years	YES
5	Laminar flow table	1	2years	YES
6	VDRL shaker	2	2years	NO
7	Vertex Mixer	1	2years	NO
8	Laboratory Refrigerator	4	2years	YES
9	Automated Blood Culture System	1	2years	YES
10	Automated Microwave Identification & Sensitivity System	1	2years	YES

#### REFRIGERATED CENTRIFUGE

6. Max Speed should be 18000 rpm with Speed range: 200 to 18,000 rpm
7. Max RCF should be 23545 x g ( with microphage tube 1.5/2.0 ml)
8. Temperature range should be -20°C to +40°C with 1°C increment
9. There should be provision Pre-cooling arrangement
10. Should have Pre-selection of running time 30 sec to 99 Hrs 59 min or continuous
11. Should be CFC free refrigeration system
12. Quick-Key for short runs.
13. Permanent indication of preset & actual values.
14. Splash proof large LCD display
15. Motor driven lid lock.
16. Should have 99 programmer facility.
17. Active imbalance identification & cut-off protection.
18. Imbalance tolerant drive pin Automatic rotor identification system with over speed protection.
19. Audible signal at the end of each run with several melody options
20. Direct access to parameters, no click through the programmer permanent indication of preset and actual values
21. The system should have confirmation on CE certification.
22. The system should complete with i) Fixed angle rotor for 24 x 1.5/2.0 rotor with rcf x 21381g & for provision for rotates 0.2ml & 0.5 ml tubes.

#### ANAEROBIC APPARATUS

- Transparent unbreakable jar with 3.5 Liters capacity
- Sturdy lid, clamp and sealing ring with built in safety features.
- System with compound gauge.

- Supplied with Stainless steel Petri-plate carrier, stainless steel test tube carrier and gas pack pkt.

### ELECTROPHORESIS SET

Should be CE certified.

Automated electrophoresis system with scanner/densitometer I.

#### I. Automated electrophoresis system

1. Automated electrophoretic run with drying and staining
2. To use cellulose acetate or agarose strips as matrix for electrophoresis and separate strips and kits for immunofixation
3. To have 2 sample application made of special stainless steel
4. Automated control of voltage, time and current
5. Facility to separate proteins, haemoglobin, lipoproteins, CK, LDH, and alkaline phosphates is enzymes
6. Facility for immunofixation
7. Alarm for level sensing, timer and doors
8. Samples for one gel should not exceed 10
9. Equipment should not have water sources water or pumps
10. Migration chamber should be monoblock with carbonium electrodes and should give uniform distribution of current on the full strip
11. Should have multi reagents at least 7 independent tanks
12. Process control system should be guide by electromagnetic heads with optical sensor built in the head

#### II. Densitometer or gel scanner

1. Scanning and processing of all gels
2. Automated control of voltage, time and current Gel temperature control with peltier effect
3. Facility to store at least 30 application protocols
4. Facility to run serum, urine, and CSF samples without prior dilution or concentration.
5. Facility to store the scanned image of the gel Facility of curve editing and entry of demographic
6. Availability of qualification and quality control features
7. Storage of patient data and result up to a minimum of 10000 samples
8. Facility to generate a comprehensive report containing the patient demographics, scanned image of the gel and curve and quantification data
9. Software up gradation should be provided free of cost up to 5 years
10. All necessary standard accessories like those required for sample application to be provided along with the instrument
11. Online UPS suitable for the entire system with 30 min backup.
12. One set of standard spares
13. Two kits of serum protein electrophoresis, one kit each of lipoproteins and isoenzymes of LDH, and Alkaline Phosphatase to be provided as starter kits.

### BOD INCUBATOR

Should be CE/USFDA/UL approved model.

Size: Inner chamber- 60cm x 45cm x 40cm (H x W x D) with  $\pm 10\%$  variation.

Cabinet: MS steel, powder coated, inner chamber 304 SS, 2 to 5 shelves, Temperature Range:  $5^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ , temperature accuracy:  $\pm 0.5^{\circ}\text{C}$

Should be Peltier based / compressor cooling, No CFC, Vibration free

Should be with timer and auto off facility.

Should be provided with RS 232 interface with compatible software for reporting.

The instrument should be complete in all respect to run as per requirement.

Should be provided with 2/3 detachable perforated steel rack for placement of samples.

Should run on power supply of 230 V (50 Hz) with standard Indian plug/adaptor.

## LAMINAR FLOW TABLE

Should be CE approved model.

Should comply with EN 12469:2000 or NSF ANSI 49 standards towards basic requirement for Microbiological safety cabinets.

Description: The external dimensions should be approx. 1000 x 750 x 1400mm (WxDxH) with an internal dimension of 950 x 550 x 850mm. (WxDxH) with  $\pm 10\%$ .

Chamber Material: Stainless steel body with antimicrobial coated cabinet structure which should prevent surface contamination and inhibit bacterial growth on the cabinet's external surfaces.

Filter: All the filters should be of 99.999% Efficiency ULPA filter 0.1 to 0.3  $\mu$ m of particle removal; ULPA filter lifespan should be more than 3 years depending on ambient operating conditions and the total number of hours in usage per day.

Air Quality Standard: Should be within work zone of Class 1 as per US Federal Standard 209E or equivalent standard of ISO 14644-1).

Alarm: Visual and audible alarm for low air flow, flow malfunction.

Air Flow volume: 900 m<sup>3</sup>/h

Air flow velocity should be approx. 90 fpm.

Microprocessor controller with digital display for Air velocity, Cabinet temperature, UV lamp hour meter, Filter life/ change date.

Should run on power supply of 230 V, 50Hz with standard Indian plug.

## VDRL SHAKER

For rotating slides for VDRL tests

Platform size 300x300 mm spring holder which can accommodate concave slides etc.

180 rpm continuously adjustable with regulation.

0 to 30 minutes for control of shaking duration with 1 minute interval.

Should be CE certified.

## VERTEX MIXER:

Short, rapid, eccentric stroke, motor driven Neoprene cup imparts vigorous agitation to tubes or small flask held in or against it. The housing should be minimum 150 x 150mm approx. The Vacuum Rubber pads should be provided at bottom. Machine should be supplied with complete with speed control, cord and ON/OFF switch and indicator to work on 220V, 1Ph, 50 Hz. AC supply

## LABORATORY REFRIGERATOR

Should be CE/USFDA/UL approved model.

Manufacturer should have ISO certification for quality process.

1. Capacity: 500 lts.  $\pm 10\%$ .
2. Temperature Range: Chamber: 2<sup>0</sup>C to 8<sup>0</sup>C
3. Temperature uniformity should be of  $\pm 3^0$ C.
4. Should have PUF Insulated body having minimum 50mm of thickness.
5. Exterior should be made of galvanized steel.
6. Interior made of Stainless Steel of 304 grade.
7. Two separate chambers with separate controller with data logging.
8. Digital display of temperature with microprocessor based temperature controller.
9. Should be CFC free refrigeration system.
10. Should have auto defrost mechanism.
11. Should have Mesh type Stainless steel trays.
12. Inner full length glass door for 2<sup>0</sup> to 8<sup>0</sup>C lower chamber and lockable outer door.

13. Should have alarm for temperature deviations and safety devices for temperature under shoots.

14. Should have printer and data logging facility.

The refrigerator should have the following features

Independent Cooling & Monitoring Systems for both chambers.

Meet Regulatory Requirements with validation.

Software Connection to get the data logger report.

Calibration Certificate.

- Should run on 230 V, 50 Hz with standard Indian plug/adapter.
- Should have inbuilt stabilizer or suitable external stabilizer should be supplied to operate from 160-270V range.

#### AUTOMATED BLOOD CULTURE SYSTEM

- Should be fully automated based upon flurometric or colorometric principle.
- Should be able to identify positive blood culture rapidly.
- Capacity to hold 40 blood culture bottles.
- The cost of reagent along with QC for measurement of all parameters for 100 tests in terms of pack size/volume must be quoted along with the base price of the equipment, which shall taken into account of price evaluation and same shall be approved for 5yrs from date of installation.

#### AUTOMATED MICROWAVE IDENTIFICATION & SENSITIVITY SYSTEM

- Should be fully automated based upon flurometric or colorometric principle.
- Should be able to identify wide range of micro organisms commonly encountered in clinical microbiology lab.
- Should be able to identify the microorganism to the species level.
- Should give rapid results.
- Should have up ot date data platform.
- The cost of reagent along with QC for measurement of all parameters for 100 tests in terms of pack size/volume must be quoted along with the base price of the equipment, which shall taken into account of price evaluation and same shall be approved for 5yrs from date of installation.

### **7. Lot 2/ Package 7: DEPARTMENT OF PG RESEARCH LAB**

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Laminar Flow Bench	1	2 years	YES
2	Vacuum Pump	2	2 years	NO
3	Octa pipette (50 to 200ul)	3	2 years	NO
4	Ice lined refrigerator	1	2 years	YES

#### LAMINAR FLOW BENCH

Should be CE approved model.

Should comply with EN 12469:2000 or NSF ANSI 49 standards towards basic requirement for Microbiological safety cabinets.

Description: The external dimensions should be approx. 1000 x 750 x 1400mm (WxDxH) with an internal dimension of 950 x 550 x 850mm. (WxDxH) with  $\pm 10\%$ .

Chamber Material: Stainless steel body with antimicrobial coated cabinet structure which should prevent surface contamination and inhibit bacterial growth on the cabinet's external surfaces.

Filter: All the filters should be of 99.999% Efficiency ULPA filter 0.1 to 0.3 m of particle removal; ULPA filter lifespan should be more than 3 years depending on ambient operating conditions and the total number of hours in usage per day.

Air Quality Standard: Should be within work zone of Class 1 as per US Federal Standard 209E or equivalent standard of ISO 14644-1).

Alarm: Visual and audible alarm for low air flow, flow malfunction.

Air Flow volume: 900 m<sup>3</sup>/h

Air flow velocity should be approx. 90 fpm.

Microprocessor controller with digital display for Air velocity, Cabinet temperature, UV lamp hour meter, Filter life/ change date.

Should run on power supply of 230 V, 50Hz with standard Indian plug.

#### VACUUM PUMP

- Vacuum pumps should be V Belt driven and fitted with capacitor start Crompton/AUE or equivalent electric motor mounted on base plate.
- All the parts should be precisely machined, and assembled to close tolerance for high efficiency.
- Pumps should be supplied either single stage or double stage to create pressure upto 0.001 mm Hg.
- Suitable to work on 220 V, 1 Ph, 50 Hz AC Supply.
- Capacity: 25 lt./min

Accessories :-

(a) High Vacuum Oil per lit.

(b) Vacuum Gauge with Regulator

(c) Moisture Trap

#### OCTA PIPETTE (50 TO 200uL)

Should be octa pipetting head.

Should have ergonomic design with light & smooth plunger action.

Totally adjustable, air-displacement pipette.

Usable for dispensing of aqueous fluids of moderate viscosity.

Should have soft feel handle grip having both left & right hand operation

Pipette handle should have thermoplastic elastomeric to prevent transfer of body heat to pipette volume during continuous usage

The parts of pipette likely to be exposed to chemicals should have provisions for autoclaving so as to sustain temp. of 121<sup>0</sup>C

Long self life and high resistance to aggressive chemicals Permissible volume errors should be a minimum.

Should have larger & clear 4 digit display giving smaller increment for wider selection of volume

Volume range should be of adjustable type of set range (50-200µl)

Should have locking mechanism to prevent accidental volume change during pipetting. Should have one hand eject facility.

Should have in house clinical, repair and calibration facility.

The tip cone should have leak free operation, smooth and light loading operation with choice of using variety of tips

Should be available with different color codes.

#### ICE LINED REFRIGERATOR (ILR)

Product Eligibility Criteria

Quoted model should be BIS or CE or USFDA approved.

Certificate of inspection for the quoted model from an independent laboratory approved /recognized by WHO/UNICEF/National Accreditation Board /STQC labs should be furnished.

**Technical Specifications:**

1. Load must remain at +2 to +8 deg C with accuracy of  $\pm 1^{\circ}\text{C}$  during 43 deg C continuous ambient temperature with holdover time of more than 24hrs.
2. Storage capacity in volume: 150 ltr.  $\pm 5\%$ .
3. Construction: Internal: Stainless steel Galvanised steel (min.0.9 mm, 22 G) and External: Corrosion Resistance Galvanized steel (at least 1 mm thickness)
4. Chest type with CFC free polyurethane insulation.
5. Should have adjustable upright SS mess type trays to be provided.
6. Unit should be fitted with a digital electronic temperature controller with temperature indicator for easy readability along with high & low alarm system.
7. Should use CFC Free Refrigerant R-134a (both for refrigeration and insulation)
8. The Cooling coil should be of Copper. The compressor should have five (5) years replacement warranty.
9. Should have auto defrost facility.
10. Provision for drainage for the waste water. Easy access to this waste water container for disposal of waste water. Compatible water trap system should be provided.
11. Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
12. Should have ON/OFF Switch and Power indicator should be available

The following spares should be provided with machine:

- Digital Thermometer-01no.
- Should work on 230-240V, 50Hz mains supply.
- Appropriate rating Automatic servo stabilizer ISI marked (Copper core) 90V-270V must be provided with the machine.

**8. Lot 2/ Package 8: DEPARTMENT OF FORENSIC MEDICINE**

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Adult Weighing machine	2	2Year	NO
2	Standiometer	2	1Year	NO
3	Weighing balance for weighing foetus	1	1Year	NO
4	Weighing machine for dead bodies	1	1Year	NO
5	Weighing machine for organs	2	1Year	NO
6	Autopsy table	2	2Year	NO
7	Autopsy saw with accessories	3	1Year	NO
8	Dissection set consisting of cartilage knife, bone cutting forceps, scissors, Enterotome scaples, knife with spare blades, probe metal scale in cms.	4	1Year	NO
9	Viscerotome with attachment for illumination (Battery operated)	1	1Year	NO
10	X-ray view box (4 in 1 row)	3	1Year	NO
11	Anthrometric set	1	1Year	NO
12	Automatic tissue processing machine	1	2Year	YES
13	Brain Knife	8	1Year	NO
14	Digital Spectrometer	1	2Year	YES

15	Cold storage for dead bodies (4 body)	1	2Year	YES
16	Instrument trolley	20	1Year	NO
17	Instrument cabinet	20	1Year	NO
18	Portable x-ray machine	1	2Year	YES
19	Embalming pump	1	2Year	NO
20	Parafin embedding bath	2	2Year	NO
21	Laboratory Refrigerator	1	2Year	YES

#### ADULT WEIGHING SCALE

1. Sturdy dial type mechanical platform weighing machine for adult and children.
2. Zero adjustment facility should be there.
3. Sensitivity: 100 g
4. Range of weighing: 0 to120kg
5. The manufacturer shall have the valid manufacturing license and should have model approval by the legal metrological Deptt. and the weighing scale must be stamped by the by legal metrological Deptt. In case of distributor, the bidder should have valid distributor and repair license from legal metrological Deptt., Govt. of Odisha.
6. ISO 9001 certified manufacturer (certificate to be submitted).

#### STANDIOMETER

1. The measuring rod can be dismantled into several pieces and can be set easily.
2. The scale must be printed along the side of the measuring rod.
3. Measuring range (Both in cm & inch) : 20-205 cm and 8 - 81".
4. Graduation of measuring rod : 1mm / 8inch.
5. The structure should be made of ABS plastic.
6. The product should be CE certified (certificate to be submitted in technical bid)

#### WEIGHING BALANCE FOR WEIGHING FOETUS

1. Sturdy electronic digital type machine with stable bassinet made of ABS (Detachable).
2. The display should be LCD / LED. Zero adjustment facility should be there.
3. Bassinet: curved smooth surface to prevent fall of baby with minimum length of 55 cm.
4. Accuracy: 10 gm
5. Resolution: 1 gm
6. Maximum capacity: 20 kg
7. The machine should be work both on line supply (230V) and on battery of minimum 1hr backup.
8. The manufacturer shall have the valid license and should have model approval by the legal metrological Deptt. and the weighing scale must be stamped by the by legal metrological Deptt. In case of distributor, the bidder should have valid distributor and repair license from legal metrological Deptt., Govt. of Odisha.
9. ISO 9001 certified manufacturer (certificate to be submitted)
10. Device is to be CE certified (certificate to be submitted).

#### WEIGHING BALANCE FOR DEAD BODIES

1. Weighing Scale for Dead Body has 304 Grade Stainless Steel Construction
2. These weighing scales provide accurate weight information with weight display of up to 200 kgs.
3. These scales are used for weighing cadavers.  
It has a Digital display with accuracy of 20gms
4. These scales have complete stainless steel platform for easy cleaning and anti-staining

5. The size of the Platform is 210L x 60W cm
6. It is provided with rechargeable battery back-up in case of power failure
7. Tare function is provided to reset the scale display to zero
8. Device is to be CE certified (certificate to be submitted).

#### WEIGHING BALANCE FOR BODY ORGANS

1. Organ Weighing Scales has 304 Grade Stainless Steel Construction
2. The capacity of organ weighing scales is maximum upto 15 kgs.
3. These scales are ideal for usage in autopsies, where organs are weighed for record maintenance and forensic investigations.
4. Our scales are accurate and efficient weighing scales  
It has a Digital display with accuracy of 2gms
5. The size of the Platform is 35L x 35W cm
6. These scales have complete stainless steel platform for easy cleaning and anti-staining
7. It is provided with rechargeable battery back-up in case of power failure
8. Tare function is provided to reset the scale display to zero.
9. Device is to be CE certified (certificate to be submitted).

#### AUTOPSY TABLE

The Autopsy table should be mounted to a central support column and is made entirely from stainless steel 304 grade.

Through a three-piece, removable, perforated test area, all unsanitary orders should be safely vacuumed away.

The work surface should be equipped with a high surrounding border with a negative inclination to the waste sieve (detachable).

A tub with drainage channel should be located under the perforated work surface.

An integrated sprinkler system should be available for continuously sanitization of the table. The table is to be connected to the side-mounted ventilation system, which should have minimum capacity of 1000 m<sup>3</sup>/h. the Autopsy table should includes the following features:

*Features:*

Hydraulic Height Adjustable & Exhaust System  
Self cleaning / washing sprinkler on sides Central support column with 2 access doors Basin W / D / H 400x500x200 mm Knee-operated mixing tap for cold and warm water 3 m shower hose with hand sprinkler 2 splash proof electrical outlets

2 buttons for height adjustment  
Regulator valve for integrated sprinkler system 3-piece work top with large waste basin/sieve insert  
Circumferential perforation for safe removal of all odors  
Height adjustable from 750 to 1000mm

Dimensions (mm) : 2600 (W) x 850 (D) x 750/1000 (H)

Carrying Capacity : 200Kg.

Dead Weight : 250Kg.

Material of Construction : S.S. 304 grade.

#### AUTOPSY SAW

1. Oscillating Autopsy Saw should be made of light metals and gears that should be permanently lubricated



2. Oscillating Autopsy Saw should comprise of exchangeable saw blades, mounted ball bearing, well ventilated motor for AC 230 volt with switch housed in a shock-proof, insulated casing.
3. Should be equipped with electrical connection cord fitted with plug
4. The length of the cord of minimum 5 mtr.
5. A speed controller should facilitate exact setting so that the rotations of the saw blade can be adjusted according to the requirements.
6. The complete set should comprises of autopsy saw , round saw blade , deep segment saw blade (small) and one set screw-wrench for exchange of saw blades
7. The Voltage is 230 volt / 50 hz / 125 watt
8. The Oscillation ranges between 12000 - 21000 / min

DISSECTION SET: Should consisting of cartilage knife, bone cutting forceps, scissors, Enterotome scalpel, knife with spare blades, probe metal scale in cms.

VISCEROTOME: Should be with attachment for illumination (Battery operated)

#### X-RAY VIEW BOX

Should be ultra-thin X ray film illuminator using light

It should have a thickness of 30 mm

It should be suitable for viewing 14"x17' film.

Should have position to insert 4 films in 2 rows.

The LED light must have a life span of more than 1,00,000 hours.

It should have easy insertion & removal of the film.

It should have homogeneous illumination more than 95% and maximum intensity of over 10,000 lux.

It should have an on-off switch along with digital feather touch dimmer and a button to set the intensity

It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.

It should have directly connectable to power supply without any external adapter.

It should have flicker free high frequency light for reduction of eye strain.

It should have external fuses for protection against power surge.

10 step Digital dimmer facility with step up/step down intensity of 500 lux or less.

Should have automatic film sensor

Should have facility to switch on only the section where the film needs to be viewed.

230V, AC, 50Hz. 3 Amps, Single phase

#### ANTHROMETRIC SET

All the items should be CE approved.

Set should consist of

1. Weighing Machine (Adult) : Digital, Capacity upto 200Kg.
2. Weighing Scale for Infant / Baby: Digital, Capacity upto 20Kg.
2. Stadiometer: range 20 - 205 cm
3. Length Measuring Board: range 10 - 100 cm
4. disposable cloth pieces for infants : 50 Pcs
5. Measuring Tape for Mid-upper-arm circumference: measuring range: 0 – 59 cm

#### AUTOMATIC TISSUE PROCESSING MACHINE

1. Microprocessor controlled Tissue Processor with freely selectable programs
2. User programmable parameters like infiltration time, delay time, agitation on-off and single basket operation.
3. Programmable infiltration time.
4. Delayed start up function to a maximum of 9 days.
5. Drain time of 60 second in each station to reduce carry over contamination.
6. Glass Reagent containers of at least 1.8 litres with seals to minimize evaporation and exposure the hazardous fumes.
7. Agitation or Centrifugation with on/off function for thorough and even mixing of reagents.
8. Maximum tissue processing capacity of 110 tissue cassettes using with single basket operation.
9. Maximum safety concept with automatic immersion of the tissue basket into the beaker in case of power failure.
10. Audible alarms, error message and warning codes for maximum safety.
11. Wax bath over temperature (at 75deg C) and under temperature cut-off facility for the safety of tissues.
12. Should have glass or Teflon coated reagent container with seals.
13. Locking facility to avoid inadvertent operation.
14. Facility of manual lifts the carousal and removable tissues in case of long power failures UPS with 30 minutes

#### BRAIN KNIFE

Straight cutting edge 30cm, thickness/1.77mm,  
Alloy Material or Stainless steel

#### DIGITAL SPECTROMETER

No.	Parameters	Details
1.	ADC	1024 Channels
2.	Energy Ranges	0-1024 keV
3.	Nuclide Library	≥ 50 nuclides
4.	High Voltage Supply	0-1300 volt
5.	Power Supply	90-260 VAC and 50-60 Hz
6.	Temperature	-50C to +400C
7.	Relative Humidity	0%-90%
8.	Detector	Scintillation, Well type, NaI (TI) crystal Crystal thickness = 2 inches Lead Shielding = 35 mm or more on all sides

#### COLD STORAGE FOR KEEPING DEAD BODIES (4 BODY)

1. Four body mortuary chamber with PUF installation and recessed handle option of PP/SS in tank
2. Each Compartment should have hinged door with locking arrangement
3. Stainless steel panel 304 grade for outer and inner chambers with insulation in between made of PUF
4. Exterior surface of material SS 304 grade
5. Temperature should be maintained between 2degree C to 5degreeC
6. Refrigeration of each compartment should be individually controlled, individually insulated and temperature can be adjusted with separate digital display. Individual drainage system should be provided for individual chambers.
7. Should have stabilizer backup to control voltage fluctuation for all chambers

8. Thickness of panel not less than 60mm
9. Front door with stainless steel SS 304 Grade
10. One piece stainless steel tray for keeping cadaver
11. Telescope type carrier assembly for cadaver
12. Manufacturer should be ISO certified.

#### PORTABLE X – RAY (MOBILE)

Operational Requirements:- Compact, lightweight, easily transportable mobile radiographic unit Suitable for bedside X-rays. The unit must have an effective braking system for parking and transport. The tube stand should have counter balance or spring balance for rotation to all directions. Exposures with remote control should be available. The unit must have cassette facility for all size of cassette.

Technical Specifications

The Generator:

1. Microprocessor controlled high frequency, output 5 KW or above.
2. It should have a digital display of mA and KV.
3. KV range: 40KV to 120 KV.
4. mA range: 100 mA or more

X-Ray Tube: 1. Rotating anode with a least 2500 rpm and focal spot size should be 1.5 mm. Or less. 3light Beam Collimator of multi leaf type with auto cut off switch. The exposure release switch should be detachable with a cord of sufficient length as per ICRP recommendation.

System Configuration Accessories, spares and consumables

Grid (Ratio 12:1) of the following size should be provided – 01 each -12"x 15"-10"x 12"

Standards and safety

Should comply with AERB/BIS/ICRP Guidelines for radiation leakage and X-Ray equipments.

#### INSTRUMENT TROLLEY

- 1) Its size should be 680mm L x 450mm W x 900mm H (Approx.)
- 2) Stainless steel tubular frame work made of 25mm OD x 18G verticals mounted on 125mm dia on rusting castor two with brakes.
- 3) Castor housing and wheels should be made from high grade non floor staining synthetic materials with integrated thread guards wheel center having precision ball bearing to run smoothly.
- 4) Two stainless steel shelves of 20G thickness, with protective railing on three sides.
- 5) The railing shall be made from dia. 10mm S.S. rod with 304 grade stainless steel.
- 6) Should be used for trolley frame work and SS shelves. SS parts finished with Matt Polish.

#### INSTRUMENT CABINET

- 1) M.S Angle covered by CRCA sheet of 20 gauge.
- 2) Overall Size : 66inch(H) x 36inch(W) x 18inch(D)
- 3) Double Door Fitted with Glass for visibility of instruments with lock.
- 4) Four partitioned shelf of 6mm thickness.
- 5) Should have Pre-treated epoxy powder coated finish.
- 6) Should have stainless steel bottom with four leg support.

#### EMBALMING PUMP

- Flow rate: 1 to 1000ml/min.
- Variable Speed
- RPM 10 to 100 with unidirectional flow
- ON/OFF switch with light indicator

- Power supply: 230V,50Hz
- Stainless mounting hardware to connect the head.

#### Pump Head:

- Should be compatible with pump drive.
- Should retain automatically
- Should have stainless steel rotor material and polyphenylene sulphide for housing material.

#### Tubing

- Silicone rubber material with heat and chemical resistant.
- Autoclavable upto 100degreeC.
- Internal diameter 5-7mm
- Hose size: 6-7mm
- Length:6 to 10mtr.
- Should be provided with two extra tubes.

#### PARAFIN EMBEDDING BATH

1. Temperature ranges for
2. Paraffin Reservoir: 50 deg C - 70 deg C ( $\pm 2$ deg C)
3. Work Surface: 50 deg C - 70 deg C ( $\pm 5$  deg C)
4. Tissue Holding Tank: 50 deg C - 70deg C ( $\pm 2$  deg C)
5. Cold plate temp. range should be -5 to -10 degreeC to ambient.
6. Refrigerant: Cold Plate, Cold Spot (Peltier controlled)
7. Resolution of temperature display: +/- 1 deg C
8. Height of Work Surface: 6 cm or more
9. Cold Plate: (at least to hold 80 to 100 cassettes)
10. Prices should be quoted for each separately: Standard size Cassettes – 1000 Nos.
  - Large field Magnifying lens with cold light source
  - Stainless Steel Moulds of different sizes (Depth 9 to 12 mm) – 80 Nos.
  - Paraffin Scrapper – 3 Nos.
  - Halogen Bulb – 12 Nos.
  - Fuse – 12 Nos.

#### LABORATORY REFRIGERATOR

- Should be CE/USFDA/UL approved model.
- Manufacturer should have ISO certification for quality process.
- Capacity: 500 lts. $\pm 10\%$ .
- Temperature Range: Chamber: 2<sup>0</sup>C to 8<sup>0</sup>C
- Temperature uniformity should be of  $\pm 3^0$ C.
- Should have PUF Insulated body having minimum 50mm of thickness.
- Exterior should be made of galvanized steel.
- Interior made of Stainless Steel of 304 grade.
- Two separate chambers with separate controller with data logging.
- Digital display of temperature with microprocessor based temperature controller.
- Should be CFC free refrigeration system.
- Should have auto defrost mechanism.
- Should have Mesh type Stainless steel trays.
- Inner full length glass door for 2<sup>0</sup> to 8<sup>0</sup>C lower chamber and lockable outer door.
- Should have alarm for temperature deviations and safety devices for temperature under shoots.
- Should have printer and data logging facility.

The refrigerator should have the following features

Independent Cooling & Monitoring Systems for both chambers.

Meet Regulatory Requirements with validation.

Software Connection to get the data

logger report. Calibration Certificate.

Power Supply:

- Should run on 230 V, 50 Hz with standard Indian plug/adapter.
- Should have inbuilt stabilizer or suitable external stabilizer should be supplied to operate from 160-270V range.

**9. Lot 2/ Package 9: DEPARTMENT OF PHARMACOLOGY**

Sl.	Items Name	Qty.	Warranty	CMC Required
1	Kymograph	1	2Year	NO
2	Digital Plethysmometer	1	2Year	YES
3	Accessories for Organ Bath	1	1Year	NO
4	Pharmacology and physiology setup	1	1Year	YES
5	Cook's Pole Climbing Apparatus	1	1Year	NO
6	Actimeter	1	2Year	YES
7	Digital Electroconvulsimeter	1	1Year	YES
8	Rotarod Apparatus	1	1Year	NO
9	Rotarod Apparatus: (Acceleration mode)	1	1Year	NO
10	Analgesia Meter (Eddy's Hot Plate type)	1	1Year	YES
11	Hot and Cold plate Analgesiometer	1	1Year	NO
12	Digital Physiograph	1	2Year	YES
13	Computerized Physiograph	1	2Year	YES
14	Paw pressure Analgesia Meter	1	1Year	NO
15	Analgesia Meter (Tail Flick Type)	1	2Year	NO
16	Metabolic Cages For Small Rodents	1	1Year	NO
17	Rack For Metabolic Cages	1	1Year	NO
18	Metabolic Cages For Small Rodents	1	1Year	NO
19	RACK FOR METABOLIC CAGES	1	1Year	NO
20	Metabolic Cage for Large Rodents	1	1Year	NO

**1. Kymograph**

Should be *CE Certified*

Microprocessor controlled drum with stepper motor, 16X2 Blue LCD display

Highly accurate 7 Speeds- 0.12, 0.25, 0.50, 0.75, 1.00, 1.25, 2.50 mm/sec Sturdy and corrosion resistant

Special chrome plated rod and MS Powder coated body Auto concentration response curve (CRC) and Normal Mode Timer and timer multiplier with audio and visual Alarm

Should be provided with spare fuse and inbuilt filter for mains socket Height of rod: 340mm

Should be maintenance Free

## 2. Digital Plethysmometer:

Should be *CE Certified*

The control unit should detect the conductance changes, whose electronics generates an output signal in ml (**with resolution of 0.01ml and accuracy of  $\pm 0.01$ ml**) shown in the digital display.

The control unit should be automatically zeroed between successive readings, making intermediate adjustments unnecessary. The control unit should be provided with RS 232 port for communication to computer and the instrument should be provided with software to transfer data to the PC and allows exporting them to software like excel.

Instrument should be provided with a stand to hold the acrylate tube assembly. Inbuilt memory for experiment data

Power Supply: 230V 50Hz AC

Display: Digital Display Monochrome graphical LCD 128X64

Resolution: 3 Digits, 0.01

### **Components to be included:**

Control unit with communication port to PC  
Pedal switch

Auto-calibration mode

Manual calibration mode for: 0.5ml, 1ml, 2ml  
Two separate retort stands

Instruction manual

Cables and Connectors

Surfactant solution

bottle  
Microlitre syringe

Digital pocket conductivity meter

Dust protection cover for control unit  
Software for data collection

**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

## 3. ACCESSORIES FOR ORGAN BATH:

Sr. No.	Description
1	AERATOR
2	KYMOGRAPH PAPER (PACKET OF 100 SHEETS)
3	SMOKING BURNER KEROSENE TYPE
4	STAND FOR SMOKING BURNER
5	MARRIOT BOTTLE MADE OF ACRYLIC WITH PTFE STOPCOCK, 1 LT
14.	MARRIOT BOTTLE MADE OF ACRYLIC WITH PTFE STOPCOCK, 500ML
7	MARRIBOT BOTTLE STAND
8	SIMPLE LEVER
9	FRONTAL WRITING LEVER
10	STERLING HEART LEVER
11	FROG BOARD
12	SYMES CANNULAE

13	VENOUS CANNULAE
14	AERATION TUBE METALIC
15	ORGAN TUBE P.P./ GLASS
16	RESERVOIR COIL PERSPEX/ GLASS
17	P.P. ORGAN TUBE/RESERVOIR COIL HOLDER
18	HEART CLIP
17.	<b>Ink Marking device for organ bath:</b> Ink Marker without lever for above: Non ink refillable type, Writing length of the pen would be appx 450 to 500 running ft. Should not dry for average 4 to 6 months if kept open to atmosphere or on recorder without touching paper. In sealed condition self life should be around 18 to 24 months.
20	Frontal writing Lever for holding ink marking device
	<b>TUBINGS</b>
1	SILICON TUBING: 6.5mm x 11mm (I.D. x O.D.)
2	TRANSPARENT PVC TUBING: 7mm x 12mm(I.D. x O.D.)
3	PVC TUBING FOR AERATOR (Minimum pack size 5 meter coil)
21	<b>COUPLER SET</b>
A	BOSS HEAD FOR COPLER SET
B	CLAMP FOR HOLDING BOSS HEAD
101	FULCRUM/ SIMPLE LEVER FOR HOLDING FRONTAL WRITING LEVER
D	BOSSHEAD FOR HOLDING AERATION TUBE
E	CLAMP FOR HOLDING BOSS HEAD OF AERATION TUBE
F	TISSUE HOLDER FOR OB SERIES

#### 4. Pharmacology and physiology setup:

##### Description

##### A. Experiments on isolated heart

Digital Sherrington Recording Drum  
(kymograph) X block  
Heart Chamber with lever and  
electrode Stand for above  
Cannulaesymmes  
Clamp for holding Symmescannulae  
Marriot bottle Perspex 500ml Marriot  
bottle stand  
Rubber tubing  
Dissection tray  
Dissection box Heart clip  
Heartclip Frog Board  
Kymograph paper  
packet

##### **Recording or writing devices: Ink based**

Sterling heart Lever for ink pen  
attachment Ink marker (non refillable)

**Requirement for Physiology:** Stimulator Digital

##### B. Experiments on isolated muscle

Digital Sherrington Recording Drum (kymograph)  
Organ bath Single unit thermostatic  
Aerator  
Marriot bottle Perspex 500ml

Marriot bottle stand  
 Rubber tubing  
 Dissection tray  
 Dissection box  
 Kymograph paper packet  
**Recording or writing devices:**  
**Ink based**  
 Frontal writing lever for ink type  
 Ink marker (non refillable)

**C. Nerve Muscle Assembly:**

Sl.	Item
1	Dubois Raymond induction coil
2	Drum paper clips
3	Crank myograph
4	Starling heart lever
5	Adjustable stand
6	Standard X block
7	Open sided X Block
8	N 100 Tunning fork
9	Dubois Raymond key
10	Simple electrode
11	Simple contact key
12	Hook and weight set 110g
13	Hook and weight set 11g
14	Muscle clip
15	Frog heart clip
16	Pithing needle
17	Connecting wires
18	Fixing pins
19	Capillary lever
20	Nerve muscle chamber 17x13x3cm
21	Sherrington recording drum SRD 01
22	Kymograph paper
23	Smoking burner with stand

**5.Cook's Pole Climbing Apparatus:**

Should be CE Certified

Cook's Pole Climbing Apparatus should be with built in solid state buzzer and stimulator to provide electrical shocks of 16 to 200V DC in pulsating rates of 0.1mA at a frequency of 5Hz for controlled duration.

Features:

Digital Timer : 0.1-999 sec  
 Digital delayed timer : 0.1-999 sec (cyclic)  
 Digital voltmeter : Range 16-200V DC  
 Inner chamber made of : Transparent imported acrylic  
 Complete outer chamber made of: 10mm acrylic sheets  
 Climbing pole made of : Bakelite  
 Switch for selecting light or sound mode



## **6. Actimeter:**

Should be CE CERTIFIED

An ideal tool for assessing loco-motor activity & exploration in rodents. The system should represent a reliable system for easy & rapid drug screening in both day & night light condition.

### **Features:**

Same instrument useful for Actimeter study and Hole Board Study Maintenance free compact system Minimum lightening conditions required

Same system can be upgraded for Z axis

System should work without computer

should be provided with 16 IR source on X axis and 16 IR source on Y axis creating a 16x16 grid.

Same instrument should be used as hole board test apparatus using hole board plate provided.

Provision for Digital timer and digital counts for Actimeter as well as hole board apparatus.

should be supplied with software for data transfer

**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

## **7. Digital Electroconvulsimeter**

Should be CE Certified

Ammeter: Digital Type

Timer: Digital type

Current: 0.1mA to 330mA

Provided with corneal electrodes and ear electrode Supplied with foot switch

## **8. Rotarod**

**Apparatus:** Should be

CE Certified Features:

Same instrument should be used for mice as well as rat just by changing the rotor Five compartment model

Plate type sensor for detection of fall

Diameter for mice rotor: 30mm, Diameter for rat rotor:

60mm Individual lane timers (0-999.9s) with resolution of

0.1s Electronic rod speed adjustment- constant speed (5-80

rpm) Software for data collection

**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

## **9. Rotarod Apparatus: (Acceleration mode)**

Should be CE Certified

Features:

Password protected system.

Same instrument can be used for mice as well as rat just by changing the rotor & some partitions.

Lane width can be easily adjusted for mice and rat model Five Lanes.

Detection of fall by plate type sensor

Individual lane timers (0-999s) with resolution of 0.1s

Electronic rotor speed adjustment- constant speed (5-80rpm)

Software for data collection

Easy replacement of rotor  
3 different modes- Normal mode, Acceleration 1 and acceleration  
2 Reverse- forward direction selection mode Cuf-off time settings

Auto Experiment Number

Password protected delete mode

Software Features:

Password protected software.

Experiment title, comments can be entered.

Graphical presentation of data

Test ID can be assigned to compartment for animal groups

PC Connectivity software with report generation in pdf, transfer of data to excel & calibration report generation facility

Parameters recorded: Distance travelled in meters, Falling RPM, Time spent on rod  
**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

#### **10. Analgesia Meter (Eddy's Hot Plate type):**

Should be CE Certified

Should be programmed with features of auto experiment number, animal ID, animal sex and auto sequence number

Lid open sensor and gives message if lid is open during experiment

Plate temperature should be held at a set point between 5°C above ambient to 70°C(±0.2°C)

Remote foot-switch control the test start / stop allowing rapid Hands-free experiments

High temperature stability & Uniform surface heat distribution

A built-in timer should be activated by an external foot switch allows the precise measurement of the reaction time (0.1 Sec. Resolution)

Calibration mode for calibrating the plate temperature

PC Connectivity software with facility to add experiment title, comments, calibration report generation facility, transfer of data to excel and graphical presentation

**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

#### **11. Hot and Cold plate Analgesiometer:**

Should be programmed with features of experiment number, animal ID, animal sex and auto sequence number.

Lid open sensor should give message if lid is open during experiment

Plate temperature should be held at a set point between 2°C to 60°C (±0.5°C)

Remote foot-switch should control the test start / stop allowing rapid Hands-free experiments

High temperature stability & Uniform surface heat distribution

A built-in timer should be activated by an external foot switch allows the precise measurement of the reaction time (0.1 Sec. Resolution)

Calibration mode for calibrating the plate temperature

PC Connectivity should have software with facility to add experiment title, comments, calibration report generation facility, transfer of data to excel and graphical presentation

**(Computer / Laptop & Printer of branded make to be provided by the supplier)**

## 12. DIGITAL PHYSIOGRAPH: (TFT DISPLAY)

### **STUDENT PHYSIOGRAPH with SINGLE Channel Console with Time & Event channel and stimulator**

For Human & Animal experiments having following coupler and transducers COUPLERS

- I. STRAIN GAGE
- II. ISOTONIC
- III. PULSE RESPIRATION
- IV. TEMPERATURE
- V. EKG (CLINICAL) with Electrode, 5 pin Junction box and Jelly.
- VI. BIO POTENTIAL (with Electrodes, 3 pin Junction box, Paste and Electrodes for Action Potential).

### **TRANSDUCERS REQUIRED**

- I. PRESSURE
- II. VOLUME
- III. MUSCLE ACTIVITY/FORCE
- IV. RESPIRATION BELT
- V. ISOTONIC FINE MOVEMENT
- VI. PULSE
- VII. RESPIRATION (Thermister Type)
- VIII. TEMPERATURE

ACCESSORIES: Following accessories are supplied along with each console:-

- a. Fuses
- b. Earthing wire
- c. Instruction Manual
- d. Machine Cover

## 13. Computerized Physiograph:

Features:--

ECG, EEG, EMG, ENG & ECG,

-Pulmonary Function Measured Parameters:-

FVC, FEV<sub>0.5</sub>, FEV<sub>1</sub>, PEF, PIF, FEV<sub>1</sub>, FVC% FEF<sub>25%</sub> 75%, V<sub>max</sub> 25% V<sub>max</sub> 50%, V<sub>max</sub>-75%, FET 100% SVC, IRV, ERV, VE, Rf, tE, tI, VT, VT/tI, tI/t.tot, MVV.

Respiration

Blood Pressure (Invasive & Non Invasive) Heart Sounds & Korotkoff sounds Nerve Conduction

Electrodermal Activity (GSR) Pulse

Reaction Time

Temperature Force & Pressure. System

Comprises of :-

- i) Data Acquisition System-
- ii) 4 Channel BASIC hardware unit (4 Channels digital data acquisition system)
- iii) System Software
- iv) Data cable BASIC

- v) Main cable
- vi) 3 Pin Junction Box
- vii) 5 Pin Junction Box
- viii) EEG/ EMG Electrodes
- ix) ECG Limb Electrodes
- x) ECG Chest Electrode
- xi) Pulse Transducer
- xii) Respiration Belt (Stethograph Type)
- xiii) PhonoCardiogramme Transducer
- xiv) EEG Paste
- xv) Electrode Jel
- xvi) Skin Temperature Transducer
- xvii) Blood Pressure Cuff
- xviii) Pressure Transducer
- xix) Muscle Activity/Force Transducers
- xx) Nerve Conduction Stimulator
- xxii) Digital Turbine
- xxiii) Hand Dynamometer

**(Computer / Laptop & Printer, Trolley of branded make to be provided by the supplier)**

b. Isolated Tissue bath system:

Double unit isolated tissue bath system with digital temperature controller, automatic emptying and filling of organ tube system, aeration speed control, supplied with micromanipulator, aerator, organ tube, reservoir coil, marriot bottle, marriot bottle holding stand, silicon tubing

**14. Paw pressure Analgesia Meter:**

**Should have following features:**

- Pre Calibrated easy to use system
- High accuracy and resolution
- Automatically storing of the peak readings
- Stand alone system, no need of computer

Zero key to make readings zero during operations

PC Connectivity with Software using USB cable for data analysis & report generation

Inbuilt weight calibration & calibration report generation

facility Instrument operates on rechargeable battery\*

Data can be converted to excel & Pdf file for further analysis

Provision to add experiment name, instrument serial number, test ID, animal sex & 3 readings averaging facility in software report

Digital full color TFT Display

In-built Memory up to 150 readings

Three units for measurement available gf/N/ lbf

<b>Capacity</b>	2000 gf
<b>Resolution</b>	0.1 gf
<b>Accuracy</b>	±0.2%
<b>Display</b>	TFT
<b>Battery</b>	Rechargeable batteries*
<b>Unit</b>	gf/N/lbf

<b>Useful for</b>	Forelimbs
<b>PC Connectivity</b>	Through USB
<b>Material of composition</b>	Methacrylate, S.S. 304
<b>Certifications</b>	CE Compliant
<b>Power requirements</b>	220/230V AC 50Hz

**Should have following software features:**

Provision of experiment title, instrument serial number, animal start number and animal end number, animal sex selection so that no need of manual entry of animal number for each animal.

Software should automatically create the rows from selected animal start number up to the last animal number.

**Averaging option:** Software should automatically give average of 3 readings if needed.

**Error code option:** Errors like instrument error, wrong animal number and repeat trial can be coded in front of a particular reading if needed.

**Components included**

Control Unit

Stimulation Unit

Pedal Switch

Flat and pointed tip points

Instructions manual

Software for PC Connectivity

**(Computer / Laptop & Printer of reputed brand to be supplied by the supplier)**

**15. Analgesia Meter (Tail Flick Type):**

Should be CE Certified

Tail Flick Analgesia Meter should measure pain sensitivity in mice and rats as they respond to heat application to a small area of the tails.

Should have program with features of auto experiment number, animal ID, animal sex and auto sequence number

Should have remote foot-switch control to test start / stop allowing rapid Hands-free experiments

Heating through Halogen lamp

Should be provided with digital intensity controller for controlling the intensity of heating lamp from range 1-99% in the total 50 steps.

Heating platform made of thick special grade plastic with groove provided for placement of animal tail

PC Connectivity software with facility to add experiment title, comments, calibration report generation facility, transfer of data to excel and graphical presentation.

Instrument should be supplied with 2 perspex restrainers- one for mice and one for rat

**16. METABOLIC CAGES FOR SMALL RODENTS:**

Should be CE Certified

Should offer 99% separation efficiency of urine and feces assuring maximum purity of samples.

Each cage should be placed on a single cage stand or a stainless steel rack or trolley accommodating up to eight or ten cages.

**Components Included:**

Polycarbonate cage with lid  
Polycarbonate collection funnel  
S.S. 304 floor grill  
Polycarbonate Linear diffuser guide  
Urine collection tube P.P  
Feces collection tube P.P  
Polycarbonate water bottle 250ml with holder  
Waste water collection tube P.P.  
S. S. 304 Universal Food Hopper  
S.S. 304 stand for cage  
Overall Approx Dimensions: 300x300x650mm  
Floor grill has diameter of: 235mm

#### **17. RACK FOR METABOLIC CAGES**

Our mobile, stainless steel rack should accommodate up to eight or ten metabolic cages per rack. The two tier construction should ergonomically position cages at convenient height levels for easy observations and routine maintenance.

Racks should be designed to minimise the number of parts necessary for reducing labour and saving your valuable time.

Racks should be supplied in parts ready to assemble for ease of transportation

#### **18. METABOLIC CAGES FOR SMALL RODENTS:**

Especially useful for urine collection experiments

The cage should be provided with cage body, floor, Funnel, Water bottle and waste water collection tube. Waste water is to be collected in the P.P. tube.

Cage body should be fitted with tag holder for identification purpose.

#### **Components Included:**

S.S. Cage body  
S.S. grill type  
floor S.S. Funnel  
S.S. mesh plate for  
separation Water bottle 150ml  
Water bottle holder  
Waste water collection P.P.  
tube Urine collection beaker  
P.P M.S. Powder coated stand  
**Overall Approx Dimensions:** 260x300x420mm

#### **19. RACK FOR METABOLIC CAGES**

Made of S.S. 304 material and suitable to hold 6-8 metabolic cages for small rodents

#### **20. Metabolic Cage for Large Rodents:**

Should be equipped with system for separation of feces and urine.

Each system should be divided in 3 parts- Cage body, Separation hopper and feeding and water supplying unit.

Separation hopper should be fitted with S.S. mesh for separation of urine and feces.

Feces are to be collected above the mesh while urine goes down through tube.

Design and finish should be such that the animal has a maximum of comfort.

Made of Complete S.S. 304 Material. Overall

Outer Dimensions: 550x360x720mm

Should be supplied with Food hopper, Polycarbonate Water bottle of 550ml, Waste water collection tube & graduated beaker of 500ml for Urine collection. Should be suitable for Rabbit, Guinea Pigs

**C) LOT 3: LOW VALUE ITEMS**

**1. Lot 3/ Package 1: DEPARTMENT OF ANATOMY**

Sl.	Item Name	Qty.	Specification Details
1	Metal Stools	60	Made of Stainless steel of 304 grade.
2	Plastic tanks for storing body parts	10	
3	Steel trolley table	3	Made of Stainless steel of 304 grade.
4	Slide cabinet for 1000	6	Stainless steel, 1,000 capacity Wrap proof, break proof for storage Have slots to accommodate 1000 slides with lid/ wooden with hinged lid Should have index inside the lid.
5	Paraffin bath	1	
6	Diamond Pencil	4	
7	7 color marking pencil	2sets	
8	Specimen Jars	100	
9	Steel racks	50	
10	All chemicals as specified		Formalin (5ltr.)-300 Glycerol (500ml.)-100 Ethanol (500ml.)-100 Phenol (500ml)-25 Thymol(25gm)-50 Eosin(25gm)-10 Haematoxin (5gm)-10 Xylene (500ml.)-5 Parafin wax (500gm)-5 Cedar wood oil (25ml.)-5 Methanol (5ltr.jar)-100
11	Hand Saw	3	Made of Stainless steel with firm grip

**2. Lot 3/ Package 2: DEPARTMENT OF PHYSIOLOGY**

Sl.	Item Name	Qty.	Specification Details
1	Electric Steriliser	4	Made of SS 304, Size: 12(L)×8(D)×6(W)
2	Instrument trolley	1	Size should be 680mm L x 450mm W x 900mm H (Approx.) Stainless steel tubular frame work made of 25mm OD x 18G verticals mounted on 125mm dia on rusting castor two with brakes. Two stainless steel shelves of 20G thickness, with protective railing on three sides.
3	Oxygen cylinder with trolley	6	Made with hi-grade MS tubular steel. Mounted on two 10cm wheels. Pre-treated and Epoxy Powder Coating for Scratch proof Finish. For small (40cft) Oxygen Cylinder.
4	CO2 cylinder with trolley	2	Made with hi-grade MS tubular steel. Mounted on two 10cm wheels. Pre-treated and Epoxy Powder Coating for Scratch proof Finish. For small (40cft) CO2 Cylinder.
5	Thermometer	12	Digital, Range 0 to 100degreeC.
6	Balances	2	
7	Venus & Arterial cannula (different size)	12 sets	
8	Micro slide & Glassware	1000	
9	Electric time maker,100/sec	6	
10	Tuning fork,100/sec	6	Tuning forks : Set of 8 forks in velvet lined case Ragg's. English Blue Steel Set of 8 in case.
11	Electrodes, X-blocks, burette clamps, enamel bowl brass uprights with coarse and fine adjustments basin, spirit lamp, cooper wire (double cotton covered) Kymograph paper	40 sets	
12	Smoking outfit with fume cupboard	1	
13	Vanishing outfit for long & short papers	1	



14	Haemoglobinometer (Sahli's)	40	Measuring range - 40-360 g/litre. As a photometer, precision not worse than 1% the total error of conc. Of Hb does not exceed 2% The volume of liquid for photometry must be not less than 1ml. optical length of a cuvette or cylindric test tube – 10 ±0.1 mm.
15	Windtrob's haematocrit tube with rack (6)	30	
16	Gas analysis appratus, Haldane's student type	1	
17	Van Slyko's apparatus Manometric	2	
18	Ergograph Mosse's	6	
19	Compas (Aesthesiometer)	10	
20	Knee hammer	50	Soft Rubber to prevent any breakage Light weight Ease in store and maintenance
21	Schematic eye	2	
22	Perimer with charts color percetion lantern Edridge Green Maddox rod Newtons color wheel tuning forks to test hearing (32pcs.)	2sets	
23	Stop watch	6	Digital with screen illumination. SWISS make 1/10 second
24	Simple Spirometer/ Student Spirometer	20	
25	Solutions/Chemicals		1..Cedar Wood Oil----20 bottle 2..Xylene-----10 bottle 3..Rectified Spirit----50 bottle 4.N/10 HCL-----50 bottle 5..Distilled Water----50 bottle 6..Hayem's Fluid (RBC Diluting Fluid)-50 bottle 7..Turk's Fluid(WBC Diluting Fluid)--50 bottle 8..Leishman's Stain---50 bottle 9..Anti Serum A, B,Rh---10 packets 10..Isotonic Saline (0.9/-%Nacl)---50 bottle 11..Double Oxalate (Almmonium & Potasium Oxalate)---10 bottle 12..3% Sodium Citrate-----20 bottle 13..Platlet Diluting Fluid(1%Ammonium Oxalate)----10 bottle 14..Briliant Cresly Blue/New Methylene Blue-----10 bottle 15. Magnesium sulfate----20 Pockets

			16..Alcohol-----50 bottle 17..Pilots Solution-----10 bottle 18..EDTA-----20 bottle 19..Rees Ecker fluid-----20 bottle 20..Cotton-----100 rolls 21..Needle 24G-----100 pc 22..Dettol-----5 liter 23..Savlon-----5 liter 24.Hand wash---- --100 bottle 25.Filter paper-----50 pockets
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### 3. Lot 3/ Package 3: DEPARTMENT OF BIOCHEMISTRY

Sl.	Items Name	Qty.	Specification Details
1	Fume Cupboard	2	
2	Thermometer (0 to 250C)	4	Glass Thermometers with Mercury up to 250°C
3	Thermometer (0 to 110C)	4	Glass Thermometers with Mercury up to 110°C
4	Cork borer set	1	
5	Sprit lamp	30	
6	Chromatographic chamber	2	Rescholars chromatography cabinets, made of teak wood with glass on four sides and on top. The internal surface coated with wax in order to ensure resistance to solvent and other chemicals.
7	Desicator (Large)	6	
8	Desicator (Small)	6	
9	Homogeniser (grinder type)	1	
10	UV lamp	1	
11	Tools for glass glowing & mending	1 set	
12	Plastic bottle dispenser	15	
13	Pipette Stand	10	
14	Vertical page agarose	2	
15	Power packs for electrophoresis (300V)	2	Output range: 10-300 V and 4-400 mA, fully adjustable. Constant voltage and current type. Operational voltage should be 220 ±20V. Should have power of approx. 75W and time control of 001-999 minutes, fully adjustable.
16	Ryles tube	4	
17	Stop watch	4	Digital with screen illumination. SWISS make 1/10 second
18	Cupboards for storing reagents	50	

19. All Borosilicate glassware items: As specified below

Item	Volume	Total
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		Numbers
Beaker	100ml	50
Beaker	250ml	25
Beaker	500ml	25
Beaker	1000ml	5
Measuring Beaker with handle		5
Burette	10 ml 100 divisions	50
Burette stands	22X15"	30
Burette clamp		50
Bottles for reagents(stoppered)	100 ml	100
Bottles for reagents(stoppered)	250m ml	50
Bottles for reagents(stoppered)	500 ml	25
Bottles for reagents(stoppered)	1000 ml	10
Wash bottles	1000 ml	60
Large water bottles with tap	5000 ml	4
Measuring Cylinders	25 ml	10
Measuring Cylinders	100 ml	10
Measuring Cylinders	500 ml	10
Measuring Cylinders	1000 ml	10
Graduated Centrifuge tubes with cap	15 ml	500
Plain Centrifuge tube	15 ml	500
Gloves	7"	1 packet
Hand Protector grip	7"	1 packet
Glass pipette	1 ml	50
Glass pipette	2 ml	50
Glass pipette	5 ml	50
Glass pipette	10ml	50
Pasteur pipette	3 ml	100
Auto pipettes	10-100 micro litre	5
Auto pipettes	20-200 microlitre	5
Auto pipettes	100-1000 microlitre	5
Rubber teats		50
Measuring Scoops		10 packets
Glass slides for microscope		100
Universal micro tipbox		20
Tips for autopipettes	10-100 micro litre	1000
Tips for autopipettes	20-200 microlitre	1000
Tips for autopipettes	100-1000 microlitre	1000
Test tube	15 ml	1000
Test tube	20 ml	1000
Test tube(Thick)	30 ml	500
Test tube racks		50
Test tube holder		60
Test tube brush different sizes		10
Conical flasks	100 ml	50
Conical flasks	250 ml	20

Conical flasks	500 ml	10
Conical flasks	1000 ml	10
Conical flasks	2000 ml	10
Round bottom flask	100 ml	100
Volumetric flask	500 ml	10
Volumetric flask	1000 ml	10

20. List of required chemicals,

Item	Amount
Alphanaphthol	500gm
Ammonium Sulfate	500gm
Acetic Acid-Glacial	2 litres
Acetic Acid-Dil	2 litres
Ammonium Molybdate powder	500gm
Ammoniacal Silver Nitrate solution	1 litre
Acetone	2.5 litre
Aceto-acetate	100 gm
Acetic Anhydride	500 gm
Ammonia	1 litre
Albumin 25% solution	50 ml
Amino Acid kit	one
Agarose	100gm
Amido black	25 gm
Ascorbic acid	500gm
Bromocresol green indicator(0.04%)	500 ml
Bromine	500 ml
Borax	500 gm
Barium Chloride dihydrate	500 gm
Bilirubin conjugated	100 mg
Nitrobenzene	500 ml
Benzidine powder	100 gm
5,-5'-Nitrilobarbituric acid Monoammonium salt	100 gm
Copper sulphate.5H <sub>2</sub> O	500 gm
Copper Acetate	500 gm
Cholesterol powder	200 gm
Calcium Chloride dihydrate	500 gm
Chromic Acid	500 gm
Creatinine	50 gm
Chloroform	500 ml
Calcium Carbonate	500 gm
Dextrin	100 gm
4-Dimethylaminoazobenzene	100 gm
Diacetylmonoxime	100 gm
Disodium Hydrogen Arsenate	100 gm
2,6-Dichlorophenolindophenol	5 gm
Disodium Phenylphosphate	100 gm
Distilled Water	10 Litres

Dextrose	500 gm
Dimethyl Yellow	25 gm
Ethanol(Diethanolamine	1 Litre
Diethyl ether	2.5 Litre
Ehrlich's reagent	100 ml
Ethidium bromide	5 gm
Formaldehyde	500 ml
Formalin	500 ml
Ferric Chloride.6H <sub>2</sub> O	100 gm
Ferric Chloride anhydrous	100 gm
D(-)Fructose	500 gm
Filter paper	10 packets
Glycerol	500 ml
Glycine	100 mg
Hydrogen peroxide	500 ml
Hydrochloric Acid concentrated LR	5 Litres
Iodine	100 gm
Lactose	500 gm
Lead acetate	100 gm
Litmus paper-Blue	100 nos
Litmus Paper-Red	100 nos
Litmus Paper-ph 2-14	100 nos
Lead oxide	100 gm
Maltose monohydrate	100 gm
Mercury	250 gm
Mercuric Chloride	100 gm
Magnesium Sulphate	100 gm
Mercuric nitrate	100 gm
Magnesium Chloride	100 gm
Methanol	5 Litres
Methyl Red indicator	100 gm
Ninhydrin	10 gm
Nitric acid concentrated	5 Litres
Oleic acid	500 ml
Orthotoluidine	100 ml
Potassium hydroxide pellets	500 gm
Potassium Iodide	100 gm
Di Potassium oxalate monohydrate	250 gm
Picric Acid	500 gm
Phenol red indicator	100gm
Phenolphthalein	100 gm
Phenylhydrazine hydrochloride	5 gm
Palmitic acid	100 gm
Potassium dichromate	100 gm
Phosphotungstic acid	1 Litre
Paradimethylaminobenzaldehyde	100 gm
Potassium ferricyanide	100 gm

Potassium Thiocyanate	500 gm
Phosphoric Acid	2 Litres
Phenol Red	100 gm
Potassium dihydrogen orthophosphate	100 gm
Resorcinol	100 gm
Rochelle salt	100 gm
Starch(soluble)	500 gm
Sucrose	500 gm
Sulphuric Acid 2/3 N	2.5 Litres
Sulphuric Acid concentrated	5 Litres
Tri sodium citrate dihydrate	500 gm
Sodium Carbonate anhydrous	500 gm
Sodium Potassium Tartarate	500 gm
Sodium Acetate	500 gm
Sodium Sulphate annhydrous	500 gm
Sodium Hydroxide pellets	500 gm
Sodium Nitrate	500 gm
Sodium Nitroprusside	100 gm
Sodium Hypobromite solution	1 Litre
Sodium Tungstate.2H <sub>2</sub> O	250 gm
Sodium Sulphate.10H <sub>2</sub> O	500 gm
Sodium hydrogen carbonate	500 gm
Sodium Chloride	500 gm
Sodium Dihydrogen Orthophosphate	500 gm
Sodium Arsenate	100 gm
Sulphosalicylic Acid	1 Litre
Sulphur powder	500 gm
Silver Nitrate	25 gm
Surgical spirit	5 Litres
Trichloroacetic Acid	500 gm
Thiosemicarbazide	10 gm
L(+)Tartaric acid	500 gm
TRIS base	500 gm
TRIS HCL 1M	500 gm
Urease solution in 50 % glycerol	5 ml
Zinc sulphate monohydrate	500 gm

**4. Lot 3/ Package 4: DEPARTMENT OF COMMUNITY MEDICINE**

Sl.	Items Name	Qty.	Specification Details
1	Comparator, Nessler	1	
2	Barometer, Fotin	1	
3	Extraction apparatus, fat	1	
4	Filter, Pasteur Chamber land	1	
5	Filter,berke fed	1	
6	Hydrometer, Spirit	3	

7	Hydrometer, Milk	3	
8	Hydrometer, wet & dry	1	
9	Museum jar	200	
11			
12	Weighing machine for balancing food stuff (2kg.)	1	
13	Salter weighing machine	4	
14	Height measuring stand	1	Measuring range (Both in cm & inch) : 20-205 cm and 8 - 81". Graduation of measuring rod: 1mm / 8inch. The structure should be made of ABS plastic.
15	Harpender's caliper	2	Dial graduation: 0, 20 mm, Measuring range 0mm - 80mm measuring pressure 10gms/mm <sup>2</sup> , Repeatability 0, 20 mm Accuracy 99% Accessories-carrying case
16	Anthrometric Set	2nos.	All the items should be CE approved. Set should consist of Weighing Machine (Adult) : Digital, Capacity upto 200Kg. Weighing Scale for Infant / Baby: Digital, Capacity upto 20Kg. Stadiometer: range 20 - 205 cm Length Measuring Board: range 10 - 100 cm disposable cloth pieces for infants : 50 Pcs Measuring Tape for Mid-upper-arm circumference: measuring range: 0 – 59 cm
17	Infantometer	2	Measuring range in Cm : 10 – 100 cm Measuring range in inch: 4 – 39" Graduation {Measuring Rod} : 1 mm / 1/16 inch Measure (WxHxD): 1110x115 x 333 mm, 43,7 x 4,5 x 13,1 inch
18	H <sub>2</sub> S Test Kits for Bacteriological Testing of Drinking Water	20	Should be ready to use, disposable and very simple in use. It is a qualitative type of kit gives results about the potability or non-potability of drinking water.
19	Water Quality Field Testing	20	Kits for the Chemical Parameters. Parameters includes are Fluoride, Nitrate, Iron, Residual Chlorine, Turbidity, pH, Total Hardness and Chloride.
20	Torry Meter Fish Freshness Meter	5	Instrument Temperature Range: Max - 25° to 45°C Fish Temperature Range: 0° to 20°C

			(Allowable) 0° to 10°C (Recommended for best results) Power Source from Self contained rechargeable cells Enclosure made from ABS plastic Sensor Enclosure Acetal plastic, Carbon & Steel electrodes Charger / power supply module Input Voltage 100-240VAC, 50/60 Hz Output Voltage 12V DC Carry case: Made from: Aluminum body, Steel fittings, plastazote foam
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**5. Lot 3/ Package 5: DEPARTMENT OF PATHOLOGY**

Sl.	Items Name	Qty.	Specification Details
1	Staining racks	10	
2			
3	Cabinet for 1000 slides	4	Stainless steel, 1,000 capacity Wrap proof, break proof Have slots to accommodate 1000 slides with lid/ wooden with hinged lid Should have index inside the lid.
4	Coplins jar	24	
5	Trough for staining	12	
6	Slide box for 100 slides	120	
7	Double demonstration eye piece	2	
8	Sternal puncture needle (Adult)	3	
9	Sternal puncture needle (Child)	2	
10	Liver biopsy needle	2	
11	Stop watch (1/100sec.)	6	Digital with screen illumination. SWISS make 1/10 second Digital with screen illumination. SWISS make 1/10 second
12	UV lamp	1	
13	Dark room lamp	1	
14	Glass ware,. Stains, chemical reagents	1	
15	Micro burette (5cc)	2	
16	Haemoglobinometer (Sahlis)	60	Measuring range - 40-360 g/litre. As a photometer, precision not worse than 1% the total error of conc. Of Hb does not exceed 2% The volume of liquid for photometry must be not less than 1ml. optical length of a cuvette or cylindric test tube – 10 ±0.1 mm.
17	Staining jars	12	
18	Centrifuge tube graduated	40	
19	Graduated pipette	10	



20	Reagent bottle	60	
21	Dropping bottle	60	
22	Staining material (Quick H&E)	2	
23	Magnifying lens	6	
24	Albuminometer	2	
25	Aspirator	2	
27	Cupboards for storing reagents	50	

#### 26. CHEMICALS AND CONSUMABLES

1	ACETONE 500 ml	10 Nos	5	MERCURIC OXIDE 100 Gms	2 Nos
2	ACID FUCHSIN 25 Gms	1 No	5	METHANOL 2500 ml	25 Nos
4	ALCIAN BLUE	1 No	2	METHENAMINE	1 No
5	ALUMINIUM CHLORIDE	1 No	5	METHYLENE BLUE 100 Gms	2 Nos
6	ALUMINIUM HYDROXIDE	1 No	4	METHYLENE BLUE 25 Gms	5 Nos
7	ALUMINIUM POTASIMUM SULPHATE 500 Gms	5 Nos	5	METHYL VIOLET	1 No
8	AMIDO BLACK 100 Gms	2 Pkts	56	NEUTRAL RED 25 Gms	1 No
10	AMMONIUM FERRIC SULPHATE 500 Gms	1 No	57	O G 6 POWDER 100 Gms	2 No
11	AMMONIUM SULPHATE 500 Gms	14 Nos	58	OXALIC ACID	1 No
12	ANILINE BLUE	1 No	59	PARAFFIN LIQUID LIGHT 500 ml	31 Nos
13	BARIUM CHLORIDE 500 Gms	5 Nos	60	PARAFFIN WAX 500 Gms	203 Nos
14	BASIC FUCHSIN 25 Gms	2 Nos	61	PERIODIC ACID 25 Gms	1 No
15	BENEDICTS SOLUTION 5000 ml	3Nos	62	PHENOL 450 Gms	1 No
16	BENZIDINE 100 Gms	7 Nos	63	PHENYLE 500 ml	130 Nos
17	BISMARK BROWN 100 Gms	1 No	64	PHOSPHOMOLYBDIC ACID	1 No
18	BORAX	1 No	65	PHOSPHOTUNGSTIC ACID 100 Gms	1 No
19	BORIC ACID 500 Gms	2 Nos	66	PICRIC ACID 450 Gms	1 No
20	CARMINE 25 Gms	1 No	67	PONCEAU FUCHSIN	1 No
21	CELESTINE BLUE 25 Gms	1 No	68	POTASSIUM CARBONATE	1 No
22	CONGO RED	1 No	69	POTASSIUM CHLORIDE	1 No
23	CHARCOAL	1 No	70	POTASSIUM DICHROMATE 450 Gms	1 No
24	CHLOROFORM 500 ml	06 Nos	71	POTASSIUM FERROCYANIDE	1 No
25	CHROMIC ACID	1 No	72	POTASSIUM HYDROXIDE 500 Gms	1 No
26	CRYSTAL VIOLET 25 Gms	1 No	73	POTASSIUM IODIDE 100 Gms	1 No
27	D P X 250 ml	15 Nos	74	POTASSIUM	1 No

				PERMANGANATE 450 Gms	
28	DEXTROSE 500 Gms	14 Nos	76	PROPRANOLOL 2.5 Lts	60 Nos
29	DIMETHYLE AMINO BENZALDEHYDE 25 Gms	2 Nos	78	SAFRANINE	1 No
30	EDTA POWDER 100 Gms	7 Nos	79	SILVER NITRATE 25 Gms	2 No
31	EOSIN 25 Gms	10 Nos	80	SODIUM BISULPHITE	1 No
32	FAST GREEN	1 No	81	SODIUM CHLORIDE 500 Gms	12 Nos
33	FERRIC ALUMINUM CHLORIDE 450 Gms	1 No	82	SODIUM CITRATE 500 Gms	5 Nos
34	FERRIC CHLORIDE 450 Gms	2 Nos	84	SODIUM HYDROXIDE FLAKES 500 Gms	2 Nos
35	FORMALINE 500 ml	8 Nos	85	SODIUM METABISULPHATE 500 Gms	5 Nos
36	FORMALINE 5000 ml	10 Nos	86	SODIUM NITRITE 100 Gms	
37	GIEMSA POWDER 25 Gms	4 Nos	87	SODIUM NITROPRUSSIDE 100 Gms	2 Nos
38	GLACIAL ACETIC ACID 500 ml	32 Nos	88	SODIUM THIOSULPHATE 450 Gms	1 No
39	GLYCEROL 450 ml	3 Nos	89	SPIRIT	30 Lits
40	GOLD CHLORIDE 5 Gms	1 No	90	STARCH 100 Gms	3 Pkts
41	HCl 500 ml	16 No	91	STRONG AMMONIA 500 ml	10 Nos
42	HEMATOXYLINE POWDER 25 Gms	18 Nos	9	2 THYMOL 25 Gms	1 No
43	HYDROGEN PEROXIDE 500 ml	5 Nos	9	3 TOLUDINE BLUE 25 Gms	1 No
44	IODINE 100 Gms	2 No	9	4 TRICHLOROACETIC ACID 100 Gms	2 Nos
45	IODINE 25 Gms	1 No			
46	LEISHMAN'S STAIN POWDER 25 Gms	20 Nos			
47	LIGHT GREEN 10 Gms	4 Nos			
48	MAY GRUNWALDS STAIN 25 Gms	4 Nos			
49	MERCURIC CHLORIDE 450 Gms	1 No			
95	TRIS HYDROXY METHYL AMINO METHANE 250 Gms	2 Nos			
96	XYLENE 2500 ml	20 Nos			

6. **Lot 3/ Package 6:** DEPARTMENT OF MICROBIOLOGY

Sl.	Items Name	Qty.	Specification Details
1	Serum inspissator	2	Body made of SS, with triple wall jacket, Electrically heated with a upper range of 95o C to 100o C; Size should be 60 cm x 30 cm x 5 cm. Transparent glass top
2	Lovibond comparator	1	Should comply with international standards ,e.g, ISO 7393/2; Glass colourstandars should be scratch free and fade free;

			Battery or electrical operated lighting unit
3	Flat bottom flask (50cc)	6	
4	Micrometer eye piece	2	
5	Micrometer stage	2	
6	Oil immersion lens	55	
7	Dropping bottle for stains	500	
8	Trough for staining	60	Enameled , 45cm x 30 cm x 5 cm
9	UV lamp	1	
10	Thermometer (Assorted)	12	Assorted; Should be able to record temp. •from –(minus) 4oC to ambient, •From 0 to 50oC • from ambient to 100oC •From ambient to 200oC
11	Glassware such as pipette, burettes, beaker, conical flask, petri dishes of different sizes, reagent bottle required for media preparation		
12	Bunsen burners	20	
13	Spirit lamp	10	
14	Diamond tipped pencil	2	Diamond tipped pencil for marking on glass slides
15	Magnifying Lens	2	With a magnification of 5 x & diameter of 60-80mm ergonomically mounted on a handle
16	Glass rods	100	Assorted size and having a length of about 0.5 m -1 m
17	Glass tubings	100	With a internal dia of about 5- 6 mm and having a length of about 0.5 m- 1 m
18	Syringe (Membrane ) filter set	2 sets with membrane filters	Autoclavable, syringe filter assembly to hold 2.5 cm dia Nitrocellulose/ Mixed cellulose ester membrane filters with pore size 0.2 micrometre;
19	Test tube Racks	10	Shoud be made o-if rust proof metal or plastic ; should hold 15 mm dia tubes Should have a holding capacity of 10- 20 tubes
20	Museum Jars	20	Assorted size(0.5 l to 5 l) Made of Glass or Transparent polycarbonate material
21	Coplin Jars	20	
22	Mortar & pestle	2 sets	Made of porcelain or stainless steel with a capacity of 150 to 300 ml
23	Tissue Grinder	2 sets	3 ml capacity With hard glass or SS pestle-reusable
24	Wide mouthed Screw capped bottles		Autoclavable, made of PP 1000ml.: 10nos. 500ml.: 10nos.

			200ml.: 10nos.
25	Slide boxes	10	Plastic made, holding capacity 20 -50
26	Petri dishes	1000no.s	Disposable ,Sterile, 90mm diameter
27	Micropipette tips		Autoclavable (Polypropylene) 0.2-10 $\mu$ l : 10nos. 2-200 $\mu$ l: 20nos. 200-1000 $\mu$ l: 20nos.
28	Vacuum pump	1	Aluminium die cast. Oil free. Electrically operated
29	Desiccator	2	Polycarbonate; 250mm diameter with O ring & Vacuum gauge attached
30	Test tube Basket	10	Polypropylene; 110 x 120 x 150mm

31. Borosilicate Glassware items:

Sl.	Specification	Capacity	Qty.
1	Beakers with spouts	100 ml	5
		250 ml	5
		500 ml	5
		1000 ml	5
2	Round bottom flasks with graduated markings	100 ml	5
		250 ml	5
		500 ml	5
		1000ml	5
3	Conical flasks with autoclavable screw caps	250 ml	5
		500 ml	5
		1000ml	5
4	Measuring Cylinders ( Graduated)	25 ml	3
		100 ml	5
		250 ml	5
		500 ml	3
		1000 ml	3
5	Pipette (Graduated)	0.1 ml	5
		1 ml	5
		2 ml	5
		5 ml	5
		10 ml with 100 divisions	5
6	Petri dishes	100 mm	400
		75-80 mm	200
		50 mm	200
7	Test Tubes	12 x75 mm	20 Gross
		15x 100 mm	10 Gross
		15 x 125mm	10 Gross
		18 x 150 mm	10 Gross
		25 x 150 mm	5 Gross
8	Centrifuge tubes (Graduated)	15ml	100
9	Durham tubes	0.5cm x 5 cm (approx.)	1000

10	Reagent bottles –screw capped/ stoppered	2000 ml	12
		1000 ml	36
		500 ml	24
		250 ml	24
		100 ml	60
		50 ml	60
11	Dropping bottles (60 ml)	60 ml	500
12	Mc Cartneybottles, with screw caps	20-25 ml	200
13	Plain glass bottles with screw caps	70-100 ml	100
14	Bijou bottles with screw caps	5- 10 ml	100
15	Microscopic Slides		50

32. Chemical & Media Requirements:

Sl.	Name of Item	Qty.
1	Nutrient Agar-Dehydrated	500gm x 1
2	CLED agar w/ Bromothymol blue -Dehydrated	500gm x 1
3	McConkey Agar -Dehydrated	500gm x 1
4	TCBS agar 100gm-Dehydrated	100gm x 1
5	Muller –Hinton Agar -Dehydrated	500gm x 1
6	Mac Conkey Broth –Double strength- Dehydrated	100gm x 1
7	MacConkey Broth-Dehydrated	100gm x 1
8	Cary- Blair Medium-Dehydrated	500 gm x1
9	Simmon’s Citrate Medium-Dehydrated	100gm x 1
10	PPA(Phenyl Pyruvic Acid ) Medium- Dehydrated	- 100gm x 1
11	Urea powder	100gm x 1
12	Robertson’s Cooked meat medium-Dehydrated	500 gm x1
13	Brain Heart infusion Broth- Dehydrated	500 gm x1
14	Sabouraud’s Dextrose agar	500 gm x1
15	Agar-Agar	500 gm x1
16	Meat Extract	500 gm x1
17	Proteose Peptone	500 gm x1
18	Sodium Chloride	100 gm x2
19	Calcium Chloride	100gm x 1
20	Lactose	100gm x 1
21	Glucose	100gm x 1
22	Sucrose	100gm x 1
23	Maltose	100gm x 1
24	Mannitol	100gm x 1
25	Arabinose	100gm x 1
26	Deoxycholate citrate Agar	100gm x 1
27	TSI agar	100gm x 1
28	Mannitol Salt Agar	100gm x 1
29	Corn Meal Agar	100gm x 1
30	Sabouraud Cycloheximide Chloramphenicol agar	100gm x 1
31	Loeffler medium base	100gm x 1
32	Horse serum	100gm x1

33	Methyl Red	25 gm x 1
34	Bromothymol Blue	25 gm x1
35	Andrade's Indicator	100ml x 1
36	Sulfuric Acid	5 L
37	Hydrochloric acid	5 L
38	Sulfanilic acid	100 ml x 1
39	Gram stain Kit (Crystal violate soln + Gram's Iodine + Acetone + Safranine)	30 kits
40	Z-N stain Kit (Strong Carbofuchsin + 20% H <sub>2</sub> SO <sub>4</sub> + Methylene blue soln)	30 kits
41	Albert,'s Stain A	100 ml
42	Albert's Stain B	100 ml
43	Absolute Alcohol	10 L
44	Acetone	5 L
45	Potassium tellurite powder	25 gm
46	Iso-amyl Alcohol	2 L
47	Phenol Red Indicator	25 Gm
48	Neutral red Indicator	25 Gm
49	Sodium Thiosulfate	100 gm
50	Zinc Dust	100 gm
51	Malachite Green	25 gm
52	Sodium Taurocholate	100 gm
53	Sodium Glycocholate	100 gm
54	Bile Esculin Agar	100 gm
55	Hydrogen Peroxide	1 L
56	Acid fuchsin	25 Gm
57	Basic Fuchsin	25 Gm
58	Para dimethyl Aminobenzyldehyde	25 Gm
59	Phenol crystals	100 gm
60	Iodine Granules	100 gm
61	Potassium Iodide	100gm
62	Lactophenol Cotton blue stain	100 ml
63	Lead acetate	500 gm
64	Ammonia strong solution	1 L
65	Formaldehyde	2.5 L x 10
66	DPX mount	100ml x2
67	Potassium Permanganate	500 gm
68	Xylene	500ml x 5
69	Kovac's Reagent solution	100 ml x 5
70	Sodium dodecyl sulphate powder	25 gm
71	DiSodium hydrogen Phosphate	100 gm
72	Potassium dihydrogen Phosphate	100 ml
73	DiPotassium hydrogen Phosphate	100 gm
74	Sodium Bicarbonate	100 gm
75	Potassium Hydroxide	100 gm
76	Sodium Hydroxide	100 gm
77	Sodium deoxycholate	100 gm
78	Magnesium sulfate	100 gm

79	Casein	100 gm
80	L Cystine	100 gm
81	Tryptone	100 gm
82	Ammonium oxalate	100 gm
83	Biphasic Blood Culture Bottles-Adult	500 nos
84	Biphasic Blood Culture Bottles-Paediatrics	500 nos.

7. **Lot 3/ Package 7:** DEPARTMENT OF FORENSIC MEDICINE

Sl.	Items Name	Qty.	Specification Details
1	Folding metal scale (upto 7ft.)	1	
2	Steel measuring tape	2	
3	Vernier calipers	1	Measuring Range: 0-300 mm Depth Gauge Flat: 0-150 mm LCD Resolution: 0.01 mm Accuracy: +/- 0.04 mm Total Length: Approx 400mm Total Weight: Approx 175 gm (Calibration certificate to be provided along with the gauge)
4	Stop Watch	2	Digital with screen illumination. SWISS make 1/10 second
5	L Modes	16	
6	Leather Strops	2	
7	Slide warming table	1	It should be dark coloured rectangular flattened table The surface should have high thermal conductivity and insulation. It should digital temperature control with digital display of the temperature.
8	Stone Carbarandon	1	
9	Black holder	50	
10	Diamond pencil	1	
11	Hand set heat sealer	1	
12	Hack saw	4	
13	Rib shears right & left	4	
14	VERNIER CALLIPER	1	
15	Slide Calliper	1	

16. Chemicals & Glasswares:

a) Chemicals:

1. Ferric Chloride 500gm 2Bottles
2. Ferric Nitrate 500gm 2Bottles
3. Hydrochloride Acid 500ml 3Bottles
4. Sulphuric Acid 500ml 3Bottles
5. Pottassium Dichromate 500gm 3Bottles
6. Chloroform 500ml 5Bottles

7. Cobalt Acetate 500gm 2Bottles
8. Sodium Hydroxide 500gm 5Bottles
9. Potassium Carbonate 500gm 3Bottles
10. Potassium Permanganate 500gm 2Bottles
11. Acetic Acid 500ml 5Bottles
12. Trichlor Acetic Acid 500gm 3Bottles
13. Pottasium Ferrocyanide 500gm 2Bottles
14. Hydrogen Peroxide 500ml 10Bottles
15. Formaline 5Ltr 20 Bottles
16. Mercuric Iodide Red 100gm 3 Bottles
17. Pottassium Iodide 100gm 2 Bottles
18. Glacial Acetic Acid 500ml 5Bottles
19. Cabolic Acid 500gm 5Bottles
20. Pottassium Hydroxide 500gm 5Bottles
21. Phenolthalein 50 gm 5nos
22. Pyridine 500ml 3Bottles
23. Glycerine 500ml 10Bottles
24. Nitric Acid 500ml 5Bottles
25. Diethyl Ether 500ml 2Bottles
26. Copper Sulphate 500gm 2Bottles
27. Ammonia Solution 500ml 2Bottles
28. Xylene 500ml 5Bottles
29. Acetone 500ml 5Bottles
30. Ethanol 500ml 5Bottles
31. Zinc 500gm 3Bottles
32. Eosin 125ml 10 Bottles
33. Haematoxylin 500ml 10Bottles
34. Parrafin 500mg 1Bottles
35. Leishmann's Stain 500mg 5 Bottles
36. Z-N Stain 500ml 5Bottles

**b) Glasswares:**

1. Funnel
2. Petri disc
3. Slide
4. Test tube
5. Specimen jar
6. Pippet
7. Jar lid

**8. Lot 3/ Package 8: DEPARTMENT OF PHARMACOLOGY**

Sl.	Items Name	Qty.	Specification Details
1	Skin & Rectal Thermometer	1	
2	Antihistamine chamber with manometer	1	
3	Top clock	12	
4	Bel jar (assorted)	36	
5	Petri dishes assorted	36	
6	Museum drugs specimen jar	30	



7	Multimeter	1	Should be digital
8	Razor hone	2	
9	Rotarod Assembly	1	
10	Cook's pole climbing apparatus	1	
11	Glass rod assorted size (6ft.)	100	
12	Glass mortar & pestle	24	
13	Cork borer set of 12	1 set	
14	Mechanical Stromhur	2	
15	Cannul (different sizes)	48	
16	X-blocks	50	
17	Hook grip rods	50	
18	Plain stand	100	
19	Oncometer Kidney	2	
20	Oncometer Heart	2	
21	Copper trays (10*8*1)	100	
22	Thermometer	100	0 to 110 degree, Digital, CE certified
23	Pneumograph Palamer	1	
24	Oxygen cylinder with trolley	4	Epoxy powder coated
25	CO2 cylinder with trolley	2	Epoxy powder coated
26	Animal trolley with 12 cages	4	
27	Pills tiles	30	
28	Suppository moulds	30	
29	Porcelain dishes	30	
30	Crusibles with tongs	10	
31	Pestle & Mortar	30	
32	Iron spatula	60	
33	Measure glass all sizes	30	
34	Ordinary & Non polarisable ,insulated wires	50	
35	Tuberculine Syringe	30	
36	Aeration tube	25	
37	Troube's tube	25	
38	Screw clip	10	
39	Pinch clip	10	
40	Wash bottle	15	

41. List of Chemicals & Glasswares Required:

Sl. No.	Item no. in the approved list	Name of the Item	Consumption during the last year	Requirement for the current year as mentioned in the Col-0 of the annual purchase programme	9 8 0
1	2	3	4	5	
1	GRM 1027	Glycerol AR		1 ltr*10	
2	GRM 4514	Tri Potassium Citrate		100 gm*2	
3	GRM 5856	Dimethyl Sulphoxide		100 ml*1	
4	GRM 7734	Acetyl Chlorine Chloride		25 gm*1	
5	GRM 159	Twin 80		100 gm*2	
6	GRM 849	Sodium Bicarbonate		500 gm*5	
7	GRM 4340	Magnesium Chloride			
8	GRM 9354	Carboxy Methyl Cellulose		500*1	
9	RM 10818	Diethyl Ether		500 ml*10	
10	AS 021	Phenol		500 gm*2	
11	AS 119	Gl. Acetic Acid		500*2	
12	AS 078	Xylene		500 ml	
13	GRM 849	Sodium Bicarbonate		500 gm*2	
14	GRM 1789	Potassium Bicarbonate		500 gm*2	
15	GRM 853	Sodium Chloride		500 gm*10	
16	GRM 1237	Histamine HCL		5 gm*1	
17	TC 115	EDTA Sodium Salt dehydrate		100 gm*1	
18	GRM 235	tri-Sodium Citrate Dihydrate		500*2	
19	GRM 016	D (+) Glucose Anhydrous		500*10	
20	GRM 697	Potassium Chloride		500*2	
21	MB 059	Formaline		500 ml*1	

22	MB 034	Calcium Chloride	100 gm*1
23	GRM 484	Atropine Sulfate	5 gm*1
24	RM 2173	Physostigmine	100mg*1
25	GRM 682	Gum Acasia (Powder)	500 gm*1
26	RM 5189	DPPH	1 gm
27	RM 9270	ABTS	1 gm
28	GRM 7541	Tannic Acid (Powder)	500 gm*1
29	CMS- 1014	Ascorbic Acid	100 gm*1
30	RM 6191	Quercetin	100 gm*1
31	GRM 849	Sodium Bicarbonate	500 gm*1
32	MB 179	Acetone	2.5 L
33	RM 1059	DNPH	100 gm*1
34	ASO 16	Sulphuric Acid	2.5 L
35	MB 113	Methanol	500 ml* 10
36	MB 092	Potassium Acetate	500 gm*1
37	MB 183	Sodium Phosphate (Mono Basic)	500 gm*1
38	MB 024	Sodium Phosphate (Di Basic)	250 gm*1
39	GRM 1018	Ammonium Molybdate	100 gm*1
40	RM 1406	Ferrozine	1 gm
41	RM 393	NADH Disodium Salt	1 gm
42	PCT 0116	Potassium Iodide	100 gm*1
43	MB 210	Sodium thiosulphate	500 gm*1
44	RM 2406	Potassium MonoperSulfate	100 gm*1
45	GRM 998	Sodium Nitro prusside	100 gm*1
46	GRM 1558	Sulphanilamide	100 gm*1
47	MB 157	Phosphoric Acid	250 ml* 1
48	RM 1073	Napthyle thylene di-amine di-hydrochloride	5 gm*1
49	MB 207	Potassium Nitrate	500 gm*1
50	GRM 770	Trichloro Acetic Acid	500 gm *1
51	RM 1594	Thiobarbiture Acid	250 gm*1
52	MB 082	Lactate Dehydrogenase	500 gm*1
53	MB 166	L.Glutathione Reduced	5 gm*1

<b>GLASS WARES</b>			
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Beakers Low Form with Graduate & Spout. Made from Heat resistant, I

54	432010	Tarson PFA Beaker	25 ml 2 pkt
55	432020	Tarson PFA Beaker	50 ml 2 pkt

**D) LOT 4: MODELS, CHARTS & SPECIMENS**

Common Requirement: All charts should be plastic framed with front glass. Size 24 inch \* 36inch.

1. **Lot 4/ Package 1: DEPARTMENT OF ANATOMY**

1	Models	Each One	<p>LIST OF EMBRYOLOGY MODELS ESSENTIAL FOR THE MD-ANATOMY, STUDY</p> <ol style="list-style-type: none"> <li>1. Graafian follicle, ovulation, corpus leuteum.</li> <li>2. Schematic representation of events taking place during the first week of human development.</li> <li>3. Development of the villus.</li> <li>4. Villus at the end of the third week of the development.</li> <li>5. Presomite embryo of 16 days.</li> <li>6. 14 somites embryo (approximately 25 days).</li> <li>7. 25 somites embryos (28 days).</li> <li>8. Transverse section through embryo at various stages of development.</li> <li>9. Human embryo at the beginning of the second month of development.</li> <li>10. Development of Dizygotic twins, each embryo normally has its own amnion, chorion and placenta.</li> <li>11. Development of the renal pelvis, calyces and collecting tubules of the metanephros at 6 week, 7 week, new born.</li> <li>12. Relationship of hindgut and cloaca at the end of 5th week.</li> <li>13. Development of the urogenital sinus into the urinary bladder.</li> <li>14. T.S. Ovary at the 7 week of development showing the degeneration of the primitive sex cords and the formation of the cortical cords.</li> <li>15. Genital ducts in the female at the end of the second month of development.</li> <li>16. Formation of the uterus &amp; vagina at various stages of development.</li> <li>17. Indifferent stages of the external genitalia.</li> <li>18. Development of external genitalia in the female at the 5 month and in the new born.</li> <li>19. Descent of the testis; during the 2nd month, middle of the 3rd month, 7th month &amp; shortly after birth.</li> <li>20. Testis, epididymis, ductus deferens, and the various layers of the abdominal wall which surrounds the testis in the scrotum.</li> <li>21. Human circulatory before birth.</li> <li>22. Human circulatory after birth.</li> <li>23. Development of the pharyngeal clefts and pouches.</li> <li>24. Development of tongue.</li> <li>25. The primitive gastrointestinal tract.</li> <li>26. Representation of the migration of the thymus, parathyroid glands &amp; ultimo-brancheal body.</li> <li>27. Successive stages in the development of the trachea and lungs at the 3rd week, 4th weeks, 5th weeks and 6 weeks.</li> <li>28. Development of liver.</li> <li>29. Development of stomach.</li> <li>30. Development of pancreas.</li> </ol>
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			<p>31. Frontal aspects of the face at 5 week embryo, 6 week embryo &amp; 10 week.</p> <p>32. Development of eye.</p> <p>33. Development of ear.</p> <p>34. Development of limb buds at 5, 6, &amp; 8 weeks.</p> <p>35. Formation of the vertebral column at various stages of development.</p> <p>36. Septation of ventricle ant and bulbus cordis.</p> <p>37. Formation of the atrioventricular valves and chorda tendineae.</p> <p>38. Development of the umbilical &amp; Vitelline veins at the end of 4th week, 5th week, 6th week &amp; 3rd month.</p> <p>HUMAN MODELS</p> <p>39. Model of Larynx Anterior view, posterior view, side view and sagittal section.</p> <p>40. Model of larynx deep side view.</p> <p>41. Model of pharynx and larynx sagittal section</p> <p>42. Model of human eye in socket vertical section showing muscle optic nerves, crystalline lens, iris, cornea etc. Dissectable in 7 parts.</p> <p>43. Model of eye approximately 5 times life –size, this finely pointed and numbered fiberglass divided into 7 parts : 2 parts outer eye, Retina and vitreous humor, 2-parts choroid, lens and cornea, 18 numbered key. Size 7"x4"x4".</p> <p>44. Model of ear large size showing external, Middle and Inner ear dissectable in four parts.</p> <p>45. Model of ear sagittal section extra large and detailed mode: all major structures &amp; the temporal bone and a section of the auditory canals are removed.</p> <p>46. Model of six times enlarged made from venyl rubber(Natural look)</p> <p>47. Nasal cavity and pharynx sagittal section viewed from medial side.</p>
2	Histology Slides	Five Sets each (5)	<p>1. Hyaline cartilage</p> <p>2. Elastic cartilage</p> <p>3. Fibrocartilage</p> <p>4. T.S. Compact bone</p> <p>5. L.S. compact bone</p> <p>6. cancellous bone</p> <p>7. Lymph node</p> <p>8. Spleen</p> <p>9. Thymus</p> <p>10. Palatine tonsil</p> <p>11. Skeletal muscle</p> <p>12. Smooth muscle</p> <p>13. Cardiac muscle</p> <p>14. T. S. nerve</p> <p>15. Elastic artery</p> <p>16. Muscular artery</p> <p>17. Vein</p> <p>18. Skin (thin)</p>

			<ul style="list-style-type: none"> <li>19. Skin (thick)</li> <li>20. Tongue</li> <li>21. Parotid gland</li> <li>22. Submandibular gland</li> <li>23. Sublingual gland</li> <li>24. Esophagus</li> <li>25. Fundus of stomach</li> <li>26. Pylorus of stomach</li> <li>27. Duodenum</li> <li>28. Jejunum</li> <li>29. Ileum</li> <li>30. Large intestine</li> <li>31. Appendix</li> <li>32. Liver</li> <li>33. Gall bladder</li> <li>34. Pancreas</li> <li>35. Trachea</li> <li>36. Lung</li> <li>37. Kidney</li> <li>38. Ureter</li> <li>39. Urinary bladder</li> <li>40. Urethra</li> <li>41. Testis</li> <li>42. Epididymis</li> <li>43. Vas deferens</li> <li>44. Prostate gland</li> <li>45. Seminal vesicle</li> <li>46. Penis</li> <li>47. Ovary</li> <li>48. Uterus</li> <li>49. Fallopian tube</li> <li>50. Placenta</li> <li>51. Mammary gland</li> <li>52. Supra renal gland</li> <li>53. Thyroid</li> <li>54. Parathyroid gland</li> <li>55. Pituitary gland</li> <li>56. Retina</li> <li>57. Cornea</li> <li>58. Spinal cord</li> <li>59. Cerebellum</li> <li>60. Cerebral cortex.</li> </ul>
3	Charts	Each One	<p>Size: - 20" x 26", Laminated and attached with durable strips.</p> <p>Anatomy charts</p> <ul style="list-style-type: none"> <li>1. The Muscular system</li> <li>2. The nervous system</li> <li>3. The autonomic nervous system</li> <li>4. The vascular system</li> <li>5. The lymphatic system</li> <li>6. The respiratory system</li> </ul>

			<ul style="list-style-type: none"> <li>7. The female reproductive system</li> <li>8. The male reproductive system</li> <li>9. The digestive system</li> <li>10. The urinary tract</li> <li>11. The endocrine system</li> <li>12. The liver</li> <li>13. The spinal nerves</li> <li>14. The hair</li> <li>15. Hip &amp; Knee</li> <li>16. The prostate</li> <li>17. The ear</li> <li>18. Pharynx and larynx</li> <li>19. Portal system</li> <li>20. Foetal circulatory system</li> </ul>
4	Charts	Each One	<ul style="list-style-type: none"> <li>21. Clinically important blood vessel and nerve pathways</li> <li>22. Varicose veins</li> <li>23. The female genital organs</li> <li>24. The female breast</li> <li>25. The human genotype</li> <li>Big charts:</li> <li>Size : 33.5" x 47"</li> <li>26. The male pelvic organ</li> <li>27. The female pelvic organ</li> <li>28. Menstrual cycle and the ovum implantation</li> <li>29. The Eye Anatomy</li> <li>30. The human central nervous system Size: 20" x 26"</li> <li>31. Head &amp; Neck median section – II</li> <li>32. Intra ocular structures –I</li> <li>33. Temporal mandibular joint</li> <li>34. Development of embryo in 1st week</li> <li>35. Development of embryo in 2nd week</li> <li>36. Development of embryo in 3rd week</li> <li>37. Development of embryo in 4th week</li> <li>38. Development of embryo in 5th week</li> <li>39. Development of embryo in 6th week</li> <li>40. Development of embryo in 7th week</li> <li>41. Foetus in 9th,11th ,12th &amp; 18th week of development</li> <li>42. Foetes in 19th ,23rd week of development and 7 month old foetus</li> <li>43. Development of body cavities –II</li> <li>44. Formation of cardiac loop</li> <li>45. Development of sinus venosus</li> </ul>
5	Charts	Each One	<ul style="list-style-type: none"> <li>46. Formation of the cardiac septa in common atrium</li> <li>47. Formation of the septum in Atrioventricular canal</li> <li>48. Formation of septum in ventricles</li> <li>49. Development of arterial system</li> <li>50. Circulation before and after birth</li> <li>51. Stomach development</li> <li>52. Liver, gall bladder and pancreas development</li> <li>53. Mid gut and hind gut development</li> </ul>

			<p>54. Pronephros, mesonephros &amp; metanephros &amp; molecular regulation of the kidney.</p> <p>55. Development of male genital system</p> <p>56. Development of Female genital system</p> <p>57. Development of respiratory system</p> <p>58. Development of hand</p> <p>59. Development of neck</p> <p>60. Development of ear</p> <p>61. Development of eye</p> <p>Digital Charts on Histology: Size : 12" x 18"</p> <p>62. Different types of epithelia in selected organs</p> <p>63. Endochondral ossification, illustrating the progressive stages of bone formation ( from cartilage model to bone) and including the histology of a section of formed bone.</p> <p>64. A section of brain and spinal cord with meninges.</p> <p>65. Comparision (Transverse section) of a muscular artery, large vein and three types of capillaries</p> <p>66. Location and distribution of lymphoid organs and lymphatic channels in the body.</p>
6	Charts	Each One	<p>67. Different types of acini ( serous acini, mucus acini and serous demiluons, ), different duct types and myoepithelial cells of a salivary gland)</p> <p>68. Structural differences between the wall of small intestine and large intestine, with emphasis on different layers of the wall.</p> <p>69. A section from the liver and pancreas, with emphasis on liver lobule and the duct system of exocrine pancreas.</p> <p>70. A sagittal section of kidney showing the cortex and the medulla with blood vessels and excretory ducts, including the pelvis and the ureter and histology comparison of the blood vessels, the different tubules of the nephron, and collecting duct.</p> <p>71. Loose irregular and dense irregular connective tissue, adipose tissue.</p> <p>72. Cancellous bones with trabeculae and marrow cavities; sternum ( decalcified bone, transverse section) cancellous bone; sternum ( decalcified bone, transverse section)</p> <p>73. Compact bone, dried : An Osteon( Transverse section)</p> <p>74. Smooth muscle layer of the small intestine (transverse and longitudinal sections); smooth muscle wall of small intestine (transverse and longitudinal sections)</p> <p>75. Skeletal muscles of the tongue( transverse and longitudinal sections)</p> <p>76. Cardiac muscle and cardiac muscle ( longitudinal section)</p> <p>77. Cerebellar cortex; molecular layer, purkinji's layer and granular layer</p> <p>78. Lymph node (panoramic view)</p> <p>79. Thymus gland (sectional view) and cortex and medulla</p> <p>80. Spleen (panoramic view) , red and white pulp</p> <p>81. Thin skin; epidermis and contents of dermis</p> <p>82. Thick skin; superficial cell layers and melanin pigments</p>



			83. Tongue : taste buds, 84. Eosophageal stomach junction and stomach; fundus and body regions(transverse section)
7	Charts	Each One	85. Stomach ; mucosa of fundus and body(transverse section) 86. Appendix (panoramic view, transverse section) and rectum (panoramic view, transverse section) 87. Pancreatic islet & pancreatic islet(special preparation) pancreas; endocrine(pancreatic islet and exocrine regions) 88. Intra pulmonary bronchus (transverse section) and terminal bronchiole (transverse section). 89. Section of a ureter wall (transverse section) 90. Urinary bladder: wall (transverse section) ; Urinary bladder mucosa (transverse section) 91. Hypophysis(panoramic view, sagittal section) Hypophysis : sections of pars distalis, pars intermedia, pars nervosa 92. Thyroid gland: canine( general view) Thyroid gland follicles : canine (sectional view) 93. Adrenal gland 94. Prostate gland and prostatic urethra 95. Prostate gland: glandular acini and prostatic concretions 96. Ovary(panoramic view) 97. Uterus : proliferative (follicular) phase 98. Uterus : secretary phase 99. Uterus: menstrual phase 100. Vagina(longitudinal section) 101. Inactive mammary gland, mamaric gland during proliferation and early pregnancy.
8	Skeleton (Articulated )	5 sets	Original human bones, from single source, articulated scientifically as per the placement of the bones in the human body. Proper synthetic materials must have been put in the joint spaces. It must be certified by an Anatomist
9	Skeleton (Dis-Articulated)	25sets	Original human bones, from single source, dis-articulated scientifically as per the placement of the bones in the human body with colors of the muscles. Proper synthetic materials must have been put in the joint spaces. It must be certified by an Anatomist.
10	Photographs	Each One	SIZE: 16" x 21", Laminated framed on Board. 1. Hippocrates (460- 377 BC) 2. Marcello Malpighi(1628-1694) 3. Theodor Schwann(1810-1882) 4. Karl Landsteiner(1901) 5. J.E.Purkinje(1787-1869) 6. J.D. Watson & F.H.C. Crick 7. Gray Henry 8. Galen 9. Susruta 10. Charak 11. Anton Van Leeuwenhoek(1632-1723) 12. Har Gobind Khorana – field Synthesis 13. Albert Adamkiewicz(1850-1921)

- |  |  |  |   |
|--|--|--|---|
|  |  |  | <ol style="list-style-type: none"><li>14. Benjamin Alcock</li><li>15. Casper Bartholin</li><li>16. Vladimir Aleksandrovich Betz</li><li>17. Henry Jacob Bigelow</li><li>18. Sir William Paget Bowman</li><li>19. Pierre Paul Broca</li><li>20. Johann Konrad</li><li>21. Jules Germain Cloquet</li><li>22. Abraham Colles</li><li>23. Alfonso Corti</li><li>24. William Cowper</li><li>25. Charles Robert Darwin</li><li>26. Otto Friedrich Karl Deiters</li><li>27. Jean Descemet</li><li>28. Guillaume Dupuytren</li><li>29. Bartolomeo Eustachio</li><li>30. Gabriele Fallapio</li></ol> |
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S.NO	NAME OF THE SPECIMEN	NO.of SPECIMENS
1	Supero-lateral surface of brain	2
2	Gall bladder with stones	2
3	Right lung medial surface	1
4	Left lung medial surface	1
5	28 weeks foetus	1
6	Interior of urinary bladder	1
7	Medial surface of brain	1
8	Base of the brain	1
9	Cerebellum superior surface	1
10	Cerebellum inferior surface	1
11	Section of cerebellum showing arbor vitae cerebelli & intra cerebellar nuclei	1
12	Brain stem anterior view	1
13	Brain stem posterior view	1
14	Spinal cord and meninges	1
15	Meningo cephalocele	1
16	Placenta	4
17	20 weeks foetus	1
18	Meromelia, ectrodactyly and hydrocephalus	1
19	Section of lateral ventricle	3
20	Marginal placenta	1
21	spleen	2
22	Coronal section of kidney showing renal sinus with its cortex and medulla	2
23	Transverse section of bone	1
24	23 weeks foetus	1
25	Foetal surface of placenta	1
26	Maternal surface of placenta	1
27	Sagittal section of head and neck	1
28	Trachea	1
29	Infratemporal region	1
30	External ear	1
31	Dural folds	1
32	Extensor tendons on the dorsum of the wrist	1
33	Front of the forearm	1
34	Cubital fossa	1
35	Intermuscular spaces of scapular region	1
36	Dry gangrene	1
37	Transverse section of leg	2

11 Wet  
Museum  
Specimen

Qty. of  
each as  
specified

38	Brachial plexus	1
39	Flexor aspect of Wrist and palm	1
40	Interior of uterus	1
41	Male external genitalia	1
42	Popliteal fossa	1
43	Femoral triangle	1
44	Dissected right leg	1
45	Right lung-costal surface	1
46	left lung-costal surface	1
47	Diaphragmatic surface of heart	1
48	Sternocostal surface of heart	1
49	Interior of right atrium and ventricle	1
50	Superior surface of liver	1
51	Anterior surface of liver	1
52	Visceral surface of liver	1
53	Anterior surface of stomach	1
54	Posterior surface of stomach	1
55	Interior of stomach	1
56	A pair of Kidneys with great vessels	1
57	Composite specimen of Duodenum and pancreas	1
58	Composite specimen of Duodenum, pancreas and spleen	1
59	Intestine	1
60	Small intestine	1
61	Composite specimen of Kidney, Ureter and Urinarybladder	1
62	Uterus- external features	3
63	22 weeks foetus	1
64	Midsagittal section of male pelvis	1
65	A pair of Testes (Right & Left)	2
66	Muscles of anterior abdominal wall	1
67	Dissected Right upper limb	1
	<b>TOTAL</b>	<b>80</b>

## 2. **Lot 4/ Package 2:** DEPARTMENT OF PATHOLOGY

### Glasswares & Charts

1. 140 x 215 x 100mm- 40 .
2. 225 x 225 x 125mm-40.
3. 220 x 140 x 140mm-40.
4. Museum Table-15.
5. Charts (Containing gross photograph and micro-photograph) for museum specimen.
6. Charts- Each system has multiple charts.
7. Cellular response to injury.
8. Acute inflammation healing and repair.
9. Chronic inflammation.
10. Amyloidosis.
11. Dysplasia and Neoplasia.
12. Atherosclerosis.
13. Thrombosis and embolism.
14. Infraction.
15. Cardiovascular system.
16. Respiratory system.
17. Gastrointestinal system .

18. Liver and pancreatobiliary system.
19. Urinary system.
20. Female reproductive system.
21. Male reproductive system.
22. Lymphoid and hematopoietic system
23. Bone and soft tissue.
24. Skin.
25. Nervous system.
26. Slide cabinet-10.

3. Lot 4/ Package 3: DEPARTMENT OF FORENSIC MEDICINE

Models

1. Strangulation Mark
2. Types Of Hymen
3. Defence Wound
4. Cut Throat
5. Victim Of Sex Offence
6. Child Abuse
7. Firearm Injury
8. Burn Injury
9. Wounded Man
10. Types Of Occupational Mark

Charts

1. Life Cycle Of House Fly
2. In Famous Conduct
3. Abrasion, Contusion And Laceration
4. Hanging And Strangulation
5. Circle Of Wills
6. Skull Fracture
7. Rule Of Nine
8. Criminal Abortion
9. Partial Hanging
10. Hippocratic Oath
11. Datura Plant And Its Parts
12. Olanther And Its Parts
13. Cannabis And Its Parts
14. Aconite And Its Parts
15. Croton And Its Parts
16. Ricinus And Its Parts
17. Wounded Man
18. Mandible Of Different Age
19. Somniferus And Its Parts
20. Animal Hair And Human Hair
21. Animal Poisoning
22. Height Of Uterine Fundus
23. Eruption Of Teeth
24. Factor In Tsd

Museum Specimen:

1. Cobra
2. Common Krait

3. Banded Krait
4. Russel Viper
5. Saw scale viper
6. Pit viper
7. Sea Snake
8. Alligator
9. Scorpion
10. Foetus (From one month to full term)
11. Foetus with continental anomaly
12. Twin foetus
13. Tattoo designs
14. Skin showing mechanical injuries (5 pieces whole range)
15. Organs showing trauma (5 pieces whole range)

4. **Lot 4/ Package 4: DEPARTMENT OF COMMUNITY MEDICINE**

Models: (1 no. each required)

- a) Sanitary Well
- b) Insanitary well
- c) Deep & Shallow well
- d) Deep tube well
- e) Step well
- F) Berkefeld Filter g)
- Slow sand Filter h) Rapid sand filter i) House Drainage System
- j) Chamber type incinerator
- k) Activated Sludge Process
- l) Bore Hole Latrine
- m) Dug Well Latrine (Pit latrine) n) Trench Latrine
- o) Septic Tank Latrine
- p) Biogas Plant
- q) Smokeless Chullah
- r) Models of malnourished children
- s) Arthropods

Charts:

- a) Charts on Food & Nutrition
- b) First Aid Charts
- c) Charts on Health, Hygiene & Sanitation
- d) Coloured charts on Yoga

Entomology Slides:

- a) Harmful Insects Set
- b) Mosquito Set
- c) Housefly Set
- d) Tick, Mite, Cyclops, Parasites

5. **Lot 4/ Package 5: DEPARTMENT OF MICROBIOLOGY** Models for Department of Microbiology:

- Pox Virus
- Rabies Virus

Influenza Virus  
Bacteriophage  
Adeno Virus  
HIV ( Human Immunodeficiency  
Virus) Structure of Bacteria

#### Museum Specimens

1. *Ascarislumbricoides*- Adult male
2. *Ascarislumbricoides*- Adult female
3. *Enterobiusvermicularis*- Adult worm
4. *Trichuristrichiura* – Adult male
5. *Trichuristrichiura* – Adult Female
6. *Taeniasaginata* – adult worm
7. *Taeniasolium* – adult worm
8. Hydatid cyst Capsule
9. Round worm( *Ascarislumbricoides*)
10. Hook worm( *Ancylostoma duodenum*)
11. *Fasciola hepatica*
12. Amoebic ulcer of intestine
13. Hydatid cyst
14. Filarial scrotum
15. Kala-azar spleen
16. Amebic Liver abscess
17. Neuro Cysticercosis
18. Amoebic Liver abscess

#### List of Charts

All charts should be plastic framed with front glass. Size 24 inch \* 36inch.

1. Life cycle of *Plasmodium vivax*
2. Life cycle of *Plasmodium falciparum*
3. Microscopic picture of Different stages of Malaria parasites
4. Life Cycle of *Brugiamalayi*
5. Life cycle of *Echinococcusgranulosus*
6. Life cycle of *Giardia lamblia*
7. Life cycle of *Leishmaniadonovani*
8. Life cycle of *Loa loa*
9. Life cycle of *Diphyllobothriumlatum*
10. Life cycle of Mosquito
11. Life cycle of Schistosomes
12. Life cycle of *W. bancrofti*
13. Life cycle Free living amoeba
14. Life cycle of *Ascarislumbricoides*
15. Life cycle of Hook worms
16. Life cycle of *Trichinellaspinalis*
17. Life cycle of *Trichomonasvaginalis*
18. Life cycle of *Trichuristrichiura*
19. Life cycle of *Trypanosomabruci*
20. Life cycle of *Trypanosomacruzui*
21. Life cycle of *Toxoplasma gondii*
22. Life cycle of *Taeniasolium*
23. Life cycle of *Taeniasaginata*
24. Life cycle of *Entamoebahistolytica*

25. Life cycle of *Strongyloidesstercoralis*
26. Life cycle of *Enterobiusvermicularis*
27. Life cycle of *Fasciolopsisbuski*
28. Malaria blood picture
29. Japanese B Encephalitis virus Life cycle
30. Antigenic shift & Antigenic Drift in Influenza Virus

Biochemical tests

31. Chart showing biochemical reactions for identification of bacteria
32. Demonstration of Pigment production of bacteria
33. Pneumococcus - characterization
34. Staphylococcus- characterization
35. Lactose fermenter & nonlactose fermenters on CLED & Mac Conkey agar
36. Blood agar-Hemolysis by different Streptococci

Portraits of

37. Alexander Fleming
38. Portrait of Antony Van Leeuwenhoek
39. Joseph Lister
40. Kohler & Milstein
41. Louis Pasteur
42. Robert Koch
43. Ronald Ross
44. Paul Ehrlich

Others:

45. Polymerase Chain Reaction
46. Structure of Bacteria
47. Monoclonal Antibody production by Hybridoma technique
48. Spirochaetes-Structure

49. **Lot 4/ Package 6:** DEPARTMENT OF

PHARMACOLOGY Models as per Cabinet wise: (No. of cabinets-9)

Cabinet	Name of the Item
1	Spansules
1	Sodium Phosphate enema
1	I.V. Infusion set with I.V. fluid
1	Insulin Syringes
1	I.V. Cannula with Catheter
1	Ampules
1	Hypodermic Needles
1	Syringe (Glass & Plastic)
1	Capsules
1	Ear drops
1	Powder
1	Vial
1	Ryles tube
1	Micro infusion set
1	Oral suspension
1	Meter Dose Inhaler (MDI)
1	Syrup
1	Ointment
1	Tablets
1	Infant feeding tube
2	Chlorzoxazone
2	L-Ornithine



2	Metoclopramide
2	Ondansetron
2	Doxylamine
2	Mosapride
2	Pancreatin Syrup
2	Dicyclomine
2	Atropine
2	Hyocine-N-Butylbromide
2	WHO formula (ORS)
2	Domperidone
2	Oxyphenonium bromide
2	Pantoprazole
2	ORS-L-Lemon drink
2	Omeprazole
2	Lansoprazole
2	Bisacodyl (Suppository)
2	Esomeprazole
2	Rabeprazole
2	Ranitidine
2	Megaldrate
2	Simethicone
2	Sucralfate
2	H -pyolri Kit
2	Oral saline laxative
2	Lactulose
2	Milk of Magnesia
2	Famotidine
3	Fenofibrate
3	Minovlar
3	Gynovlar
3	Desogestrel
3	Femilon
3	Anovlar
3	Triquilar
3	Estradiol (Injection)
3	Insulin Injections
3	Thyroxine
3	Ethisterone (Injection)
3	Valethamate
3	Progesteron Depot.
3	Chloropropamide
3	Oestradiol (Tab, Injection) Depot.
3	Methanadion
3	Triamcinolone (Injection, Capsule, Cream)
3	Levogesterol
3	Glipizide
3	Metformin
3	Glimepiride
3	Pioglitazone
3	Testosterone (Injection, Capsule & Cream)
4	Dapsone
4	Isoniazid
4	Levofloxacin
4	Gatifloxacin
4	Ciprofloxacin
4	Sulfonamides (Tablet, Injection, Suspension)
4	Rifampicin
4	Pyrazinamide

4	Ethambutol
4	Tinidazol
4	Rifampicin
4	Ofloxacin
4	Clofazimine
4	Thiacetazone
4	Procaine Pencillin
4	Ornidazole
4	Ceftriaxone
4	Tetracyclines (Injection, Tablet)
4	Chloramphenicol
4	Penicillin - G
4	Amoxicillin
4	Cloxacillin
4	Cefuroxime
4	Doxycycline
4	Cefdinir
4	Ampicillin
4	Cefadroxil
4	Roxithromycin
4	Clavulunate-DT
4	Fortified Procaine Pencillin
5	Thiabendazole
5	Albendazole
5	Morphine Injection
5	Griseofulvin Tablets
5	Sodium Fusidate (Ointment)
5	Clotrimazole (Ointment, Vaginal Tab)
5	Fluconazole
5	Codeine Tablets
5	Diethyl Carbamazine (DEC)
5	Chloroquine Phosphate (Tablet, Injection, Suspension)
5	Cetrimide
5	Pethidine Injection
5	Piperazine
5	Gammabenzene Hexachloride
5	Benzyl Benzoate
5	Levamisole
5	Ivermectine
5	Dextrose 5%
5	Ibuprofen
5	Infusion set
5	DNS
5	Normal saline
5	Tramadol Injection
5	Dextrose 10%
5	Sulphadoxine -Pyrimethamine (Tablets, Syrup)
5	Quinine Tablet
5	Diclofenac Sodium
5	Valdecoxib
5	Rofecoxib
5	Aspirin
5	Nemesulide (Ointment, Tablet)
5	Paracetamol
5	Diclofenac Potassium
5	Ketorolac
5	Ringers lactate
6	Isosorbide dinitrate Tablet

6	Hydrocortisone
6	Dopamine Injection
6	Doxapram Injection
6	Pentazocine Injection
6	Digitalis Tablet
6	Adrenaline Amp.
6	Nikethamide Injection
6	CPM Injection
6	Aspirin
6	Clopidogrel
6	Cetirizine
6	Levocetirizine
6	Loratidine
6	CPM (Chloropheneramine maleate)
6	Phenylephrine HCl
6	Mometasone Nasal Spray
6	Ebastine Tablet
6	Aminophylline
6	Diphenyl Hydramine HCl Syrup
6	Ramipril
6	Losartan
6	Nicorandil
6	Atenolol
6	Terbutaline
6	Nifedipine
6	Fluticasone Inhaler
6	Lisinopril
6	Enalapril
6	Fruzemide
6	Reserpine
6	Trifluoperazine
6	Amlodipine
6	Ambroxol HCL
6	Salbutamol
6	Theophylline
6	CPM
6	Dextromethorphan
6	Pipethazate
6	Ephedrine HCL
6	Kitotifen
7	Ethosuccimide
7	Carbamazepine
7	Mirtazapine
7	Citalopram
7	Dothiepin
7	Sertraline
7	Phenytoin
7	Sodium Valproate
7	Topiramate
7	Fluoxetine
7	Prochlorperazine
7	Oxycarbamazepine
7	Ziprasidone Capsule
7	Amitriptyline
7	Procyclidine
7	Haloperidol Solution, Tablet
7	Risperidone
7	Aripiprazole

7	Alprazolam
7	Nitrazepam
7	Clonazepam
7	Chlordiatepoxide
7	Hydroxyzine
7	Tizanidine
7	Quetiapine Tablet
8	ATS
8	Thiopentone Sodium
8	Antisnake Venom
8	Typhoid & Paratyphoid Vaccines
8	Cholera Vaccine
8	Verorab
8	Ketamine
8	Rotahaler
8	Procaine Gelly
8	Needle Burner
8	Nebulizer
8	Spacehaler (Adults, Infants)
8	MDI
8	Nasal Spray
8	Spinhaler
8	Tetanus Toxide
8	Xylocaine 2% Injection
9	Hemocoagulase Solution
9	Ethamsylate Tablet
9	Vit-A, D, E
9	Vit-B Complex (Capusle, Syrup)
9	Calcium
9	Tranexaemic Acid (Tablet, Injection)
9	Lactic Acid Bacillus
9	Folic Acid
9	Molybdenum
9	Chymotrypsin
9	Trypsin
9	Gelatine Sponge
9	Vit-B 12
9	Polymaltose Iron Old Complex
9	Carbonyl Iron
9	Ferrous Fumarate
9	Ferrous Sulphate
9	Haemaccel-Polymer of Degraded Gelatine

Sl.	Details of Chart
1	Life cycle of Malaria Parasite and site of action of anti-malarial drug
2	Protein synthesis & sites of action of AMAs
3	Regulation of gastric secretion
4	Neuroendocrine Control of Gonadotrophin Secretion in Females
5	Natural source of important Antibiotics
6	From application to distribution
7	Application by inhalation
8	Stages of General Anaesthesia

9	19-stages in alcohol dependence
10	Models of drug distribution & elimination
11	Anti anginal drugs
12	Antibiotics inhibiting cellwall and protein synthesis
13	Regulation of Acid Secretion & drug action
14	Anticancer drugs & cell cycle
15	Adverse drug effects : Drug toxicity in pregnancy & lactation
16	The G-protein coupled receptor effector system
17	Dosage form
18	Migraine & its treatment
19	Sites of action of diuretics
20	Vasodilators - Calcium Antagonists
21	Oral administration,release & site of action
22	Disinfectant
23	Antiulcer
24	Respons of effector organs to Ach release from parasympathetic n. endings
25	Cardiac glycoside
26	Importance of protein binding for intensity and duration of drug effect
27	Anti-arrythmic drugs
28	Drug release
29	Response to Parasympathetic/Sympathetic Activation
30	Exponential elimination of drug
31	From Poppy to Morphine
32	Time course of Drug administration
33	Plants containing Anthraquinone Glycosides
34	Sites at which drugs act to modify cell functions
35	Anti-bacterial drugs acting on DNA
36	Recinolic acid
37	Insulin production
38	Abnormal postures in mouse given Morphine
39	Treatment of Hypotension

INFORMATION ABOUT THE BIDDER

(To be furnished in Cover "A" - Technical Bid)

Sl. No.	Particulars	Details
1.	Name and Address of the Bidder	
2.	Constitution and Date of Incorporation/ Registration (Self-attested copy of Certificate of Incorporation/ Registration to be enclosed)	(NGO/ Partnership Firm/ Company/ Others)  Date.....
3.	Details of Bank Account	Name of Account Holder: Name of Bank with Branch: Account Type: Account No.: IFS Code:
4.	Name, Designation, Contact No. and Address of the Contact Person/ Local Representative	
5.	Bid submitted for	No. and Name of Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4)
6.	Cost of Bid Document	Details of Demand Draft/ Pay Order: No.: Date: Name of Issuing Bank with Branch: Amount:
7.	EMD	Details of Demand Draft/ Pay Order/ Bank Guarantee: No.: Date: Name of Issuing Bank with Branch: Amount: Valid up to:

Date:

Place:

Authorized Signatory

(Signature and seal of the Authorized Signatory)

## ANNEXURE II

LIST OF ITEMS QUOTED  
(To be furnished in Cover "A" - Technical Bid)

Sl. No.	Name of the item	Make	Model
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			

ANNEXURE III

DETAILS OF PAST SUPPLY

(To be furnished in Cover "A" - Technical Bid)

Sl. No.	Name and Address of Purchaser	Purchase Order No. with Date	Quantities Ordered
1.			
2.			
3.			
4.			
5.			

Date:

Place:

Authorized Signatory

(Signature and seal of the Authorized Signatory)

Note: The Bidder shall furnish separate sheet for each Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) for which the Bidder has submitted bids.



DETAILS OF SERVICE CENTRES

(To be furnished in Cover "A" - Technical Bid)

Sl. No.	Full Address of Service Centre	Phone No., Fax No. and E-Mail id of Service Centre	Name of Contact Person	Phone No., Fax No. and E-Mail id of Contact Person	Details of Service Engineers

Date:

Place:

Authorized Signatory

(Signature and seal of the Authorized Signatory)

Note: The Bidder shall furnish separate sheet for each Item (For Lot 1)/ Package (For Lot 2, Lot 3 & Lot 4) for which the Bidder has submitted bids.

DECLARATION FORM

(To be furnished in Cover "A" - Technical Bid)  
(Affidavit before Executive Magistrate / Notary Public)

I / We .....having My / our office  
at.....do declare that I / We have carefully  
read all the terms & conditions of bid of Government Medical College , Balangir for Supply,  
Install, Commission & Maintain Laboratory Equipment and Supply Models, Charts,  
Specimen, Chemicals & Reagents, Consumable & Disposables etc." I will abide with all  
the terms & conditions set forth in the Bid document along with the subsequent  
amendment, if any. I/ We do hereby declare I/ We have not been de-recognized/ black  
listed by any State Govt./ Union Territory/ Govt. of India/ Govt. Organization/ Govt. Health  
Institutions for supply of Non-standard quality equipment/ Non-supply. I / We agree that  
the Tender Inviting Authority can forfeit the Earnest Money Deposit and/ or Performance  
Security Deposit and blacklist me / us for a period of 3 years if any information furnished  
by me/ us proved to be false at the time of inspection/ verification and not complying with  
the bid terms & conditions. I / We

.....do hereby declare that I / we  
will Supply, Install, Commission & Maintain Laboratory Equipment and Supply Models,  
Charts, Specimen, Chemicals & Reagents, Consumable & Disposables etc. as per the  
terms, conditions & specifications of the bid document and all the supplied items shall be  
new and not of either refurbished/old/used items.

Seal

Signature of the bidder

Date:

Name & Address of the Firm:

PRICE SCHEDULE FOR EQUIPMENTS

(To be furnished in Cover "B" - Financial Bid)

Sl. No.	Name of the Item	No. of Units	Unit Price (Inclusive of transportation, insurance, installation charge and other services required to convey the Goods to their final destinations) (Rs.)	Total Price (Rs.)	VAT		CST		Any Other Tax (Pl. mention)		Total Cost (inclusive of Taxes) (Rs.)
					%age	Amount (Rs.)	%age	Amount (Rs.)	%age	Amount (Rs.)	
1	2	3	4	5 (=3x4)	6	7	8	9	10	11	12 (=5+9)
1											
2											
3											
4											
5											
6											
7											

Total Cost (Col. 12 above): Rs..... (in words.....) only

**Note:**

- The Bidder shall furnish a detailed operations and maintenance manual for the equipments.
- The Supplier is responsible for performance of on-site assembly and start-up of the supplied equipments.
- The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between instrument units, connecting it to the computer (wherever applicable) and connecting to power supplies.
- The Supplier will test all operations of the equipments, measurements and data production, storage & output and accomplish all adjustments necessary for successful and continuous operation of the equipments at all installation sites.
- The equipment price shall cover all costs including installation, tests, trials and commissioning at final destinations, Warranty Cost and Training to the Staff designated by the Dean & Principal, Government Medical College , Balangir

7. In case of Closed System for some laboratory equipments, the supplier has to give the cost (inclusive of all Taxes) of reagent/consumables/other chemicals required for regular day to day testing or measuring parameters for 100 tests/procedures along with the unit cost of the main unit, which shall be taken into account for financial evaluation and the same shall also be valid for 2 yrs. of warranty and 3yrs. of CMC period. The format is specified at Annexure-VI/3.
8. Training is to be imparted to the Staff designated by the Dean & Principal, Government Medical College& Hospital, Balangir at each of the destinations in one batch (one to two Personnel) within 2 days of installation of the equipment with a repeat training after 15 days of initial training.

Date:

Place:

Authorized Signatory

(Signature and seal of the Authorized Signatory)

ANNEXURE VI/ 2

PRICE SCHEDULE FOR CMC

(To be furnished in Cover "B" - Financial Bid)

Sl. No.	Description of Services	No. of Units	Unit Price including all Taxes	Total Cost including all Taxes
1	2	3	4	5 (=3x4)
PACKAGE NO. AND NAME OF EQUIPMENT:-----				
1.	Cost of CMC (Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 1 after Warranty			
2.	Cost of CMC (Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 2 after Warranty			
3.	Cost of CMC (Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 3 after Warranty			
Total				
In Words (Rupees ) only				

Date:

Place:

Authorized Signatory

(Signature and seal of the Authorized Signatory)

Note: The Bidder shall furnish separate sheet for each Item under Lot 1 and Lot 2, wherever CMC is applicable, for which the Bidder has submitted bids.

ANNEXURE VI/ 3

**COST OF REAGENTS / SOLUTIONS / CATRIDGES REQUIRED TO COMPLETE ALL TESTS / PARAMETERS MENTIONED IN TECHNICAL SPECIFICATION, WHICH SHALL BE TAKEN INTO ACCOUNT FOR EVALUATION**

Sl. No	Name of the Reagent /Cartridge Parameter / Solution etc.	Test / Month (Estimated)	Available Pack Size / Volume	Unit Pack Rate exclusive of tax (a)	Reqd. Qty. for 100 Test in terms of Unit pack (b)	Rate / Month (c=a*b)	Rate / Year (d=c*12)	Rate / 6 Years (e=d*6)
1		100 Test						
2		100 Test						
3		100 Test						
.		100 Test						
.		100 Test						
.		100 Test						
Total Amount (for all reagents / cartridges) required for 6 Years (exclusive of tax)								
Tax (%) : _____. Pl, mention whether CST or OVAT : _____								

Note:

1. Bidder shall offer the Names & Rate of all Reagents required if any, for the offered model to complete the test / parameters mentioned in the technical specification as per the price bid format given. Total cost required for reagents / solution for a period of 6 years, considering minimum tests / month as mentioned in price bid format shall be taken into account for evaluation.
2. No items shall be purchased by Tender Inviting Authority to complete the tests / parameters mentioned in technical specification other than the list submitted by Bidder as per the price bid format. Hence items which are not mentioned here shall be included in Comprehensive warranty & CMC offered and replacement of such items like electrodes, tubing set or other spares whenever required shall be done free of cost during warranty & CMC period.
3. Purchase orders for the reagents / solutions etc. shall be issued based on actual requirement accordingly to the unit rates of the pack size offered by the bidder, and the prices for the same shall be fixed period of 6 years.
4. Bidder shall submit necessary documents to prove that the offered quantity is sufficient to complete the minimum number of tests / month as mentioned in price bid, & if any deviations noticed by Tender Inviting Authority the equipment shall not be considered for further bid process.

Signature of the Bidder

Seal

COMPLIANCE TO TECHNICAL SPECIFICATIONS  
(To be furnished in Cover "A" - Technical Bid)

Each Bidder has to prepare a comparison sheet as below –

Sl. No.	Description	Required Specifications as per the Bid Document	Bidder's Offered Specifications	Remarks/ Deviations, if any
1.				
2.				
3.				
4.				
5.				

MANUFACTURER'S OFFER FORM

(To be furnished in Cover "A" - Technical Bid)

[(to be submitted by Manufacturer in case the bidder is the Manufacturer (OEM)]

No.

Dated:

To

The Dean & Principal

Government Medical College & Hospital, Balangir-757001

Dear Madam/ Sir,

Bid Reference No.:

Equipment Name:

1. We ..... (name of the OEM) declare that we are the original manufacturers of the above equipment having registered office at

.....(full address with telephone number/ fax number, e-mail ID and website), and having factories at

\_\_\_\_\_ .

2. No company or firm or individual have been authorized to bid, negotiate and conclude the contract in regard to this business against this specific bid.

3. We hereby declare that we are willing to provide guarantee/ warranty and after sales service during the period of warranty/ CMC as per the above bid.

4. We also hereby declare that we have the capacity to manufacture, supply, install and commission the quantity of the equipments bided within the stipulated time.

(Name)

Date:

for and on behalf of M/s. \_\_\_\_\_

Place:

(Name of manufacturers)

Seal

Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.

MANUFACTURER'S AUTHORIZATION FORM

(To be furnished in Cover "A" - Technical Bid)

(to be submitted by authorized dealer in case the bidder is the authorized dealer of OEM)

No.

Date:

To

The Dean & Principal,  
Government Medical College & Hospital, Balangir

Dear Madam/ Sir,

Bid Reference No.:

Equipment Name:

1. We ..... (name of the OEM) are the original manufacturers of the above equipment having registered office at ..... (full address with telephone number/ fax number, email ID and website), having factories at \_\_\_\_\_ and \_\_\_\_\_, do hereby authorize M/s. \_\_\_\_\_ (Name and address of bidder) to submit bids and subsequently negotiate and sign the contract with you against the above bid no.

2. We also hereby undertake to provide full guarantee/ warranty/ CMC as agreed by the bidder in the event the bidder is changed as the dealer or the bidder fails to provide satisfactory after sales and service during such period of comprehensive warranty/ CMC.

3. We also hereby declare that we have the capacity to manufacture, supply, install and commission the quantity of the equipments bided within the stipulated time.

4. We \_\_\_\_\_ (Name of the OEM) hereby undertake to provide service & spare part service for 10 year of supply for the quoted items.

Date: \_\_\_\_\_ (Name)  
Place: \_\_\_\_\_ for and on behalf of M/s. \_\_\_\_\_  
(Name of manufacturers)

Seal

Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.



## FORMAT FOR AGREEMENT

(To be furnished in Cover "A" - Technical Bid)

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS CONTRACT AGREEMENT is made

the [ insert: number ] day of [ insert: month ], [ insert: year ].

BETWEEN

(1) Government Medical College & Hospital, Balangir, having its principal place of business at Office of the C.D.M.O., Balangir, Odisha- 757001 (hereinafter called "the Purchaser"), and

(2) [insert name of Supplier] having its principal place of business at [ insert: address of Supplier ] (hereinafter called "the Supplier").

WHEREAS the Purchaser invited bids for Supply, Install, Commission & Maintain Laboratory Equipment and Supply Models, Charts, Specimen, Chemicals & Reagents, Consumable & Disposables etc., has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [insert Contract Price in words and figures] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Special Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier and each shall be read and construed as an integral part of the Contract:
  - (a) This Contract Agreement
  - (b) Special Conditions of Contract
  - (c) Technical Requirements (Technical Specifications)
  - (d) The Supplier's Bid and original Price Schedules
  - (e) The Purchaser's Notification of Award
  - (f) Performance Security
  - (g) [Add here any other document (s)]

3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of [insert the name of the Contract governing law country] on the day, month and year indicated above.

For and on behalf of the Agency

For and on behalf of the  
Government Medical College , Balangir

**Authorised Signatory**

<Authorized Signatory>

<Name and Address of the  
Supplier>

Date:

Date:

1.Witness

1. Witness

2.Witness

2. Witness

BANK GUARANTEE FORM

(for Performance Security)

(To be furnished in Cover "A" - Technical Bid)

To

The Dean & Principal,  
Government Medical College ,  
Balangir-757001

WHEREAS.....(Name and address of the Service Provider) (Hereinafter called " Supplier") has undertaken, in pursuance of contract No..... dated ..... (hereinafter "the contract") to Supply, Install, Commission & Maintain Laboratory Equipment and Supply Models, Charts, Specimen, Chemicals & Reagents, Consumable & Disposables etc. AND WHEREAS it has been stipulated by you in the said contract that the Supplier shall furnish you with a bank guarantee by a Nationalized/ Scheduled Bank in India for the sum specified therein as security for compliance with its obligations in accordance with the contract; AND WHEREAS we have agreed to give such a bank guarantee on behalf of the Supplier; 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 60 days after the date of completion of the contractual obligations including warranty period, i.e. up to ..... (indicate date)

.....

(Signature with date of the authorized officer of the Bank)

.....

Name and designation of the officer

.....

Seal, name & address of the Bank and address of the Branch

CERTIFICATE FOR SUCCESSFUL INSTALLATION AND STARTUP OF THE SUPPLIED GOODS

(To be furnished in Cover "A" - Technical Bid)

Date:

Name of Supplier:

Sub.: Certificate of startup of the supplied Goods

1. This is to certify that the equipment as detailed below has been received in good condition along with all the standard and special accessories (subject to remarks in Para No. 2) and a set of spares in accordance with the Contract/ Specifications. The same has been installed and commissioned.

(a) P.O. No. \_\_\_\_\_ dated \_\_\_\_\_

(b) Description of the Equipment  
  
\_\_\_\_\_(c) Quantity  
  
\_\_\_\_\_(d) Name of the Consignee  
  
\_\_\_\_\_

(e) Date of Supply \_\_\_\_\_ \

(f) Date of start up and proving test \_\_\_\_\_

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

<u>Sl. No.</u>	<u>Description</u>	<u>Amount to be recovered</u>
----------------	--------------------	-------------------------------

3. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.

4. The supplier has fulfilled his contractual obligations satisfactorily. \*

CERTIFICATE FOR SUCCESSFUL INSTALLATION AND STARTUP OF THE SUPPLIED GOODS

(To be furnished in Cover "A" - Technical Bid)

Date:

Name of Supplier:

Sub.: Certificate of startup of the supplied Goods

3. This is to certify that the equipment as detailed below has been received in good condition along with all the standard and special accessories (subject to remarks in Para No. 2) and a set of spares in accordance with the Contract/ Specifications. The same has been installed and commissioned.

(a) P.O. No. \_\_\_\_\_ dated \_\_\_\_\_

(b) Description of the Equipment  
  
\_\_\_\_\_(c) Quantity  
  
\_\_\_\_\_(d) Name of the Consignee  
  
\_\_\_\_\_

(e) Date of Supply \_\_\_\_\_ \

(f) Date of start up and proving test \_\_\_\_\_

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

<u>Sl. No.</u>	<u>Description</u>	<u>Amount to be recovered</u>
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5. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.

6. The supplier has fulfilled his contractual obligations satisfactorily. \*

or

The supplier has failed to fulfill his contractual obligations with regard to the following:

- (a)
  - (b)
  - (c)
  - (d)
5. The amount of recovery on account of non-supply of accessories and spares is given under Para No. 2.
6. The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated in endorsement of the letter.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation with Stamp \_\_\_\_\_

\* Explanatory notes for filling up the certificates:

- (a) The supplier has adhered to the time schedule specified in the contract in dispatching the documents pursuant to Technical Specifications.
- (b) The supplier has supervised the startup of the plant in time i.e. within the period specified in the contract.
- (c) Training of personnel has been done by the supplier as specified in the contract.
- (d) In the event of documents having not been supplied or installation and startup of the plant have been delayed on account of the supplier, the extent of delay should always be mentioned.

## Bank Guarantee Format for furnishing EMD

Whereas..... (hereinafter called the “tenderer”) has submitted their offer dated..... for Supply, Installation & Commissioning Of Laboratory Equipments, And Supply Of Chemicals & Reagents, Consumables & Disposables And Models, Charts & Specimens(hereinafter called the “tender”) against the purchase’s tender..

KNOW ALL MEN by these presents that WE..... of ..... 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 .....2017.

## THE CONDITION 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) If the tenderer fails to furnish the performance security for the due performance of the contract.
  - b) Fails or refuses to accept/execute the contract.

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 two conditions, specifying the occurred condition or conditions.

This guarantee shall be valid until the .....day of .....20.....

We the .....Branch.....undertake not to revoke the guarantee during its currency expect with the previous consent of the The Dean & Principal, Government Medical College , Balangir-757001 in writing.



We the .....Branch..... further agree that a mere demand by the Dean & Principal, Government Medical College , Balangir-757001 is sufficient for us.....Branch at ..... to pay the amount covered by the Bank Guarantee without reference to the said Agency and protest by said Agency cannot be valid ground for us.....Branch to decline payment to the Dean & Principal, Government Medical College , Balangir.

.....

(Signature of the authorized officer of the Bank)

.....

Name and designation of the officer

.....

.....

Seal, name & address of the Banks and address of the Branch