

GLOBAL TENDER ENQUIRY DOCUMENT

**FOR PROCUREMENT OF
CSSD
FOR SIX AIIMS**

**UNDER PMSSY Scheme
FOR**

GOVT OF INDIA

**MINISTRY OF HEALTH & FAMILY WELFARE
HLL/PCD/PMSSY/AIIMS-II/13/13-14**



BY

HLL Lifecare Limited

(A GOVERNMENT OF INDIA ENTERPRISE)

Procurement & Consultancy Services Division

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SECTION I

NOTICE INVITING TENDERS (NIT)
For Global Tender from
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FOR
 GOVT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE

Tender Enquiry No.: HLL/PCD/PMSSY/AIIMS-II/13/13-14

Dated 03.03.2014

NOTICE INVITING TENDERS (NIT)

(1) Procurement & Consultancy Services Division of HLL Lifecare Limited, for and on behalf of Govt. of India, Ministry of Health & Family Welfare, invites sealed tenders, from eligible and qualified tenderers for supply of CSSD for six All India Institutes of Medical Science (AIIMS) – Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur, Rishikesh under PMSSY:

Sch. No.	Equipment Name	Consignee Name	Qty.	EMD (Rs.)
1 (a)	CSSD	AIIMS - Bhopal	1	18,00,000
1 (b)		AIIMS - Bhubaneswar	1	18,00,000
1 (c)		AIIMS - Jodhpur	1	18,00,000
1 (d)		AIIMS - Patna	1	18,00,000
1 (e)		AIIMS - Rishikesh	1	18,00,000
1 (f)		AIIMS - Raipur	1	18,00,000

(2) Tender No.: HLL/PCD/PMSSY/AIIMS-II/13/13-14

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	03.03.2014 to 15.04.2014 , 1600 hrs IST
ii.	Place of sale of Tender Enquiry Documents	HLL Lifecare Limited, (A Government of India Enterprise), Procurement & Consultancy Services Division, B-14 A, Sector-62, Noida-201307
iii.	Cost of the Tender Enquiry Document	Rs. 50,000/-
iv.	Pre Tender Meeting Date & Time	10.03.2014 , 1200 hrs IST
v.	Pre Tender Meeting Venue	Same as 2 (ii)
vi.	Closing date & time for receipt of Tender	16.04.2014 , 1400 hrs IST

Sl. No.	Description	Schedule
vii.	Time and date of opening of Techno – Commercial tenders	16.04.2014 , 1430 hrs IST
viii	Venue of Opening of Techno Commercial Tender	Same as 2 (ii)

3. Interested tenderers may obtain further information about this requirement from the above office selling the documents. Tender Enquiry Documents may be purchased on payment of non-refundable fee of Rs 50,000/- per set in the form of account payee Demand Draft/Pay Order/Cashier's Cheque/Banker's Cheque, drawn on a scheduled bank in India, in favour of "**HLL Lifecare Limited**" payable at New Delhi.
4. If requested, the Tender Enquiry Documents will be mailed by Registered Post/Speed Post to the domestic tenderers and by international airmail to the foreign tenderers, for which extra expenditure per set will be Rs 500/- for domestic post and Rs 1,000/- for international airmail. The tenderer is to add the applicable postage cost in the non-refundable fee mentioned in Para 3 above.
5. Tenderer may also download the tender enquiry documents from the web site www.lifecarehll.com or www.eprocure.gov.in/cppp and submit its tender by utilizing the downloaded document, along with the required non-refundable fee as mentioned in Para 3 above.
6. All prospective tenderers may attend the Pre Tender meeting. The venue, date and time indicated in the Para 2 above.
7. Tenderers shall ensure that their tenders, complete in all respects, are dropped in the Tender Box located at **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201307, Uttar Pradesh** on or before the closing date and time indicated in the Para 2 above, failing which the tenders will be treated as late and rejected.
8. In the event of any of the above mentioned dates being declared as a holiday / closed day for the purchase organisation, the tenders will be sold/received/opened on the next working day at the appointed time.
9. The Tender Enquiry Documents are not transferable.

10. Purchaser reserves the right to go for reverse auction for the tender.

Head (P&CD)
HLL Lifecare Limited

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GENERAL INSTRUCTIONS TO TENDERERS (GIT)

A. PREAMBLE

1. Definitions and Abbreviations

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

1.2. Definitions:

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

1.3 Abbreviations:

- (i) "TE Document" means Tender Enquiry Document
- (ii) "NIT" means Notice Inviting Tenders.

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

2. Introduction

- 2.1 The Purchaser has issued these TE documents for purchase of goods and related services as mentioned in Section – VI – "List of Requirements", which also indicates, *interalia*, the required delivery schedule, terms and place of delivery.
- 2.2 This section (Section II - "General Instruction Tenderers") provides the relevant information as well as instructions to assist the prospective tenderers in preparation and submission of tenders. It also includes the mode and procedure to be adopted by the purchaser for receipt and opening as well as scrutiny and evaluation of tenders and subsequent placement of contract.
- 2.3 The tenderers shall also read the Special Instructions to Tenderers (SIT) related to this purchase, as contained in Section III of these documents and follow the same accordingly. Whenever there is a conflict between the GIT and the SIT, the provisions contained in the SIT shall prevail over those in the GIT.

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

3. Availability of Funds

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

4. Language of Tender

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

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

5. Eligible Tenderers

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

6. Eligible Goods and Services

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

7. Tendering Expense

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

B. TENDER ENQUIRY DOCUMENTS

8. Content of Tender Enquiry Documents

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

- Section II – General Instructions to Tenderers (GIT)
- Section III – Special Instructions to Tenderers (SIT)
- Section IV – General Conditions of Contract (GCC)
- Section V – Special Conditions of Contract (SCC)
- Section VI – List of Requirements
- Section VII – Technical Specifications
- Section VIII – Quality Control Requirements

- Section IX – Qualification Criteria
- Section X – Tender Form
- Section XI – Price Schedules
- Section XII – Questionnaire
- Section XIII – Bank Guarantee Form for EMD
- Section XIV – Manufacturer’s Authorisation Form
- Section XV – Bank Guarantee Form for Performance Security/CMC Security
- Section XVI – Contract Forms A & B
- Section XVII – Proforma of Consignee Receipt Certificate
- Section XVIII – Proforma of Final Acceptance Certificate by the consignee
- Section XIX – Instructions from Ministry of Shipping/ Surface Transport (Annexure 1 & 2)
- Section XX – Check List for the Tenderers
- Section XXI – Consignee List

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

9. Amendments to TE documents

- 9.1 At any time prior to the deadline for submission of tenders, the purchaser may, for any reason deemed fit by it, modify the TE documents by issuing suitable amendment(s) to it.
- 9.2 Such an amendment will be notified in writing by registered/speed post or by fax/telex/e-mail, to all prospective tenderers, who have received the TE documents and will be binding on them.
- 9.3 In order to provide reasonable time to the prospective tenderers to take necessary action in preparing their tenders as per the amendment, the purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.

10. Clarification of TE documents

- 10.1 A tenderer requiring any clarification or elucidation on any issue of the TE documents may take up the same with the purchaser in writing. **The purchaser will respond in writing to such request provided the same is received by the purchaser ON OR BEFORE THE PRE BID MEETING (unless otherwise specified in the SIT). Representation sent after the pre bid meeting date will not be taken into cognizance.**

C. PREPARATION OF TENDERS

11. Documents Comprising the Tender

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

A) Techno – Commercial Tender (Un priced Tender)

- i) Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption from payment of earnest money.
- ii) Tender Form as per Section X (without indicating any prices).
- iii) Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if its tender is accepted.

- iv) Tenderer/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form.
- v) Power of Attorney in favour of signatory of TE documents and signatory of Manufacturer's Authorisation Form.
- vi) Documents and relevant details to establish in accordance with GIT clause 18 that the goods and the allied services to be supplied by the tenderer conform to the requirement of the TE documents.
- vii) Performance Statement as per section IX along with relevant copies of orders and end users' satisfaction certificate.
- viii) Price Schedule(s) as per Section XI filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices).
- ix) Certificate of Incorporation in the country of origin.
- x) Checklist.
- xi) Cost of tender document should be payable by DD / pay order. Cheque will not be accepted.
- xii) Self Attested copies of VAT registration certificate and PAN Card.
- xiii) Non conviction / no pending conviction certification issued by Notary on judicial stamp paper for preceding three years.
- xiv) Self Attested copies of quality certificates i.e US FDA / CE Certificate issued by competent authority, if applicable.
- xv) Documentary evidence stating the status of bidder.
- xvi) List of procurement agencies of repute to which the tendered product have been supplied during last 12 months.
- xvii) Self attested copies of annual report, audited balance sheet and profit & loss account for preceding three years from the date of tender opening.
- xix) Notarized affidavit that tenderer does not have any relation with the person authorized to evaluate technically or involve in finalizing the tender or will decide the use of tendered items.
- xx) A self-declaration on Rs 10/ Non-judicial Stamp Paper that the rates quoted in the tender are the lowest and not quoted less than this to any Government Institution (State / Central / other Institute in India).
- xxiii) Product catalogues must be enclosed of all quoted items.

B) Price Tender:

The Price tender will be called through Reverse Bidding Mechanism. The Reverse auction / bidding will be done through authorised service provider. Only the successful bidders will be asked to get themselves registered with the service provider and will be given training.

The manual price bids of the successful bidders submitted along with the techno- commercial bids will be opened after the reverse bidding process is completed and the L1 price either through reverse bidding or manual price bid will prevail. Bidders should compulsorily quote price for all schedules and work will be awarded on the basis of best benefit to the purchaser. During online bidding also, bidders will be told the eligibility of schedules in advance (say for 1 schedule or 2 schedules) however they will have to bid for all the sites and the work will be awarded on the basis of least cost to the purchaser method. If the bidder does not submit price for all the schedules, his bid will be treated as non-responsive and summarily rejected.

1. The information given at clause no.11.1 A) ii) & viii) above should be reproduced with the prices indicated.
2. All pages of the Tender should be page numbered and indexed.

3. It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.
4. Information on Compact disc (CD)
5. Tenderer should quote firm and fixed rates.
6. Free goods will be incorporated in price comparison.
7. The specification and size of each product should be as per details given in tender.
8. Any variation may result in the rejection of the tender.
9. Plea of clerical error, typographical error etc., committed by the tenderer would not be accepted.
10. No correspondence will be entertained after opening of the price bid.
11. Any conditional price bid would not be entertained and tender will be treated cancelled.

11.2 The authorized signatory of the tenderer must sign the tender duly stamped on all pages. If the tenderer deletes any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.

11.3 Tender sent by fax/telex/cable/electronically shall be ignored

12. Tender currencies

- 12.1 The tenderer supplying indigenous goods or already imported goods shall quote only in Indian Rupees.
- 12.2 For imported goods if supplied directly from abroad, prices shall be quoted in any freely convertible currency say US Dollar, Euro, GBP or Yen. As regards price(s) for allied services, if any required with the goods, the same shall be quoted in Indian Rupees only if such services are to be performed /undertaken in India. Commission for Indian Agent, if any and if payable shall be indicated in the space provided for in the price schedule and will be payable in Indian Rupees only.
- 12.3 Tenders, where prices are quoted in any other currency shall be treated as non -responsive and rejected.

13 Tender Prices

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

The bidders have to quote for all the schedules while quoting. Say if the bidder is quoting for CSSD the bidders have to quote for all six schedules. The purchaser will have the right to award the work to any site as per the eligibility and to the best benefit of the exchequer.

Price schedule for all six schedules to be kept in separate sealed envelope mandatorily.

- 13.2 If there is more than one schedule in the List of Requirements, the tenderer has the option to submit its quotation for any one or more schedules and, also, to offer special discount for combined schedules. However, while quoting for a schedule, the tenderer shall quote for the complete requirement of goods and services as specified in that particular schedule. All sundry equipments, fittings, units assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work

shall be deemed to have been included in the tender irrespective of the fact whether such items are specifically mentioned in the tender documents or not.

- 13.3 The quoted prices for goods offered from within India and that for goods offered from abroad are to be indicated separately in the applicable Price Schedules attached under Section XI. Detailed breakup of the prices for the main equipment and accessories/optional items must be provided separately, item wise in the same serial order as listed in the technical bid
- 13.4 While filling up the columns of the Price Schedule, the following aspects should be noted for compliance:
- 13.4.1 For domestic goods or goods of foreign origin located within India, the prices in the corresponding price schedule shall be entered separately in the following manner:
- a) the price of the goods, quoted ex-factory/ ex-showroom/ ex-warehouse/ off-the-shelf, as applicable, including all taxes and duties like sales tax, CST VAT, CENVAT, Custom Duty, Excise Duty etc. already paid or payable on the components and raw material used in the manufacture or assembly of the goods quoted ex-factory etc. or on the previously imported goods of foreign origin quoted ex-showroom etc;
 - b) any sales or other taxes and any duties including excise duty, which will be payable on the goods in India if the contract is awarded;
 - c) charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery, Loading/Unloading and other local costs incidental to delivery of the goods to their final destination as specified in the List of Requirements and Price Schedule;
 - d) the price of Incidental Services, as mentioned in List of Requirements and Price Schedule;
 - e) the prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule;
 - f) The rates quoted by the tenderer, shall be firm and fixed and inclusive of all taxes including work contract taxes , custom central duties and levies and all charges for packing forwarding, insurance , freight and delivery , installation , testing commissioning etc at site i/c temporary construction of storage , risk, overhead charges general liabilities/ obligations and clearance from local authorities. Rates shall be firm for the contractual period of time and for such time for which department shall grant extension of time till completion of work. Octroi duty shall be paid separately but the department on demand can furnish octroi exemption certificate. However the department is not liable to reimburse the octroi duty in case the concerned authorities do not honour exemption certificate.; and
 - g) the price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.
- 13.4.2 For goods offered from abroad, the prices in the corresponding price schedule shall be entered separately in the following manner:
- a) The price of goods quoted FOB/FCA port of shipment, as indicated in the List of Requirements and Price Schedule;
 - b) the price of goods quoted CIP (name port of destination) in India as indicated in the List of Requirements, Price Schedule and Consignee List;
 - c) The charges for Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery. Other local costs and Incidental costs, as specified in the List of Requirements and Price Schedule;

- d) The charges for Incidental Services, as in the List of Requirements and Price Schedule;
- e) The prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
- f) The price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule

13.5 Additional information and instruction on Duties and Taxes:

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

13.5.2 Excise Duty:

- a) If reimbursement of excise duty is intended as extra over the quoted prices, the supplier must specifically say so also indicating the rate, quantum and nature of the duty applicable. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of excise duty will be entertained after the opening of tenders.
- b) If a Tenderer chooses to quote a price inclusive of excise duty and also desires to be reimbursed for variation, if any, in the excise duty during the time of supply, the tenderer must clearly mention the same and also indicate the rate and quantum of excise duty included in its price. Failure to indicate all such details in clear terms may result in rejection of that tender.
- c) Subject to sub clauses 13.5.2 (a) & (b) above, any change in excise duty upward/downward as a result of any statutory variation in excise duty taking place within contract terms shall be allowed to the extent of actual quantum of excise duty paid by the supplier. In case of downward revision in excise duty, the actual quantum of reduction of excise duty shall be reimbursed to the purchaser by the supplier. All such adjustments shall include all reliefs, exemptions, rebates, concession etc. if any obtained by the supplier.

13.5.3 Sales Tax:

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

13.5.4 Octroi Duty and Local Duties & Taxes:

Normally, goods to be supplied to government departments against government contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. However, on some occasions, the local bodies (like town body, municipal body etc.) as per their regulations allow such exemptions only on production of certificate to this effect from the concerned government department. Keeping this in view, the supplier shall ensure that the stores to be supplied by the supplier against the contract placed by the purchaser are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the purchaser. The purchaser should issue the certificate to the supplier within 21 days from the date of receipt of request from the supplier.

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

13.5.5 Customs Duty:

The Purchaser will pay the Customs duty wherever applicable.

- 13.6 For transportation of imported goods offered from abroad, relevant instructions as incorporated under GCC Clause 10 shall be followed.
- 13.7 For insurance of goods to be supplied, relevant instructions as provided under GCC Clause 11 shall be followed.
- 13.8 Unless otherwise specifically indicated in this TE document, the terms FCA, FOB, FAS, CIF, CIP, DDP etc. for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris
- 13.9 The need for indication of all such price components by the tenderers, as required in this clause (viz., GIT clause 13) is for the purpose of comparison of the tenders by the purchaser and will no way restrict the purchaser's right to award the contract on the selected tenderer on any of the terms offered.

14. Indian Agent

- 14.1 If a foreign tenderer has engaged an agent in India in connection with its tender, the foreign tenderer, in addition to indicating Indian agent's commission, if any, in a manner described under GIT sub clause 12.2 above, shall also furnish the following information:
- The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax authority.
 - The details of the services to be rendered by the agent for the subject requirement.
 - Details of Service outlets in India, nearest to the consignee(s), to render services during Warranty and CMC period.
 - A copy of agreement between the Agent & their principal detailing the terms & conditions as well as services and after sales services as above to be rendered by the agent and the precise relationship between them and their mutual interest in the business as laid out in section VII (Technical specifications).
 - Principal/ manufacturer's original proforma invoice with the price bid

15. Firm Price

Unless otherwise specified in the SIT, prices quoted by the tenderer shall remain firm and fixed during the currency of the contract and not subject to variation on any account. Bidders are requested to quote BOQ wise unit price and total price. Item wise price will remain fixed. However actual payment will be based on final measurement.

16. Alternative Tenders

- 16.1 Alternative Tenders are not permitted.

- 16.2 However the Tenderers can quote alternate models meeting the tender specifications of same manufacturer with single EMD.
- 16.3 **If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product. In a tender, either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.**

17 Documents Establishing Tenderer's Eligibility and Qualifications

- 17.1 Pursuant to GIT clause 11, the tenderer shall furnish, as part of its tender, relevant details and documents establishing its eligibility to quote and its qualifications to perform the contract if its tender is accepted.
- 17.2 The documentary evidence needed to establish the tenderer's qualifications shall fulfil the following requirements:
- a) in case the tenderer offers to supply goods, which are manufactured by some other firm, the tenderer has been duly authorised by the goods manufacturer to quote for and supply the goods to the purchaser. The tenderer shall submit the manufacturer's authorization letter to this effect as per the standard form provided under Section XIV in this document.
 - b) the tenderer has the required financial, technical and production capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section IX in these documents.
 - c) in case the tenderer is not doing business in India, it is duly represented by an agent stationed in India fully equipped and able to carry out the required contractual functions and duties of the supplier including after sale service, maintenance & repair etc. of the goods in question, stocking of spare parts and fast moving components and other obligations, if any, specified in the conditions of contract and/or technical specifications.
 - d) in case the tenderer is an Indian agent/authorized representative quoting on behalf of a foreign manufacturer for the **restricted item**, the Indian agent/authorized representative is already enlisted under the Compulsory Enlistment Scheme of Ministry of Finance, Govt. of India, operated through Directorate General of Supplies & Disposals (DGS&D), New Delhi.

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

- 18.1 The tenderer shall provide in its tender the required as well as the relevant documents like technical data, literature, drawings etc. to establish that the goods and services offered in the tender fully conform to the goods and services specified by the purchaser in the TE documents. For this purpose the tenderer shall also provide a clause-by-clause commentary on the technical specifications and other technical details incorporated by the purchaser in the TE documents to establish technical responsiveness of the goods and services offered in its tender.
- 18.2 In case there is any variation and/or deviation between the goods & services prescribed by the purchaser and that offered by the tenderer, the tenderer shall list out the same in a chart form without ambiguity and provide the same along with its tender.
- 18.3 If a tenderer furnishes wrong and/or misleading data, statement(s) etc. about technical acceptability of the goods and services offered by it, its tender will be liable to be ignored and rejected in addition to other remedies available to the purchaser in this regard.

19. Earnest Money Deposit (EMD)

- 19.1 Pursuant to GIT clauses 8.1 and 11.1 A (i) the tenderer shall furnish along with its tender, earnest money for amount as shown in the List of Requirements. The earnest money is required to protect

the purchaser against the risk of the tenderer's unwarranted conduct as amplified under sub-clause 19.7 below.

- 19.2 The tenderers who are currently registered and, also, will continue to remain registered during the tender validity period with Directorate General of Supplies & Disposals or with National Small Industries Corporation, New Delhi for the specific goods as per tender enquiry specification shall be eligible for exemption from EMD. Vague stipulations in the Registration Certificate such as "to customers' specification" etc. will not be acceptable for exemption from furnishing of earnest money. In case the tenderer falls in these categories, it should furnish copy of its valid registration details (with DGS & D or NSIC, as the case may be).
- 19.3 The earnest money shall be denominated in Indian Rupees or equivalent currencies as per GIT clause 12.2. The earnest money shall be furnished in one of the following forms:
- i) Account Payee Demand Draft
 - ii) Banker's cheque and
 - iii) Bank Guarantee
- 19.4 The demand draft or banker's cheque shall be drawn on any commercial bank in India or country of the tenderer, in favour of the "HLL Lifecare Limited" payable at New Delhi. In case of bank guarantee, the same is to be provided from any commercial bank in India or country of the tenderer as per the format specified under Section XIII in these documents.
- 19.5 The earnest money shall be valid for a period of forty-five (45) days beyond the validity period of the tender. As validity period of Tender as per Clause 20 of GIT is 120 days, the EMD shall be valid for 165 days from Techno – Commercial Tender opening date.
- 19.6 Unsuccessful tenderers' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.
- 19.7 Earnest Money is required to protect the purchaser against the risk of the Tenderer's conduct, which would warrant the forfeiture of the EMD. Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The successful tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser if it fails to furnish the required performance security within the specified period.
- 19.8 In the case of Bank Guarantee furnished from banks outside India (i.e. foreign Banks), it should be authenticated and countersigned by any nationalised bank in India by way of back-to-back counter guarantee and the same should be submitted along with the bid.

20. Tender Validity

- 20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of 120 days (One hundred and twenty days) after the date of tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.
- 20.2 In exceptional cases, the tenderers may be requested by the purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by surface mail or by fax/ telex/cable followed by surface mail. The tenderers, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly. A tenderer, who

may not agree to extend its tender validity after the expiry of the original validity period the EMD furnished by them shall not be forfeited.

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

21. Signing and Sealing of Tender

- 21.1 The tenderers shall submit their tenders as per the instructions contained in GIT Clause 11.
- 21.2 Unless otherwise mentioned in the SIT, a tenderer shall submit two copies of its tender marking them as “Original” and “Duplicate”. Duplicate tenders may contain all pages including Technical Literature/Catalogues as per in Original tenders. Tenders are requested to submit tenders duly page numbered and in a binding form. **Tenders submitted in loose sheets will not be accepted.**
- 21.3 The original and other copies of the tender shall either be typed or written in indelible ink and the same shall be signed by the tenderer or by a person(s) who has been duly authorized to bind the tenderer to the contract. The letter of authorization shall be by a written power of attorney, which shall also be furnished along with the tender.
- 21.4 All the copies of the tender shall be duly signed at the appropriate places as indicated in the TE documents and all other pages of the tender including printed literature, if any shall be initialled by the same person(s) signing the tender. The tender shall not contain any erasure or overwriting, except as necessary to correct any error made by the tenderer and, if there is any such correction; the same shall be initialled by the person(s) signing the tender.
- 21.5 The tenderer is to seal the original and duplicate copy of the tender in separate envelopes, duly marking the same as “Original”, “Duplicate”, and writing the address of the purchaser and the tender reference number on the envelopes. The sentence “NOT TO BE OPENED” before _____ (The tenderer is to put the date & time of tender opening) are to be written on these envelopes. The inner envelopes are then to be put in a bigger outer envelope, which will also be duly sealed, marked etc. as above. If the outer envelope is not sealed and marked properly as above, the purchaser will not assume any responsibility for its misplacement, premature opening, late opening etc.
- 21.6 TE document seeks quotation following **two Tender System**, in two parts. First part will be known as **‘Techno - Commercial Tender’**, and the second part **‘Price Tender’** as specified in clause 11 of GIT. Tenderer shall seal **‘Techno - Commercial Tender’** and **‘Price Tender’** separately and covers will be suitably super scribed. Both these sealed covers shall be put in a bigger cover and sealed and procedure prescribed in Paras 21.1 to 21.5 followed.

D. SUBMISSION OF TENDERS

22. Submission of Tenders

- 22.1 Unless otherwise specified, the tenderers are to deposit the tenders in the tender box kept for this purpose at **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201 307, Uttar Pradesh**. In case of bulky tender, which cannot be put into tender box, the same shall be submitted by the tenderer by hand to **Head (P&CD)** or his nominee, **HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector-62, Noida-201 307, Uttar Pradesh**. The officer receiving the tender will give the tenderer an official receipt duly signed with date and time.
- 22.2 The tenderers must ensure that they deposit their tenders not later than the closing time and date specified for submission of tenders. It is the responsibility of the tenderer to ensure that their Tenders whether sent by post or by courier or by person, are dropped in the Tender Box by the

specified clearing date and time. In the event of the specified date for submission of tender falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be received up to the appointed time on the next working day.

23. Late Tender

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

24. Alteration and Withdrawal of Tender

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

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

E. TENDER OPENING

25. Opening of Tenders

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

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

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

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

25.3 Two - Tender system as mentioned in Para 21.6 above will be as follows. The **Techno - Commercial Tenders** are to be opened in the first instance, at the prescribed time and date as indicated in NIT. These Tenders shall be scrutinized and evaluated by the competent committee/ authority with reference to parameters prescribed in the TE document. During the Techno - Commercial Tender opening, the tender opening official(s) will read the salient features of the tenders like brief description of the goods offered, delivery period, Earnest Money Deposit and any other special features of the tenders, as deemed fit by the tender opening official(s). Thereafter, in the second stage, the Price Tenders of only the Techno - Commercially acceptable offers (as decided in the first stage) shall be opened for further scrutiny and evaluation on a date notified after the evaluation of the Techno – Commercial tender. The prices, special discount if any of the goods offered etc., as deemed fit by tender opening official(s) will be read out. **Purchaser however reserves the right to go for online reverse auction through purchasers authorized service provider. Terms, conditions & business rules for online reverse auction will be communicated in advance to the techno commercially responsive bidders. In case of reverse auction mechanism the window for reverse auction will be opened at pre notified**

date and time. Sufficient time will be given to the successful bidders for submitting their bid online.

Subsequent to the reverse auction the Manual Price Bid of bidders whose offers (Techno-commercial/Technical bid) are found technically and commercially suitable (responsive) and comply with the Bid Documents will be opened and the L1 price either through reverse bidding or manual price bid will be considered for award of work.

F. SCRUTINY AND EVALUATION OF TENDERS

26. Basic Principle

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

27. Scrutiny of Tenders

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

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

27.3 If a Tender is not substantially responsive, it will be rejected by the Purchaser and cannot subsequently be made responsive by the Tenderer by correction of the nonconformity.

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

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

- (i) Deleted
- (ii) Tender is unsigned.
- (iii) Tender validity is shorter than the required period.
- (iv) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
- (v) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorisation Form as per Section XIV.
- (vi) Tenderer has not agreed to give the required performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract.
- (vii) Deleted

- (viii) Tenderer has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law.
- (ix) Poor/ unsatisfactory past performance.
- (x) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.
- (xi) Tenderer is not eligible as per GIT Clauses 5.1 & 17.1.
- (xii) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.
- (xiii) Tenderer has not agreed for the delivery terms and delivery schedule.

28. Minor Infirmary/Irregularity/Non-Conformity

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

29 Discrepancies in Prices

- 29.1 If, in the price structure quoted by a tenderer, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the purchaser feels that the tenderer has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.
- 29.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals, the subtotals shall prevail and the total corrected; and
- 29.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 29.1 and 29.2 above.
- 29.4 If, as per the judgement of the purchaser, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the tenderer by registered / speed post. If the tenderer does not agree to the observation of the purchaser, the tender is liable to be ignored.

30. Discrepancy between original and copies of Tender

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

31. Qualification Criteria

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

32. Conversion of tender currencies to Indian Rupees

32.1 In case the TE document permits the tenderers to quote their prices in different currencies, all such quoted prices of the responsive tenderers will be converted to a single currency viz., Indian Rupees for the purpose of equitable comparison and evaluation, as per the exchange rates

established by the Reserve Bank of India for similar transactions, as on the date of 'Price Tender' opening.

33. Schedule-wise Evaluation

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

34. Comparison of Tenders

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

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

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

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

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

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

36. Tenderer's capability to perform the contract

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

36.2 The above-mentioned determination will, interalia, take into account the tenderer's financial, technical and production capabilities for satisfying all the requirements of the purchaser as incorporated in the TE document. Such determination will be based upon scrutiny and

examination of all relevant data and details submitted by the tenderer in its tender as well as such other allied information as deemed appropriate by the purchaser.

37. Contacting the Purchaser

- 37.1 From the time of submission of tender to the time of awarding the contract, if a tenderer needs to contact the purchaser for any reason relating to this tender enquiry and / or its tender, it should do so only in writing.
- 37.2 In case a tenderer attempts to influence the purchaser in the purchaser's decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the tenderer shall be liable for rejection in addition to appropriate administrative actions being taken against that tenderer, as deemed fit by the purchaser.

G. AWARD OF CONTRACT

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

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

39. Award Criteria

- 39.1 Subject to GIT clause 38 above, the contract will be awarded to the lowest evaluated responsive tenderer decided by the purchaser in terms of GIT Clause 36 or the lowest rate received as a result of reverse auction.

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

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

41. Notification of Award

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

42. Issue of Contract

- 42.1 Promptly after notification of award, the Purchaser/Consignee will mail the contract form (as per Section XVI) duly completed and signed, in duplicate, to the successful tenderer by registered / speed post.
- 42.2 Within twenty one days from the date of the contract, the successful tenderer shall return the original copy of the contract, duly signed and dated, to the Purchaser/Consignee by registered / speed post.
- 42.3 The Purchaser/Consignee reserves the right to issue the Notification of Award consignee wise.

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

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

44. Return of E M D

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

45. Publication of Tender Result

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

46. Corrupt or Fraudulent Practices

- 46.1 It is required by all concerned namely the Consignee/Tenderers/Suppliers etc to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Purchaser: -
- (a) defines, for the purposes of this provision, the terms set forth below as follows:
- (i) “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
- (ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;
- (b) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the purchaser if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

SECTION - III
SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

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G	38 to 46	Award of Contract	No Change	26

**SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)**

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

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

- A Preamble**
No Change
- B TE documents**
No Change
- C Preparation of Tenders**
No Change
- D Submission of Tenders**
No Change
- E Tender Opening**
No Change
- F Scrutiny and Evaluation of Tenders**
No Change
- G Award of Contract**
No Change

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GENERAL CONDITIONS OF CONTRACT (GCC)

1. Application

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

2. Use of contract documents and information

- 2.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the purchaser in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this TE document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.
- 2.2 Further, the supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC sub-clause 2.1 above except for the sole purpose of performing this contract.
- 2.3 Except the contract issued to the supplier, each and every other document mentioned in GCC sub-clause 2.1 above shall remain the property of the purchaser and, if advised by the purchaser, all copies of all such documents shall be returned to the purchaser on completion of the supplier's performance and obligations under this contract.

3. Patent Rights

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

4. Country of Origin

- 4.1 All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.
- 4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.
- 4.3 The country of origin may be specified in the Price Schedule

5. Performance Security

- 5.1 Within thirty (30) days from date of the issue of notification of award by the Purchaser/Consignee, the supplier, shall furnish performance security to the Purchaser/Consignee for an amount equal to ten percent (10%) of the total value of the contract, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations, initially valid for a period of minimum 66 months from the date of Notification of Award
- 5.2 The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:

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

- 5.3 In the event of any failure /default of the supplier with or without any quantifiable loss to the government including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma in Section XV, the amount of the performance security is liable to be forfeited. The Administration Department may do the needful to cover any failure/default of the supplier with or without any quantifiable loss to the Government.
- 5.4 In the event of any amendment issued to the contract, the supplier shall, within twenty-one (21) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended
- 5.5 The supplier shall enter into Annual Comprehensive Maintenance Contract as per the 'Contract Form – B' in Section XVI with respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC will commence from the date of expiry of the Warranty Period.
- 5.6 Subject to GCC sub – clause 5.3 above, the Purchaser/Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations & after receipt of Consignee wise bank guarantee for CMC security in favour of Head of the Hospital/ Institute/ Medical College of the consignee as per the format in Section XV.

6. Technical Specifications and Standards

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

7. Packing and Marking

- 7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.
- 7.2 The quality of packing, the manner of marking within & outside the packages and provision of accompanying documentation shall strictly comply with the requirements as provided in Technical Specifications and Quality Control Requirements under Sections VII and VIII and in SCC under Section V. In case the packing requirements are amended due to issue of any amendment to the contract, the same shall also be taken care of by the supplier accordingly.
- 7.3 Packing instructions:

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

- a. contract number and date
- b. brief description of goods including quantity
- c. packing list reference number
- d. country of origin of goods

- e. consignee's name and full address and
- f. supplier's name and address

8. Inspection, Testing and Quality Control

- 8.1 The purchaser and/or its nominated representative(s) will, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform the supplier in advance, in writing, the purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose. "The cost towards the transportation, boarding and lodging will be borne by the purchaser and/or its nominated representative(s) for the first visit. In case the goods are rejected in the first instance and the supplier requests for re-inspection, and if same is accepted by purchaser/consignee/PSA/PA, all subsequent inspections shall be at the cost of the supplier. The expense will be to and fro Economy Airfare, Local Conveyance, Boarding and Lodging of the inspection team for the inspection period."
- 8.2 The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the purchaser's inspector at no charge to the purchaser.
- 8.3 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the purchaser's inspector may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the purchaser and resubmit the same to the purchaser's inspector for conducting the inspections and tests again.
- 8.4 In case the contract stipulates pre-despatch inspection of the ordered goods at supplier's premises, the supplier shall put up the goods for such inspection to the purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period.
- 8.5 If the supplier tenders the goods to the purchaser's inspector for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, the inspector may carry out the inspection and complete the formality beyond the contractual delivery period at the risk and expense of the supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the purchaser under the terms & conditions of the contract.
- 8.6 The purchaser's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by purchaser's inspector during pre-despatch inspection mentioned above.

"On rejection, the supplier shall remove such stores within 14 days of the date of intimation of such rejection from the consignee's premises. If such goods are not removed by the supplier within the period mentioned above, the purchaser/consignee may remove the rejected stores and either return the same to the supplier at his risk and cost by such mode of transport as purchaser/consignee may decide or dispose of such goods at the suppliers risk to recover any expense incurred in connection with such disposals and also the cost of the rejected stores if already paid for."

- 8.7 Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC Clause 15.
- 8.8 Principal/ Foreign supplier shall also have the equipment inspected by recognised/ reputed agency like SGS, Lloyd, Bureau Veritas, TUV prior to despatch at the supplier's cost and furnish necessary certificate from the said agency in support of their claim.
- 8.9 **Following delivery of the items the joint inspection by HLL and respective AIIMS at site will be carried out to verify the quantity and quality of goods.**

9. Terms of Delivery

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

10. Transportation of Goods

- 10.1 Instructions for transportation of imported goods offered from abroad:

The supplier shall not arrange part-shipments and/or transshipment without the express/prior written consent of the purchaser. The supplier is required under the contract to deliver the goods under CIP (Named port of destination) terms; the shipment shall be made by Indian flag vessel or by vessels belonging to the conference lines in which India is a member country through India's forwarding agents/coordinators. In case the forwarding agent/coordinators are unable to provide timely adequate space in Indian flag vessel or by vessels belonging to the conference lines, the supplier shall arrange shipment through any available vessel to adhere to the delivery schedule given in the contract.

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

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

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

11. Insurance:

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

- i) in case of supply of domestic goods on Consignee site basis, the supplier shall be responsible till the entire stores contracted for arrival in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured for an amount equal to 110% of the value of the goods from ware house to ware house (consignee site) on all risk basis . The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.
- ii) in case of supply of the imported goods on CIP Named port of Destination Basis, the additional extended Insurance (local transportation and storage) would be borne by the Supplier from the port of entry to the consignee site for a period including 3 months

beyond date of delivery for an amount equal to 110% of the overall expenditure to be incurred by the purchaser from ware house to ware house (consignee site) on all risk basis.

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

12. Spare parts

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

- a) The spare parts as selected by the Purchaser/Consignee to be purchased from the supplier, subject to the condition that such purchase of the spare parts shall not relieve the supplier of any contractual obligation including warranty obligations; and
- b) In case the production of the spare parts is discontinued:
 - i) Sufficient advance notice to the Purchaser/Consignee before such discontinuation to provide adequate time to the purchaser to purchase the required spare parts etc., and
 - ii) Immediately following such discontinuation, providing the Purchaser/Consignee, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Purchaser/Consignee.

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

13. Incidental services

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

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

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

The supplier shall send all the relevant despatch documents well in time to the Purchaser/Consignee to enable the Purchaser/Consignee clear or receive (as the case may be) the goods in terms of the contract.

Unless otherwise specified in the SCC, the usual documents involved and the drill to be followed in general for this purpose are as follows.

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

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

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

B) For goods imported from abroad

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

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

15. Warranty

The supplier is to assure uninterrupted service without compromising OT/ICU

15.1 Complete system including labour & spares should have comprehensive onsite warranty for five years; commencing from the date of issue of installation certificate by the institute. Post guarantee annual comprehensive maintenance contract (CMC) to cover main equipment/ civil construction including all accessories supplied with the unit should be quoted separately for additional five years with year wise break up. The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. The price comparison shall be made taking into account on basic price and post warranty CMC.

- Incremental Cost (if any) for, up gradation, if required, should form part of the contract for the Warranty and Post Warranty period.
- The Supplier (manufacturer) shall set-up a maintenance base to provide maintenance service,

of the entire turnkey system being offered, at short notice during the warranty and post warranty period. **The technical maintenance personnel of the supplier responsible for supervision and maintenance shall be available to reach the site(s) within 1 hour's notice.**

- If the performance of any individual equipment or system is not satisfactory, the same shall be replaced by the supplier free of cost.
- If it is found that to meet the performance criteria, any extra equipment is required the same will be provided free of cost by the supplier.
- All faults appearing and their rectification shall be periodically advised to the hospital, the period being not more than a month.
- Any lacuna or lacunae noticed in the functioning of the installation as a result of any design feature shall be rectified by the supplier free of cost.
- The Supplier shall fully associate the engineers and technicians of the Institute during installation, testing, commissioning, operation and maintenance period.
- The supplier warrants comprehensively that the goods supplied under the contract is new, unused and incorporate all recent improvements in design and materials unless prescribed otherwise by the purchaser in the contract. The supplier further warrants that the goods supplied under the contract shall have no defect arising from design, materials (*except when the design adopted and / or the material used are as per the Purchaser's/Consignee's specifications*) or workmanship or from any act or omission of the supplier, that may develop under normal use of the supplied goods under the conditions prevailing in India.
- a. The **warranty** shall remain valid for 60 months from the date of installation & commissioning with a regular up gradation of newer technology as and when evolved followed by a CMC for a period of 5 (Five) Years for all the equipments after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the purchaser/CONSIGNEE in terms of the contract, unless specified otherwise in the SCC.
- b. No conditional warranty like mishandling, manufacturing defects etc. will be acceptable.
- c. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work

No conditional warranty will be acceptable.

- a. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work and it will also cover the following wherever applicable:-
 - Any kind of motor.
 - Plastic & Glass Parts against any manufacturing defects.
 - All kind of sensors.
 - All kind of coils, probes and transducers.
 - Printers and imagers including laser and thermal printers with all parts.
 - UPS including the replacement of batteries.
 - Air-conditioners
 - All kinds of painting, civil, HVAC and electrical work
 - b. Replacement and repair will be under taken for the defective goods.
 - c. Proper marking has to be made for all spares for identification like printing of installation and repair dates.
- 15.3 In case of any claim arising out of this warranty, the Purchaser/Consignee shall promptly notify the same in writing to the supplier. The period of the warranty will be as per G.C.C clause number 15.2 above irrespective of any other period mentioned elsewhere in the bidding documents.

- 15.4 Upon receipt of such notice, the supplier shall, within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. The penalty clause for non rectification will be applicable as per tender conditions
- 15.5 In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended till the completion of the original warranty period of the main equipment.
- 15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.
- 15.7 During Warranty period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the installation for preventive maintenance of the goods
- 15.8 The Purchaser/Consignee reserve the rights to enter into Annual Comprehensive Maintenance Contract between Consignee and the Supplier for the period as mentioned in Section VII, Technical Specifications after the completion of warranty period.
- 15.9 The supplier along with its Indian Agent and the CMC provider shall ensure continued supply of the spare parts for the machines and equipments supplied by them to the purchaser for 10 years from the date of installation and handing over.
- 15.10 The Supplier along with its Indian Agent and the CMC Provider shall always accord most favoured client status to the Purchaser vis-à-vis its other Clients/Purchasers of its equipments/machines/goods etc. and shall always give the most competitive price for its machines/equipments supplied to the Purchaser/Consignee.

16. Assignment

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

17. Sub Contracts

- 17.1 The Supplier shall notify the Purchaser in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.
- 17.2 Sub contract shall be only for bought out items and sub-assemblies.
- 17.3 Sub contracts shall also comply with the provisions of GCC Clause 4 ("Country of Origin").

18. Modification of contract

- 18.1 If necessary, the purchaser may, by a written order given to the supplier at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract in any one or more of the following:
- a) Specifications, drawings, designs etc. where goods to be supplied under the contract are to be specially manufactured for the purchaser,
 - b) Mode of packing,
 - c) Incidental services to be provided by the supplier
 - d) Mode of despatch,
 - e) Place of delivery, and

f) Any other area(s) of the contract, as felt necessary by the purchaser depending on the merits of the case.

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

19. Prices

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

20. Taxes and Duties

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

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

21. Terms and Mode of Payment

21.1 Payment Terms

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

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

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

a) On delivery:

Fifty (50%) payment of the contract price shall be paid on receipt of goods in good condition and upon the submission of the following documents:

- (i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Consignee Receipt Certificate as per Section XVII in original issued by the authorized representative of the consignee;
- (iii) Two copies of packing list identifying contents of each package;
- (iv) Inspection certificate issued by the nominated Inspection agency, if any.
- (v) Insurance Certificate as per GCC Clause 11 and documents also to be submitted for payment confirming that dispatch documents has already been sent to all concerned as per the contract within 24 hours;
- (vi) Certificate of origin.
- (vii) Manufacturers warranty certificate

- b) Thirty (30%) payment of the contract price shall be paid on installation and commissioning upon submission of following document:-**
Installation and commissioning certificate used by the consignee

c) On Acceptance:

Balance Twenty (20%) payment would be made against 'Final Acceptance Certificate'(FAC) as per Section XVIII of goods to be issued by the consignees subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.FAC need to be issued by the designated consignee after installation, commissioning, testing and one month of successful trial run of the equipment.

B) Payment for Imported Goods:

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

a) On Shipment:

Fifty (50)% of the net CIP price (CIP price less Indian Agency commission) of the goods shipped shall be paid through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the supplier in a bank in his country and upon submission of documents specified hereunder:

- (i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Original and four copies of the negotiable clean, on-board Bill of Lading/ Airway bill, marked freight pre paid and four copies of non-negotiable Bill of Lading/Airway bill;
- (iii) Four Copies of packing list identifying contents of each package;
- (iv) Insurance Certificate as per GCC Clause 11 and documents also to be submitted for payment of LC confirming that dispatch documents has already been sent to all concerned as per the contract within 24 hours;
- (v) Manufacturer's/Supplier's warranty certificate;
- (vi) Manufacturer's own factory inspection report and
- (vii) Certificate of origin by the chamber of commerce of the concerned country;
- (viii) Inspection Certificate for the despatched equipments issued by recognized/ reputed agency like SGS, Lloyd, BEAURU VARITUS and TUV prior to despatch.

b) Thirty (30)% of the net CIP price (CIP price less Indian Agency commission) of the goods shipped shall be paid through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the supplier in a bank in his country and upon submission of the following document

i) Installation and commission certificate issued by the end user

c) On Acceptance:

Balance payment of 20% of net CIP price of goods would be made against 'Final Acceptance Certificate'(FAC) as per Section XVIII to be issued by the consignees through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the Foreign Principal in a bank in his country, subject to recoveries, if any. FAC need to be issued by the designated consignee after installation, commissioning, testing and one month of successful trial run of the equipment.

d) Payment of Incidental Costs till consignee site & Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) will be paid in Indian Rupees to the Indian Agent on proof of final installation, commission and acceptance of equipment by the consignee.

e) Payment of Indian Agency Commission:

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

C) Payment of Turnkey, if any:

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

D) Payment for Annual Comprehensive Maintenance Contract Charges:

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

- 21.2 The supplier shall not claim any interest on payments under the contract.
- 21.3 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other tax as applicable will be made from the bills payable to the Supplier at rates as notified from time to time.
- 21.4 Irrevocable & non – transferable LC shall be opened by the purchaser. However, if the supplier requests specifically to open confirmed LC, the extra charges would be borne by the supplier. If LC is required to be extended and/or amended for reasons not attributable to the purchaser/consignee, the charges thereof shall be borne by the supplier.
- 21.5 The payment shall be made in the currency / currencies authorised in the contract.
- 21.6 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to the purchaser.
- 21.7 While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the contract.
- 21.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser/Consignee, as and if permitted under the contract, the supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the supplier) shall refund to the Purchaser/Consignee forthwith.
- 21.9 In case where the supplier is not in a position to submit its bill for the balance payment for want of receipted copies of Inspection Note from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, balance amount will be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the goods in question, subject to the following conditions:
- (a) The supplier will make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of goods.
 - (b) Delay in supplies, if any, has been regularized.
 - (c) The contract price where it is subject to variation has been finalized.
 - (d) The supplier furnishes the following undertakings:

“I/We, _____certify that I/We have not received back the Final Acceptance Certificate duly receipted by the consignee or any communication from the purchaser or the consignee about non-receipt, shortage or defects in the goods supplied. I/We ____agree to make good any

defect or deficiency that the consignee may report within three months from the date of receipt of this balance payment.

22. Delivery

- 22.1 The supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Purchaser/Consignee in the List of Requirements and as incorporated in the contract. The time for and the date of delivery of the goods stipulated in the schedule shall be deemed to be of the essence of the contract and the delivery must be completed not later than the date (s) as specified in the contract.
- 22.2 Subject to the provision under GCC clause 26, any unexcused delay by the supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the supplier liable to any or all of the following sanctions:
- (i) imposition of liquidated damages,
 - (ii) forfeiture of its performance security and
 - (ii) termination of the contract for default.
- 22.3 If at any time during the currency of the contract, the supplier encounters conditions hindering timely delivery of the goods and performance of services, the supplier shall promptly inform the Purchaser/Consignee in writing about the same and its likely duration and make a request to the Purchaser/Consignee for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Purchaser/Consignee shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of supplier's contractual obligations by issuing an amendment to the contract.
- 22.4 When the period of delivery is extended due to unexcused delay by the supplier, the amendment letter extending the delivery period shall, interalia contain the following conditions:
- (a) The Purchaser/Consignee shall recover from the supplier, under the provisions of the clause 23 of the General Conditions of Contract, liquidated damages on the goods and services, which the Supplier has failed to deliver within the delivery period stipulated in the contract.
 - (b) That no increase in price on account of any ground, whatsoever, including any stipulation in the contract for increase in price on any other ground and, also including statutory increase in or fresh imposition of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or on account of any other tax or duty which may be levied in respect of the goods and services specified in the contract, which takes place after the date of delivery stipulated in the contract shall be admissible on such of the said goods and services as are delivered and performed after the date of the delivery stipulated in the contract.
 - (c) But nevertheless, the Purchaser/Consignee shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or any other duty or tax or levy or on account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.
- 22.5 The supplier shall not dispatch the goods after expiry of the delivery period. The supplier is required to apply to the Purchaser/Consignee for extension of delivery period and obtain the same before despatch. In case the supplier dispatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall lie against the purchaser.
- 22.6 Passing of Property:

- 22.6.1 The property in the goods shall not pass to the purchaser unless and until the goods have been delivered to the consignee in accordance with the conditions of the contract.
- 22.6.2 Where there is a contract for sale of specific goods and the supplier is bound to do something to the goods for the purpose of putting them into a deliverable state the property does not pass until such thing is done.
- 22.6.3 Unless otherwise agreed, the goods remain at the supplier's risk until the property therein is transferred to the purchaser.

23. Liquidated damages

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

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

24. Termination for default

- 24.1 The Purchaser/Consignee, without prejudice to any other contractual rights and remedies available to it (the Purchaser/Consignee), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser/Consignee pursuant to GCC sub-clauses 22.3 and 22.4.
- 24.2 In the event of the Purchaser/Consignee terminates the contract in whole or in part, pursuant to GCC sub-clause 24.1 above, the Purchaser/Consignee may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the supplier shall be liable to the Purchaser/Consignee for the extra expenditure, if any, incurred by the Purchaser/Consignee for arranging such procurement.
- 24.3 Unless otherwise instructed by the Purchaser/Consignee, the supplier shall continue to perform the contract to the extent not terminated.

25. Termination for insolvency

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

26. Force Majeure

- 26.1 Notwithstanding the provisions contained in GCC clauses 22, 23 and 24, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.
- 26.2 For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of , the party claiming to be affected by such event and which has caused the non –

performance or delay in performance. Such events may include, but are not restricted to, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, and freight embargoes.

- 26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 26.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.
- 26.5 In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

27. Termination for convenience

- 27.1 The Purchaser/Consignee reserves the right to terminate the contract, in whole or in part for its (Purchaser's/Consignee's) convenience, by serving written notice on the supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Purchaser/Consignee. The notice shall also indicate interalia, the extent to which the supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.
- 27.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the supplier's receipt of the notice of termination shall be accepted by the Purchaser/Consignee following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser/Consignee may decide:
- a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices; and / or
 - b) To cancel the remaining portion of the goods and services and compensate the supplier by paying an agreed amount for the cost incurred by the supplier towards the remaining portion of the goods and services.

28. Governing language

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

29. Notices

- 29.1 Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or by cable or telex or facsimile and confirmed in writing. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.
- 29.2 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

30. Resolution of disputes

- 30.1 If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.
- 30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in the Ministry of Law and Justice, appointed to be the arbitrator by the Director General (Health Services). The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One lakhs (Rs. 1,00,000/-)
- 30.3 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., New Delhi, India.
- 30.4 Jurisdiction of the court will be from the place where the tender enquiry document has been issued, i.e., New Delhi, India

31. Applicable Law

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

32 Withholding and Lien in respect of sums claimed

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

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

33. General/ Miscellaneous Clauses

- 33.1 Nothing contained in this Contract shall be constructed as establishing or creating between the parties, i.e. the Supplier/its Indian Agent/CMC Provider on the one side and the Purchaser on the other side, a relationship of master and servant or principal and agent.
- 33.2 Any failure on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.
- 33.3 The Supplier shall notify the Purchaser/Consignee /the Government of India of any material change would impact on performance of its obligations under this Contract.
- 33.4 Each member/constituent of the Supplier/its Indian Agent/CMC Provider, in case of consortium shall be **jointly and severally liable** to and responsible for all obligations towards the Purchaser/Consignee/Government for performance of contract/services including that of its Associates/Sub Contractors under the Contract.
- 33.5 The Supplier/its Indian Agent/CMC Provider shall at all times, indemnify and keep indemnified the Purchaser/Government of India against all claims/damages etc. for any infringement of any Intellectual Property Rights (IPR) while providing its services under CMC or the Contract.

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

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

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

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

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

SECTION - VI

LIST OF REQUIREMENTS

Part -I

Sch No.	Equipment Name	Consignee Name	Qty .	Total Qty	Warranty required
1 (a)	CSSD	Bhopal	1	6	5 years
1 (b)		Bhubaneswar	1		
1 (c)		Jodhpur	1		
1 (d)		Patna	1		
1 (e)		Rishikesh	1		
1 (f)		Raipur	1		

Part II: Required Delivery Schedule:**a) For Indigenous goods or for imported goods if supplied from India:**

200 days from date of Notification of Award to delivery, installation and commissioning at consignee site. The date of delivery will be the date of delivery at consignee site (Tenderers may quote earliest delivery period). If the bidder gets work order for more than one AIIMS, simultaneous deliveries need to be ensured by the bidder/ awardee to each AIIMS.

b) For Imported goods directly from foreign:

200 days from the date of opening of L/C. The date of delivery will be the date of Bill of Lading/Airway bill. (Tenderers may quote the earliest delivery period). 200 days is inclusive of installation and commissioning. If the bidder gets work order for more than one AIIMS, simultaneous deliveries need to be ensured by the bidder/ awardee to each AIIMS.

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

Note: Deleted

Part III: Scope of Incidental Services:

Installation & Commissioning, Supervision, Demonstration, Trial run and Training etc. as specified in GCC Clause 13. Five (5) persons each from each AIIMS need to be trained for CSSD and MGPS and Ten (10) persons for Modular Operation Theatre.

Part IV:

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

Part V:

Warranty period as per details in general technical specification and as specified in Part I above. Warranty period will be 60 months from the date of installation, commissioning and acceptance or 66 months from the date of last shipment/dispatch, whichever is earlier

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

Part VI:

Required Terms of Delivery and Destination.

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

At Consignee Site(s)

b) For Imported goods directly from abroad:

The foreign tenderers are required to quote their rates on CIP Named Port of Destination Basis giving breakup of the price as per the Proforma prescribed in the Price Schedule. Purchaser will place the order on CIP Named Port of Destination basis.

The shipping arrangements shall be made in accordance with the instruction of Ministry of Shipping & Transport, New Delhi, India as detailed in Annexure 1 at Section XIX.

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

Destination/Consignee details are given in Section XXI

Section – VII

Technical Specifications

- Note 1:** Tenderer's attention is drawn to GIT clause 18 and GIT sub-clause 11.1 A (iii). The tenderer is to provide the required details, information, confirmations, etc. accordingly failing which it's tender is liable to be ignored.
- Note 2:** General: Bidders are requested to make sure that they should attach the list of equipments for carrying out routine and preventive maintenance wherever asked for and should make sure that Electrical Safety Analyzer / Tester for Medical equipments to periodically check the electrical safety aspects as per BIS Safety Standards IS-13540 which is also equivalent to IEC electrical safety standard IEC-60601 is a part of the equipments. If the Electrical Safety Analyzer/Tester is not available they should provide a commitment to get the equipments checked for electrical safety compliance with Electronic Regional Test Labs / Electronics Test and Development Centres across the country on every preventive maintenance call.
- Note 3:** Adequate training of personnel and non-locked open software and standard interface interoperability conditions for networked equipment in hospital management information system (HMIS)

The successful tenderer will be required to undertake to provide at his cost technical training for personnel involved in the use and handling of the equipment on site at the institute immediately after its installation. The company shall be required to train the institute personnel onsite for a minimum period of 1 month

All software updates should be provided free of cost during warranty period and CMC period

TECHNICAL SPECIFICATIONS

Schedule no. 1 Technical specification for CSSD

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically (Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
7. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25 mm to 50 mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9" colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:
Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**.
Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA:
ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a ¾” line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
- 6. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in

chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.

2. **Surface Treatment:** The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 μm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. **Insulation:** The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. **Jacket:** The jacket should be made of 316L quality stainless steel with pressure gauge.
5. **Steam Generator:** The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) **Air Filter :** A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3 μm .

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1\text{deg C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.

3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature, pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level, water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quiet operations. It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

1. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached
2. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer
2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:

- Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar & design pressure upto 3.8 bar.
 - Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
 9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
 10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
 11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L. The water reservoirs should have easy access for cleaning & to avoid bio film.
 12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
 13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
 14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
 15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
 16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfectant with accessories

1. The washer disinfectant shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12 Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:

- a) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
- b) Cleansable spray arms should be located at the top and bottom of the chamber.
- c) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
- d) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.
- e) The drying air should be pre-heated.
- f) The washer should be equipped with independent temperature monitoring and validation test port.
- g) Data interface RS232 should be available.
- h) All electrical components should be easily accessible for easy service - ergonomic design.
- i) Washer should have a built in self-cleaning debris filter.**
- j) Washer should be equipped with audible alarm that alerts if error code occurs.
- k) Double door should be made of toughened glass for see through & should facilitate the loading process.
- l) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
6. The washer should perform:
 - a) Pre-rinses with cold water.
 - b) Main washes with hot water (60C) and detergent.
 - c) Final rinse with water (55C)
 - d) Disinfection with hot water (85C)
7. Unit to have LCD display and operating console to have membrane key pad for durability.
8. Unit should feature safety measures such as:
 - a) Automatic door lock.
 - b) Automatic temperature regulation.
 - c) Electronic adjustment of water level.
9. The unit should also have an interface as standard for an optional batch printer.
10. The washer disinfectant shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
11. Should ensure essential washing accessories.
12. Standards & Norms:

Should be **US FDA/European CE certified.**

Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

1. Reverse Osmosis Plant 1500 Liters per hour capacity
2. Should have stainless steel skid mounts for pre-treatments and RO unit
3. Should have booster Pumps.
4. Should have direct bypass valve and auto flush systems.
5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
- 14. Should be BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - a) Automatic start-up
 - b) Reverse feed function in case an instrument accidentally enters the sealing area
 - c) Energy-saving stand-by mode
 - d) Pre-set temperatures
 - e) Re-settable counter function
11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - a) syringes and cannulas with Record cone
 - b) Measuring and blood pipettes
 - c) Catheters and small pipes
 - d) Drainage tubing
 - e) Syringes and cannulas with Lure cone
 - f) Spray jet for rapid instrument cleaning
 - g) Bottles and Erlenmeyer flasks
 - h) Water jet pumps for suction cleaning
 - i) All appliances are stored within easy reach on a special wall-mounted rack (included).
3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
4. All tips should be able to get easily locked to the spray gun by a safety cone.
5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

1. Size (LxWxH) 2600x600x1200mm
2. This dispenser for sterilizer tape should hold two reels of tape.
3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½” tubing or reinforced rubber hose.
3. Should work on normal water pressure
4. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- a) Person responsible for sterilization
- b) Load number
- c) Packaging content
- d) Sterilizer number
- e) Production date
- f) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

1. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable \pm 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.
16. Should be delivered ready for assembly.

2. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm

2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

3. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly

12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

4. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

5. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.

9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

6. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

7. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

8. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.

8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional \varnothing 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

9. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional \varnothing 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

10. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (\pm 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

11. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.

8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

12. Stainless Steel Paneling for Sterilizer & Washer Disinfector

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfector should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

13. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (\varnothing 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

14. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

15. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

16. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

17. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.

10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

18. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

19. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

20. Staff Chair

1. Should be medium Back chair

2. Should rest on high quality 50mm castors on 4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

21. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

22. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

23. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

24. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

25. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

26. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

27. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side

7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

28. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

29. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

30. Closed Sterilization Containers.

1. Sizes should be - 300x290x140 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

31. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

32. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

33. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

34. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

35. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17" LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training – Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS BHOPAL

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation, testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litres or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2Nos
- Table Top Steriliser 20-25 Litre x 15Nos
- Washer disinfector 300 to 350 Litre x 3Nos
- Ultrasonic cleaner 40 Litre x 2Nos
- Heat Sealing Machine x 3Nos
- Reverse Osmosis plant 1500LPH *1 with 1 No storage tank capacity of 6000 litres
- Documentation labeller x 1No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.
3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel with calibrated instrument with valid traceability.
4. CSSD Technicians of AIIMS Rhishikesh have to be trained for a week for a period of six working days.
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards
3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectors. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder
9. Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
S. No	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Solator	Lighting & Fans	Remarks
1	Soiled Reception	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided
2	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" drains	-	-	-	Fluorescent Lights	
3	Wash & Disinfection Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" drains	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
4	Clean Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	
5	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 3	Fluorescent lighting	
6	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
7	Toilet	Matt tiles	Glazed tiles 2' x 2' up to roof	2" drain	-	-	-	Fluorescent Lighting	
8	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
9	Toilet	Matt tiles	Glazed tiles 2' x 2' up to roof	2" drain	-	-	-	Fluorescent Lighting	
10	Staff Rest Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 2	Fluorescent lighting+Fans	
11	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air-conditioning +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
12	Linen inspection, folding & Packing	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	5 A x 2	Fluorescent lighting+Fans	

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
S. No	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Insulator	Lighting & Fans	Remarks
13	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-		+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	
14	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
15	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-
16	Issue Counter	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

Bidder should clearly specify the rate for each work

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectant.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.
2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide fire detection, alarm and effective firefighting system. Bidder should provide adequate number of Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and installation of water storage tanks and Booster pumps . Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for Cleaning and Disinfection area and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	
1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	
1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Seimens
4	Lighting	Philips, GE
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ		
CSSD- AIIMS BHOPAL		
ROOM NO:	1	
Designation	SOILED RECEPTION	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	LAB STOOL WITHOUT BACK REST(SS)	3
4	WASTE BIN PEDAL OPERATED –SS	1
5	STORAGE CUPBOARD	2
6	COMPUTER	1
ROOM NO:	2	
Designation	TROLLEY HOLD & WASH	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	3	
Designation	WASH & DISINFECTION AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	2
3	INSPECTION LAMP WITH MAGNIFIER	5
4	ULTRASONIC CLEANER (40L)	3
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	3
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	3
10	LAB STOOL WITHOUT BACK REST(SS)	8
11	WASTE BIN PEDAL OPERATED –SS	2
12	PASS BOX	1
13	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
ROOM NO:	4	
Designation	CLEAN STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	5
ROOM NO:	5	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1

5	WASTE BIN PEDAL OPERATED –SS	1
6	COMPUTER	1
ROOM NO:	6	
Designation	STAFF CHANGE ROOM FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED –SS	1
3	SHOE RACK	1
ROOM NO:	7	
Designation	STAFF CHANGE ROOM MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED –SS	1
3	SHOE RACK	1
ROOM NO:	8	
Designation	STAFF REST ROOM	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	VISITOR'S CHAIR	4
3	STORAGE CUPBOARD	1
4	WASTE BIN PEDAL OPERATED –SS	1
ROOM NO:	9	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	STEAM STERILIZER 550 litre or more	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	6
3	LAB STOOL WITHOUT BACK REST(SS)	28
4	HEAT SEALING MACHINE	4
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	6
6	WASTE BIN PEDAL OPERATED –SS	2
7	INSPECTION LAMP WITH MAGNIFIER	5
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	2
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	2
13	PAPER DISPENSING TROLLEY	3
14	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
15	DRYING CABINET	1
ROOM NO:	10	
Designation	LINEN INSPECTION,FOLDING & PACKING	
ITEM NO	DESCRIPTION	QUANTITY
1	LINEN FOLD TABLE FOR CLEAN AREA	2
2	LAB STOOL WITHOUT BACK REST(SS)	4
3	OPEN STORAGE RACK	2

4	WASTE BIN PEDAL OPERATED –SS	1
5	LINEN DISTRIBUTION AND STORAGE TROLLEY	5
ROOM NO:	11	
Designation	GAUZE CUTTING ROOM	
1	GAUZE CUTTING MACHINE	2
2	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
3	LAB STOOL WITHOUT BACK REST(SS)	2
ROOM NO:	12	
Designation	ETO ROOM	
ROOM NO:	13	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERILE STORE	17
2	WASTE BIN PEDAL OPERATED –SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERILE STORE TO OT	10
5	MODULAR STERILIZING BASKET-BIG	200
6	MODULAR STERILIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3
8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3
9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	12
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	2
ROOM NO:	14	
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED –SS	1
4	PASS BOX	1
5	COMPUTER	1
OTHER EQUIPMENTS		
1	RO PLANT1500 litre with tank capacity of 6000 litre	1
FOR TSSU		
1	STERILIZER 250 L	2
2	TABLE TOP STERILIZER WITH ACCESSORIES 25L	10
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELLING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum

VI	VENTILATION AND LIGHTING	Lump sum
VII	DEMOLITION WORK	Lump sum

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically(Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
7. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm

fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.

3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9' colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.

2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quiet operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**. Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA: ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a ¾” line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure.

Chamber should be completely depressurized before the door seal is retracted by vacuum.

2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
- 6. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily

sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.

2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3 μ m.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety

devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quiet operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

3. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached
4. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer
2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:
 - Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar& design pressure upto 3.8 bar.
 - Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L.The water reservoirs should have easy access for cleaning & to avoid bio film.
12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with

battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfecter with accessories

1. The washer disinfecter shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12Nos**of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:
 - m) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
 - n) Cleansable spray arms should be located at the top and bottom of the chamber.
 - o) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
 - p) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.

- q) The drying air should be pre-heated.
 - r) The washer should be equipped with independent temperature monitoring and validation test port.
 - s) Data interface RS232 should be available.
 - t) All electrical components should be easily accessible for easy service - ergonomic design.
 - u) Washer should have a built in self-cleaning debris filter.**
 - v) Washer should be equipped with audible alarm that alerts if error code occurs.
 - w) Double door should be made of toughened glass for see through & should facilitate the loading process.
 - x) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
6. The washer should perform:
- e) Pre-rinses with cold water.
 - f) Main washes with hot water (60C) and detergent.
 - g) Final rinse with water (55C)
 - h) Disinfection with hot water (85C)
7. Unit to have LCD display and operating console to have membrane key pad for durability.
8. Unit should feature safety measures such as:
- d) Automatic door lock.
 - e) Automatic temperature regulation.
 - f) Electronic adjustment of water level.
9. The unit should also have an interface as standard for an optional batch printer.
10. The washer disinfectant shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
11. Should ensure essential washing accessories.
12. Standards & Norms:
- Should be US FDA/European CE certified.**
- Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

- 1. Reverse Osmosis Plant 1500 Liters per hour capacity
- 2. Should have stainless steel skid mounts for pre-treatments and RO unit
- 3. Should have booster Pumps.
- 4. Should have direct bypass valve and auto flush systems.

5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
- 14. Should be BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - f) Automatic start-up
 - g) Reverse feed function in case an instrument accidentally enters the sealing area
 - h) Energy-saving stand-by mode

- i) Pre-set temperatures
- j) Re-settable counter function
- 11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
- 12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
- 13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

- 1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
- 2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - j) syringes and cannulas with Record cone
 - k) Measuring and blood pipettes
 - l) Catheters and small pipes
 - m) Drainage tubing
 - n) Syringes and cannulas with Lure cone
 - o) Spray jet for rapid instrument cleaning
 - p) Bottles and Erlenmeyer flasks
 - q) Water jet pumps for suction cleaning
 - r) All appliances are stored within easy reach on a special wall-mounted rack (included).
- 3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
- 4. All tips should be able to get easily locked to the spray gun by a safety cone.
- 5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
- 6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

- 1. Size (LxWxH) 2600x600x1200mm
- 2. This dispenser for sterilizer tape should hold two reels of tape.

3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½” tubing or reinforced rubber hose.
3. Should work on normal water pressure
4. Cleaning agent should be automatically injected into the water flow

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- g) Person responsible for sterilization
- h) Load number
- i) Packaging content
- j) Sterilizer number
- k) Production date
- l) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

36. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.

16. Should be delivered ready for assembly.

37. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

38. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm

2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

39. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.

4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

40. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

41. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

42. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.

5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

43. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

44. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.

3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

45. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

46. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction

4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

47. Stainless Steel Paneling for Sterilizer & Washer Disinfector

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfector should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

48. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (\varnothing 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.

7. Trolley should have lockable doors and should include handlebars.

49. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

50. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

51. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm

3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

52. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.

8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

53. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

54. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement

3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

55. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

56. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

57. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

58. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

59. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

60. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

61. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

62. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides

5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

63. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

64. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

65. Closed Sterilization Containers.

1. Sizes should be - 300x290x140 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

66. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

67. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

68. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

69. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.

2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

70. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17" LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training - Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS BHUBANESWAR

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation, testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litres or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2Nos
- Table Top Steriliser 20-25 Litre x 15Nos
- Washer disinfectant 300 to 350 Litre x 3Nos
- Ultrasonic cleaner 40 Litre x 2Nos
- Heat Sealing Machine x 3Nos

- Reverse Osmosis plant 1500LPH *1 with 1 No storage tank capacity of 6000 litres
- Documentation labeller x 1No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.
3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel with calibrated instrument with valid traceability.
4. CSSD Technicians of AIIMS Rishikesh have to be trained for a week for a period of six working days.
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards
3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfecter. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder

Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/ Isolator	Lighting & Fans	Remarks
1	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 3	Fluorescent lighting	
2	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
3	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
4	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-		+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	
5	Soiled Reception	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/ Isolator	Lighting & Fans	Remarks
6	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" drains	-	-	-	Fluorescent Lights	
7	Wash & Disinfection Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" drains	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
8	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air-conditioning +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
9	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
10	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-
11	Issue Counter	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectors.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.
2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide fire detection, alarm and effective firefighting system. Bidder should provide adequate number of Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

Consignee will provide water line at one point in CSSD area. All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and

installation of water storage tanks and Booster pumps. Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for clean area, disinfection area and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	
1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	
1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Siemens
4	Lighting	Philips, GE, Havells
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin,

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ		
CSSD- AIIMS BHUBANESHWAR		
ROOM NO:	1	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1
5	WASTE BIN PEDAL OPERATED -SS	1
6	COMPUTER	1
ROOM NO:	2	
Designation	STAFF CHANGE MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	3	
Designation	STAFF CHANGE FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	4	
Designation	GAUZE CUTTING ROOM	
1	GAUZE CUTTING MACHINE	2
2	LAB STOOL WITHOUT BACK REST(SS)	2
3	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
4	OPEN STORAGE RACK	1
5	WASTE BIN PEDAL OPERATED -SS	1

ROOM NO:	5	
Designation	SOILED RECEPTION	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	LAB STOOL WITHOUT BACK REST(SS)	3
4	WASTE BIN PEDAL OPERATED -SS	1
5	STORAGE CUPBOARD	2
6	COMPUTER	1
ROOM NO:	6	
Designation	TROLLEY WASH & HOLD	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	7	
Designation	WASH & DISINFECTION AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	2
3	INSPECTION LAMP WITH MAGNIFIER	4
4	ULTRASONIC CLEANER (40L)	3
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	2
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	3
10	LAB STOOL WITHOUT BACK REST(SS)	6
11	WASTE BIN PEDAL OPERATED -SS	2
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	PASS BOX	1

ROOM NO:	8	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	STEAM STERILIZER 550 litre or more	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	2
3	LAB STOOL WITHOUT BACK REST(SS)	12
4	HEAT SEALING MACHINE	3
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	2
6	WASTE BIN PEDAL OPERATED -SS	2
7	INSPECTION LAMP WITH MAGNIFIER	3
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	2
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	2
13	LINEN DISTRIBUTION AND STORAGE TROLLEY	2
14	PAPER DISPENSING TROLLEY	2
15	LINEN FOLD TABLE FOR CLEAN AREA	1
16	DRYING CABINET	1
ROOM NO:	9	
Designation	ETO ROOM	
ROOM NO:	10	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERILE STORE	10
2	WASTE BIN PEDAL OPERATED -SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERILE STORE TO OT	6

5	MODULAR STERLIZING BASKET-BIG	200
6	MODULAR STERLIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3
8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3
9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	6
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	1
ROOM NO:	11	
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED -SS	1
4	PASS BOX	1
5	COMPUTER	1
OTHER EQUIPMENTS		
1	RO PLANT 1500 litre with 6000 litre capacity storage tank	1
FOR TSSU		
1	STERILIZER 250 LTR	2
2	TABLE TOP STERILIZER WITH ACCESSORIES	15
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS:	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum
VI	VENTILATION AND LIGHTING	Lump sum

VII	DEMOLITION WORK	Lump sum
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SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically(Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
- 7. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.

3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9' colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control

system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**. Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA: ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a ¾” line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.

3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
6. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily

sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.

2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3 μ m.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety

devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

5. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached

6. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer
2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:
 - Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar& design pressure upto 3.8 bar.
 - Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L.The water reservoirs should have easy access for cleaning & to avoid bio film.
12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with

battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfectant with accessories

1. The washer disinfectant shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:
 - y) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
 - z) Cleansable spray arms should be located at the top and bottom of the chamber.
 - aa) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
 - bb) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.

- cc) The drying air should be pre-heated.
 - dd) The washer should be equipped with independent temperature monitoring and validation test port.
 - ee) Data interface RS232 should be available.
 - ff) All electrical components should be easily accessible for easy service - ergonomic design.
 - gg) Washer should have a built in self-cleaning debris filter.**
 - hh) Washer should be equipped with audible alarm that alerts if error code occurs.
 - ii) Double door should be made of toughened glass for see through & should facilitate the loading process.
 - jj) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
6. The washer should perform:
 - i) Pre-rinses with cold water.
 - j) Main washes with hot water (60C) and detergent.
 - k) Final rinse with water (55C)
 - l) Disinfection with hot water (85C)
 7. Unit to have LCD display and operating console to have membrane key pad for durability.
 8. Unit should feature safety measures such as:
 - g) Automatic door lock.
 - h) Automatic temperature regulation.
 - i) Electronic adjustment of water level.
 9. The unit should also have an interface as standard for an optional batch printer.
 10. The washer disinfector shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
 11. Should ensure essential washing accessories.
 12. Standards & Norms:

Should be **US FDA/European CE certified.**

Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

1. Reverse Osmosis Plant 1500 Liters per hour capacity
2. Should have stainless steel skid mounts for pre-treatments and RO unit
3. Should have booster Pumps.
4. Should have direct bypass valve and auto flush systems.

5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
14. Should be **BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - k) Automatic start-up
 - l) Reverse feed function in case an instrument accidentally enters the sealing area
 - m) Energy-saving stand-by mode

- n) Pre-set temperatures
- o) Re-settable counter function
- 11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
- 12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
- 13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

- 1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
- 2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - s) syringes and cannulas with Record cone
 - t) Measuring and blood pipettes
 - u) Catheters and small pipes
 - v) Drainage tubing
 - w) Syringes and cannulas with Lure cone
 - x) Spray jet for rapid instrument cleaning
 - y) Bottles and Erlenmeyer flasks
 - z) Water jet pumps for suction cleaning
- aa) All appliances are stored within easy reach on a special wall-mounted rack (included).
- 3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
- 4. All tips should be able to get easily locked to the spray gun by a safety cone.
- 5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
- 6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

- 1. Size (LxWxH) 2600x600x1200mm
- 2. This dispenser for sterilizer tape should hold two reels of tape.

3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

Trolley washer should be wall mounted spray gun unit with holder for detergent.

1. Should have connection to hot water with ½” tubing or reinforced rubber hose.
2. Should work on normal water pressure
3. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- m) Person responsible for sterilization
- n) Load number
- o) Packaging content
- p) Sterilizer number
- q) Production date
- r) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

71. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.

16. Should be delivered ready for assembly.

72. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

73. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

74. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.

4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (± 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

75. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

76. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

77. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.

4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

78. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

79. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm

2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

80. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

81. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

82. Stainless Steel Paneling for Sterilizer & Washer Disinfecter

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfecter should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

83. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (\varnothing 160 mm) for easier maneuverability.

4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

84. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

85. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

86. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

87. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.

6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

88. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

89. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

90. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

91. Lab Stool without backrest.(SS)

1. Should have stainless Steel top

2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

92. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

93. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

94. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

95. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

96. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

97. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

98. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

99. Closed Sterilization Containers.

3. Sizes should be - 300x290x110 units
4. Should have thermo lock drainage, steam penetration valve and stainless steel top.

100. Closed Sterilization Containers.

3. Sizes should be - 300x290x140 units.
4. Should have thermo lock drainage, steam penetration valve and stainless steel top.

101. Closed Sterilization Containers.

3. Sizes should be - 590x280x260 units.
4. Should have thermo lock drainage, steam penetration valve and stainless steel top.

102. Issue/Receive Counter

4. Construction: Counter Top should be made of granite top
5. Should be aesthetically good
6. Should provision for placing CPU,UPS, Mouse, Keyboard etc

103. Paper Dispensing Trolley

3. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
4. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

104. Basket Trolley

7. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
8. Should be mounted on a 4 swivel castors of 75mm dia.
9. Should be made up of stainless steel.
10. Should be provided with handle for easy transport.
11. Load capacity approx. 150 Kg.
12. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

105. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17” LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training – Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS JODHPUR

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation,testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litres or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2Nos
- Table Top Steriliser 20-25 Litre x 15Nos
- Washer disinfector 300 to 350 Litre x 3Nos
- Ultrasonic cleaner 40 Litre x 2Nos
- Heat Sealing Machine x 3Nos
- Reverse Osmosis plant 1500LPH *1with 1 No storage tank capacity of 6000 litres
- Documentation labeller x 1No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.
3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel with calibrated instrument with valid traceability.
4. CSSD Technicians of AIIMS Rhishikesh have to be trained for a week for a period of six working days.
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards

guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards
3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectant. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder

Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Isolator	Lighting & Fans	Remarks
1	Soiled Reception	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

2	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" drains	-	-	-	Fluorescent Lights	
3	Wash & Disinfection Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" drains	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
4	Clean Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	
5	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 3	Fluorescent lighting	
6	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
7	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
8	Staff Rest Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to	-	-	-	5 A x 2	Fluorescent lighting+Fans	

			roof						
9	Technician's Rooms	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 2	Fluorescent lighting+Fans	
10	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air-conditioning +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
11	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-		+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	
12	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
13	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-

14	Issue Counter	Vitrified tiles 2' x 2'	Glaze d tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fa ns	Counter has to be provided
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Bidder should clearly specify the rate for each work along with BOQ

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectors.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.
2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide effective firefighting system. Bidder should provide two Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

Consignee will provide water line at one point in CSSD area. All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and installation of water storage tanks and Booster pumps. Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for Cleaning and disinfection area, and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	
1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	
1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Seimens
4	Lighting	Philips, GE
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ		
CSSD- AIIMS JODHPUR		
ROOM NO:	1	
Designation	SOILED RECEPTION	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	LAB STOOL WITHOUT BACK REST(SS)	3
4	WASTE BIN PEDAL OPERATED –SS	1
5	STORAGE CUPBOARD	2
6	COMPUTER	1
ROOM NO:	2	
Designation	TROLLEY HOLD & WASH	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	3	
Designation	WASH & DISINFECTION AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	2
3	INSPECTION LAMP WITH MAGNIFIER	5
4	ULTRASONIC CLEANER (40L)	3
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	2
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	4
10	LAB STOOL WITHOUT BACK REST(SS)	8

11	WASTE BIN PEDAL OPERATED –SS	2
12	PASS BOX	1
13	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
ROOM NO:	4	
Designation	CLEAN STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	3
ROOM NO:	5	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1
5	WASTE BIN PEDAL OPERATED –SS	1
6	COMPUTER	1
ROOM NO:	6	
Designation	STAFF CHANGE ROOM FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED –SS	1
3	SHOE RACK	1
ROOM NO:	7	
Designation	STAFF CHANGE ROOM MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED –SS	1
3	SHOE RACK	1
ROOM	8	

NO:		
Designation	STAFF REST ROOM	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	VISITOR'S CHAIR	4
3	STORAGE CUPBOARD	1
4	WASTE BIN PEDAL OPERATED –SS	1
ROOM NO:	9	
Designation	TECHNICIAN'S ROOM	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	VISITOR'S CHAIR	4
3	STORAGE CUPBOARD	1
4	WASTE BIN PEDAL OPERATED –SS	1
ROOM NO:	10	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	STEAM STERILIZER 500 litre or more	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	4
3	LAB STOOL WITHOUT BACK REST(SS)	20
4	HEAT SEALING MACHINE	4
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	4
6	WASTE BIN PEDAL OPERATED –SS	2
7	INSPECTION LAMP WITH MAGNIFIER	5
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	2
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	2
13	LINEN DISTRIBUTION AND STORAGE TROLLEY	2

14	PAPER DISPENSING TROLLEY	3
15	LINEN FOLD TABLE FOR CLEAN AREA	1
16	DRYING CABINET	1
ROOM NO:	11	
Designation	GAUZE CUTTING ROOM	
1	GAUZE CUTTING MACHINE	2
2	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
3	LAB STOOL WITHOUT BACK REST(SS)	2
ROOM NO:	12	
Designation	ETO ROOM	
ROOM NO:	13	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERIL STORE	14
2	WASTE BIN PEDAL OPERATED –SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERIL STORE TO OT	10
5	MODULAR STERILIZING BASKET-BIG	200
6	MODULAR STERILIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3
8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3
9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	10
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	2
ROOM	14	

NO:		
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED –SS	1
4	PASS BOX	1
5	COMPUTER	1
OTHER EQUIPMENTS		
1	RO PLANT	1
FOR TSSU		
1	STERILIZER 250 L	2
2	TABLE TOP STERILIZER WITH ACCESSORIES 25L	15
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELLING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS:	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum
VI	VENTILATION AND LIGHTING	Lump sum
VII	DEMOLITION WORK	Lump sum

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically(Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure.
Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.

3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
7. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 μm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9' colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**. Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA:
ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a ¾” line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
- 6. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.

2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart

from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.

2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

7. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached
8. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer
2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:
 - Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar& design pressure upto 3.8 bar.

- Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
 9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
 10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
 11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L. The water reservoirs should have easy access for cleaning & to avoid bio film.
 12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
 13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
 14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
 15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
 16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfectant with accessories

1. The washer disinfector shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:
 - kk) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
 - ll) Cleansable spray arms should be located at the top and bottom of the chamber.
 - mm) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
 - nn) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.
 - oo) The drying air should be pre-heated.
 - pp) The washer should be equipped with independent temperature monitoring and validation test port.
 - qq) Data interface RS232 should be available.
 - rr) All electrical components should be easily accessible for easy service - ergonomic design.
 - ss) **Washer should have a built in self-cleaning debris filter.**
 - tt) Washer should be equipped with audible alarm that alerts if error code occurs.
 - uu) Double door should be made of toughened glass for see through & should facilitate the loading process.
 - vv) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
6. The washer should perform:
 - m) Pre-rinses with cold water.
 - n) Main washes with hot water (60C) and detergent.

- o) Final rinse with water (55C)
- p) Disinfection with hot water (85C)
- 7. Unit to have LCD display and operating console to have membrane key pad for durability.
- 8. Unit should feature safety measures such as:
 - j) Automatic door lock.
 - k) Automatic temperature regulation.
 - l) Electronic adjustment of water level.
- 9. The unit should also have an interface as standard for an optional batch printer.
- 10. The washer disinfector shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
- 11. Should ensure essential washing accessories.
- 12. Standards & Norms:

Should be **US FDA/European CE certified.**

Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

- 1. Reverse Osmosis Plant 1500 Liters per hour capacity
- 2. Should have stainless steel skid mounts for pre-treatments and RO unit
- 3. Should have booster Pumps.
- 4. Should have direct bypass valve and auto flush systems.
- 5. Should have thin film composite membrane of equivalent.
- 6. Should have dry run protection of pump.
- 7. Should have auto flush timer.
- 8. Should have automatic tank level control.
- 9. Should have over voltage and over current protection.
- 10. Should have high efficiency reverse osmosis membrane.
- 11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
- 12. Should have re-circulation pump provides instantaneous delivery flow.
- 13. Should have comprehensive micro-processor monitoring and control system.
- 14. Should be **BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - p) Automatic start-up
 - q) Reverse feed function in case an instrument accidentally enters the sealing area
 - r) Energy-saving stand-by mode
 - s) Pre-set temperatures
 - t) Re-settable counter function
11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like

- bb) syringes and cannulas with Record cone
 - cc) Measuring and blood pipettes
 - dd) Catheters and small pipes
 - ee) Drainage tubing
 - ff) Syringes and cannulas with Lure cone
 - gg) Spray jet for rapid instrument cleaning
 - hh) Bottles and Erlenmeyer flasks
 - ii) Water jet pumps for suction cleaning
 - jj) All appliances are stored within easy reach on a special wall-mounted rack (included).
3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
 4. All tips should be able to get easily locked to the spray gun by a safety cone.
 5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
 6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

1. Size (LxWxH) 2600x600x1200mm
2. This dispenser for sterilizer tape should hold two reels of tape.
3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.

5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½” tubing or reinforced rubber hose.
3. Should work on normal water pressure
4. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.

6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- s) Person responsible for sterilization
- t) Load number
- u) Packaging content
- v) Sterilizer number
- w) Production date
- x) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

106. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm

2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.
16. Should be delivered ready for assembly.

107. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.

5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

108. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.

7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

109. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.

9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (± 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

110. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

111. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

112. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

113. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

114. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.

9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

115. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

116. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.

10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

117. Stainless Steel Paneling for Sterilizer & Washer Disinfector

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfector should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

118. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (\varnothing 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

119. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.

4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

120. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

121. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.

7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

122. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

123. Modular Sterilizing baskets Big

12. Size : 585x395x195 mm

1. Area : Various movement
2. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
3. It should be self-drying after disinfection in hot water (min.+85°C)
4. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
5. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
6. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
7. There should be no sharp edges or wires.
8. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
9. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
10. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

124. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)

7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

125. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on 4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

126. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

127. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

128. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.

3. The covering lid should be open able by pressing the plate attached to the bottom.

129. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

130. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

131. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

132. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

133. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.

3. Should have length, breadth and depth to keeps shoes of all standard sizes.

134. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

135. Closed Sterilization Containers.

1. Sizes should be - 300x290x140 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

136. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

137. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

138. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

139. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

140. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17" LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training – Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS PATNA

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation, testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litre or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2 Nos
- Table Top Steriliser 20-25 Litre x 15 Nos
- Washer disinfectant 300 to 350 Litre x 3 Nos
- Ultrasonic cleaner 40 Litre x 3 Nos
- Heat Sealing Machine x 3 Nos
- Reverse Osmosis plant 1500 LPH x 1 No with storage tank capacity of 6000 litre
- Documentation labeller x 1 No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.
3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel of bidder/manufacturer with calibrated instrument with valid traceability.
4. CSSD Technicians/saff of AIIMS Patna have to be trained for a week for a period of 15 days..
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment Loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards

3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectant. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder
9. Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Isolator	Lighting & Fans	Remarks
1	Soiled Reception	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided
2	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" drains	-	-	-	Fluorescent Lights	
3	Wash & Disinfection Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" drains	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
4	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 3	Fluorescent lighting	

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Isolator	Lighting & Fans	Remarks
5	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
6	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
7	Technician's Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 2	Fluorescent lighting+Fans	
8	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air-conditioning +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
9	Linen inspection, folding & Packing	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	5 A x 2	Fluorescent lighting+Fans	
10	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Isolator	Lighting & Fans	Remarks
11	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
12	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-
13	Issue Counter	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

Bidder should clearly specify the rate for each work along with BOQ

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectors.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.
2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide fire detection, alarm and effective firefighting system. Bidder should provide adequate no. of Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and installation of water storage tanks and Booster pumps. Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for Cleaning and Disinfection area, and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	

1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	
1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Seimens
4	Lighting	Philips, GE
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ		
CSSD- AIIMS PATNA		
ROOM NO:	1	
Designation	SOILED RECEPTION	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	LAB STOOL WITHOUT BACK REST(SS)	1
4	WASTE BIN PEDAL OPERATED -SS	1
5	STORAGE CUPBOARD	1
6	COMPUTER	1
ROOM NO:	2	
Designation	TROLLEY HOLD & WASH	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	3	

Designation	WASH & DISINFECTION AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	3
3	INSPECTION LAMP WITH MAGNIFIER	5
4	ULTRASONIC CLEANER (40L)	3
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	3
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	3
10	LAB STOOL WITHOUT BACK REST(SS)	6
11	WASTE BIN PEDAL OPERATED -SS	2
12	PASS BOX	1
13	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
ROOM NO:	4	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1
5	WASTE BIN PEDAL OPERATED -SS	1
6	COMPUTER	1
ROOM NO:	5	
Designation	STAFF CHANGE ROOM FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1

ROOM NO:	6	
Designation	STAFF CHANGE ROOM MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	7	
Designation	TECHNICIAN'S ROOM	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	VISITOR'S CHAIR	4
3	WASTE BIN PEDAL OPERATED -SS	1
ROOM NO:	8	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	STEAM STERILIZER 600 LTR	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	4
3	LAB STOOL WITHOUT BACK REST(SS)	16
4	HEAT SEALING MACHINE	3
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	6
6	WASTE BIN PEDAL OPERATED -SS	2
7	INSPECTION LAMP WITH MAGNIFIER	5
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	2
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	2
13	PAPER DISPENSING TROLLEY	3

14	DRYING CABINET	1
ROOM NO:	9	
Designation	LINEN INSPECTION,FOLDING & PACKING	
ITEM NO	DESCRIPTION	QUANTITY
1	LINEN FOLD TABLE FOR CLEAN AREA	1
2	LAB STOOL WITHOUT BACK REST(SS)	2
3	OPEN STORAGE RACK	1
4	WASTE BIN PEDAL OPERATED -SS	1
5	LINEN DISTRIBUTION AND STORAGE TROLLEY	2
ROOM NO:	10	
Designation	GAUZE CUTTING ROOM	
1	GAUZE CUTTING MACHINE	2
2	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
3	LAB STOOL WITHOUT BACK REST(SS)	2
4	OPEN STORAGE RACK	1
ROOM NO:	11	
Designation	ETO ROOM	
ROOM NO:	12	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERILE STORE	15
2	WASTE BIN PEDAL OPERATED -SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERILE STORE TO OT	10
5	MODULAR STERLIZING BASKET-BIG	200
6	MODULAR STERLIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3

8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3
9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	10
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	1
ROOM NO:	13	
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED -SS	1
4	PASS BOX	1
5	COMPUTER	1
OTHER EQUIPMENT		
1	RO PLANT	1
FOR TSSU		
1	STERILIZER 250 L	2
2	TABLE TOP STERILIZER WITH ACCESSORIES 25L	15
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELLING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS:	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum
VI	VENTILATION AND LIGHTING	Lump sum
VII	DEMOLITION WORK	Lump sum

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically (Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
- 7. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.

3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25 mm to 50 mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9' colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control

system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**.
Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA:
ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a 3/4" line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure.
Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.

3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
6. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily

sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.

2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3 μ m.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety

devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

9. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached

10. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer
2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:
 - Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar & design pressure upto 3.8 bar.
 - Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L. The water reservoirs should have easy access for cleaning & to avoid bio film.
12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with

battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfectant with accessories

1. The washer disinfectant shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12 Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:
 - ww) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
 - xx) Cleansable spray arms should be located at the top and bottom of the chamber.
 - yy) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
 - zz) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.

- aaa) The drying air should be pre-heated.
 - bbb) The washer should be equipped with independent temperature monitoring and validation test port.
 - ccc) Data interface RS232 should be available.
 - ddd) All electrical components should be easily accessible for easy service - ergonomic design.
 - eee) **Washer should have a built in self-cleaning debris filter.**
 - fff) Washer should be equipped with audible alarm that alerts if error code occurs.
 - ggg) Double door should be made of toughened glass for see through & should facilitate the loading process.
 - hhh) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
6. The washer should perform:
 - q) Pre-rinses with cold water.
 - r) Main washes with hot water (60C) and detergent.
 - s) Final rinse with water (55C)
 - t) Disinfection with hot water (85C)
 7. Unit to have LCD display and operating console to have membrane key pad for durability.
 8. Unit should feature safety measures such as:
 - m) Automatic door lock.
 - n) Automatic temperature regulation.
 - o) Electronic adjustment of water level.
 9. The unit should also have an interface as standard for an optional batch printer.
 10. The washer disinfectant shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
 11. Should ensure essential washing accessories.
 12. Standards & Norms:

Should be **US FDA/European CE certified.**

Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

1. Reverse Osmosis Plant 1500 Liters per hour capacity
2. Should have stainless steel skid mounts for pre-treatments and RO unit
3. Should have booster Pumps.

4. Should have direct bypass valve and auto flush systems.
5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
14. Should be **BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - u) Automatic start-up
 - v) Reverse feed function in case an instrument accidentally enters the sealing area

- w) Energy-saving stand-by mode
- x) Pre-set temperatures
- y) Re-settable counter function
- 11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
- 12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
- 13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - kk) syringes and cannulas with Record cone
 - ll) Measuring and blood pipettes
 - mm) Catheters and small pipes
 - nn) Drainage tubing
 - oo) Syringes and cannulas with Lure cone
 - pp) Spray jet for rapid instrument cleaning
 - qq) Bottles and Erlenmeyer flasks
 - rr) Water jet pumps for suction cleaning
 - ss) All appliances are stored within easy reach on a special wall-mounted rack (included).
3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
4. All tips should be able to get easily locked to the spray gun by a safety cone.
5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

1. Size (LxWxH) 2600x600x1200mm
2. This dispenser for sterilizer tape should hold two reels of tape.

3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½” tubing or reinforced rubber hose.
3. Should work on normal water pressure
4. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.

2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- y) Person responsible for sterilization
- z) Load number
- aa) Packaging content
- bb) Sterilizer number
- cc) Production date
- dd) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.

4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

6. Should be automatic in operation
7. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
8. Should have heaters of minimum 2 KW
9. There should be provision for setting the drying temperature and drying time.
10. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

141. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.

15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.
16. Should be delivered ready for assembly.

142. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

143. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

144. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm

2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

145. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges

should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.

4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

146. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

147. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm

2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

148. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

149. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

150. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.

10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

151. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

152. Stainless Steel Paneling for Sterilizer & Washer Disinfector

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfector should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

153. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings.

Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).

3. Trolley should be fitted with large stainless steel wheels (\varnothing 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

154. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

155. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.

5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

156. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

157. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.

4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

158. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.

11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

159. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

160. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on 4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

161. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

162. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

163. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

164. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

165. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

166. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.

3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

167. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

168. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

169. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

170. Closed Sterilization Containers.

1. Sizes should be - 300x290x140 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

171. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

172. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

173. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

174. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

175. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17” LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training – Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS RAIPUR

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation, testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litres or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2 Nos
- Table Top Steriliser 20-25 Litre x 15 Nos
- Washer disinfectant 300 to 350 Litre x 3 Nos
- Ultrasonic cleaner 40 Litre x 2 Nos
- Heat Sealing Machine x 3 Nos
- Reverse Osmosis plant 1500LPH *1 with 1 No storage tank capacity of 6000 litres
- Documentation labeller x 1 No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.
3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel with calibrated instrument with valid traceability.
4. CSSD Technicians of AIIMS Rishikesh have to be trained for a week for a period of six working days.
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards
3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectant. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder
9. Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Room No.	Description	Flooring	Walls	Drains	Exhaust	Ventilation	Power/Isolator	Lighting & Fans	Remarks
1	Soiled Recept	Vitrified	Glazed tiles 2'	-	-	-	5 A x 4	Fluorescent lighting+Fa	Counter has to be

	ion	tiles 2' x 2'	x 2' up to roof					ns	provided
2	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" drains	-	-	-	Fluorescent Lights	
3	Wash & Disinfection Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" drains	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
4	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air-conditioning +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
5	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	
6	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 3	Fluorescent lighting	
7	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	

8	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
9	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
10	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-
11	Issue Counter	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

Bidder should clearly specify the rate for each work along with BOQ

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectors.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.
2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide fire detection, alarm and effective firefighting system. Bidder should provide adequate number of Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and installation of water storage tanks and Booster pumps . Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for Cleaning and Disinfection area, and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	
1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	
1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Seimens
4	Lighting	Philips, GE
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ	
CSSD- AIIMS RAIPUR	
ROOM NO:	1
Designation	SOILED RECEPTION

ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED -SS	1
4	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	3
5	COMPUTER	1
ROOM NO:	2	
Designation	TROLLEY WASH & HOLD	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	3	
Designation	WASH & DISINFECTION	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	3
3	INSPECTION LAMP WITH MAGNIFIER	3
4	ULTRASONIC CLEANER (40L)	3
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	2
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	3
10	LAB STOOL WITHOUT BACK REST(SS)	8
11	WASTE BIN PEDAL OPERATED -SS	2
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	PASS BOX	1
ROOM NO:	4	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY

1	STEAM STERILIZER 600 LTR	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	3
3	LAB STOOL WITHOUT BACK REST(SS)	12
4	HEAT SEALING MACHINE	3
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	2
6	WASTE BIN PEDAL OPERATED -SS	2
7	INSPECTION LAMP WITH MAGNIFIER	4
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	2
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	2
13	LINEN DISTRIBUTION AND STORAGE TROLLEY	2
14	PAPER DISPENSING TROLLEY	2
15	LINEN FOLD TABLE FOR CLEAN AREA	1
16	DRYING CABINET	1
ROOM NO:	5	
Designation	GAUZE CUTTING ROOM	
1	GAUZE CUTTING MACHINE	2
2	LAB STOOL WITHOUT BACK REST(SS)	2
3	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
4	OPEN STORAGE RACK	1
5	WASTE BIN PEDAL OPERATED -SS	1
ROOM NO:	6	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1

5	WASTE BIN PEDAL OPERATED -SS	1
6	COMPUTER	1
ROOM NO:	7	
Designation	STAFF CHANGE MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	8	
Designation	STAFF CHANGE FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	9	
Designation	ETO ROOM	
ROOM NO:	10	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERILE STORE	8
2	WASTE BIN PEDAL OPERATED -SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERILE STORE TO OT	6
5	MODULAR STERLIZING BASKET-BIG	200
6	MODULAR STERLIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3
8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3

9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	4
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	1
ROOM NO:	11	
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WIRE STORAGE SHELF MODULE FOR STERIL STORE	2
4	WASTE BIN PEDAL OPERATED -SS	1
5	COMPUTER	1
6	PASS BOX	1
OTHER EQUIPMENT		
1	RO PLANT	1
FOR TSSU		
1	STERILIZER 250 LTR	2
2	TABLE TOP STERILIZER WITH ACCESSORIES	15
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELLING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS:	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum
VI	VENTILATION AND LIGHTING	Lump sum
VII	DEMOLITION WORK	Lump sum

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically (Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
7. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A

stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.

2. **Surface Treatment:** The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 μm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. **Insulation:** The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.
4. **Jacket:** The jacket should be made of 316L quality stainless steel with pressure gauge.
5. **Steam Generator:** The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25 mm to 50 mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

5. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
6. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
7. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
8. **Electrical Components:** the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) **Air Filter:** A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3 μm .

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9' colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quiet operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**. Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA: ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a 3/4" line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
- 6. The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 μm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization

process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.

3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

11. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached

12. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) **High vacuum compressor with recycling facility.**

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer

2. Capacity: 20-25 L

3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .

4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.

5. Quality Standards: Sterilizer should be **US FDA/European CE certified**

6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.

7. Chamber:

- Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
- Chamber should have working pressure 2.2 bar & design pressure upto 3.8 bar.
- Chamber should be equipped with electrically heated jacket for preheating on standby mode.

8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.

9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

10. Cycle programs:

- 134°C Wrapped.
- 121°C Wrapped.
- 134°C Flash/Rapid open instrument cycle.
- 134°C Textile.
- Test programs : Bowie & Dick, Leak Test.

11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L. The water reservoirs should have easy access for cleaning & to avoid bio film.
12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfectant with accessories

1. The washer disinfectant shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12 Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:

- iii) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
- jjj) Cleansable spray arms should be located at the top and bottom of the chamber.
- kkk) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
- lll) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.
- mmm) The drying air should be pre-heated.
- nnn) The washer should be equipped with independent temperature monitoring and validation test port.
- ooo) Data interface RS232 should be available.
- ppp) All electrical components should be easily accessible for easy service - ergonomic design.
- qqq) Washer should have a built in self-cleaning debris filter.**
- rrr) Washer should be equipped with audible alarm that alerts if error code occurs.
- sss) Double door should be made of toughened glass for see through & should facilitate the loading process.
- ttt) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
- 6. The washer should perform:
 - u) Pre-rinses with cold water.
 - v) Main washes with hot water (60C) and detergent.
 - w) Final rinse with water (55C)
 - x) Disinfection with hot water (85C)
- 7. Unit to have LCD display and operating console to have membrane key pad for durability.
- 8. Unit should feature safety measures such as:
 - p) Automatic door lock.
 - q) Automatic temperature regulation.
 - r) Electronic adjustment of water level.
- 9. The unit should also have an interface as standard for an optional batch printer.
- 10. The washer disinfectant shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
- 11. Should ensure essential washing accessories.
- 12. Standards & Norms:

Should be **US FDA/European CE certified**.

Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

1. Reverse Osmosis Plant 1500 Liters per hour capacity
2. Should have stainless steel skid mounts for pre-treatments and RO unit
3. Should have booster Pumps.
4. Should have direct bypass valve and auto flush systems.
5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
14. Should be **BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.

7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - z) Automatic start-up
 - aa) Reverse feed function in case an instrument accidentally enters the sealing area
 - bb) Energy-saving stand-by mode
 - cc) Pre-set temperatures
 - dd) Re-settable counter function
11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - tt) syringes and cannulas with Record cone
 - uu) Measuring and blood pipettes
 - vv) Catheters and small pipes
 - ww) Drainage tubing
 - xx) Syringes and cannulas with Lure cone
 - yy) Spray jet for rapid instrument cleaning
 - zz) Bottles and Erlenmeyer flasks
 - aaa) Water jet pumps for suction cleaning
 - bbb) All appliances are stored within easy reach on a special wall-mounted rack (included).
3. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
4. All tips should be able to get easily locked to the spray gun by a safety cone.

5. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
6. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

1. Size (LxWxH) 2600x600x1200mm
2. This dispenser for sterilizer tape should hold two reels of tape.
3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½" tubing or reinforced rubber hose.
3. Should work on normal water pressure

4. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

- ee) Person responsible for sterilization
- ff) Load number
- gg) Packaging content
- hh) Sterilizer number

- ii) Production date
- jj) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

176. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.

8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.
16. Should be delivered ready for assembly.

177. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (± 25 mm) plastic foot, easy to clean, is mounted on each leg.

10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

178. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly

12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

179. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (± 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

180. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

181. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.

5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

182. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

183. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.

5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

184. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

185. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.

3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

186. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue
2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

187. Stainless Steel Paneling for Sterilizer & Washer Disinfecter

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfecter should be recessed between the S.S. 304 quality panels.

3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

188. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (Ø 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.
5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

189. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.

8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

190. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

191. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.

10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

192. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

193. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement

3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

194. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.

9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

195. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on 4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

196. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.
5. Should be pre-treated Epoxy powder coated frame work.

197. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

198. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

199. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

200. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

201. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

202. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.
3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

203. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

204. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

205. Closed Sterilization Containers.

3. Sizes should be - 300x290x140 units.
4. Should have thermo lock drainage, steam penetration valve and stainless steel top.

206. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

207. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

208. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

209. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

210. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM

3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17" LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training – Training to be provided at site to five persons from each institute for 2weeks

CSSD, AIIMS RHISHIKESH

1. SCOPE OF WORK

This work is planned as a turnkey job, which includes supply, installation, testing and commissioning of the equipment, and all associated civil, mechanical, electrical, air conditioning and interior furnishing jobs.

2. REQUIREMENT OF MACHINERY

- Sterilizer 550 litres or more, double door x 5 Nos
- Sterilizer 250 Litre, double door x 2 Nos
- Table Top Steriliser 20-25 Litre x 15 Nos
- Washer disinfectant 300 to 350 Litre x 3 Nos
- Ultrasonic cleaner 40 Litre x 2 Nos
- Heat Sealing Machine x 3 Nos
- Reverse Osmosis plant 1500LPH *1 with 1 No storage tank capacity of 6000 litres
- Documentation labeller x 1 No
- Inspection Lamps, furniture, carts, inspection tables, cleaning equipment, interior water treatment plant
- All necessary furniture required for the facility to be included.

3. TRAINING AND DOCUMENTATION

1. Bidder should provide two copies of complete set of part manual, service manual and user manual in English for each equipment supplied
2. Bidder should provide certificate of calibration and inspection of equipment from factory at the time of delivery of equipment.

3. Final system test, relevant safety test and calibrations should be carried out by authorized personnel with calibrated instrument with valid traceability.
4. CSSD Technicians of AIIMS Rhishikesh have to be trained for a week for a period of six working days.
5. OEM or his authorized agent should post a trained Engineer who should be available at site or should reach the site within 24 hrs of raising a service call
6. Consumables for training and handover should be provided free of cost with the system.

4. TURNKEY JOB FOR CSSD UNIT

(Price of the Turnkey work should be quoted separately, i.e. Price of civil works, Air conditioning, Equipment, electrical works, etc)

The turnkey work includes all modifications to the built up space provided at the hospital site including Installation of Equipment, RO plant, civil works, electrical works, plumbing works, interior decoration, air conditioning, furniture and other related works of the CSSD unit required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. The work includes demolition of unwanted walls.

An indicative layout has been attached for reference purpose. However bidders are strongly advised to visit the site. Equipment loaded site drawing with actual dimension should be submitted along with the technical bid.

Turn Key Job to be provided by the Bidder

1. Bidders are required to visit the site for self-assessment of the extent of work.
2. Construction / re-construction, commissioning and installation to be strictly carried as per international standards
3. Bidder will be responsible for doing SS panelling for sterilizer and washer disinfector. The price should be included in the turnkey work
4. False ceiling modification in air conditioned area and sterile area.
5. All cable trenches and railings wherever required.
6. Modification of electrical: The consignee will terminate three phase supply line at an area in the CSSD. All other electrical cabling including control panel, switches, isolators etc inside the CSSD to be carried out by the bidder.
7. Installation and commissioning of all equipment.
8. Installation of RO water plant, exhaust for sterilizer has to be carried out by the bidder

9. Any other necessary work required for satisfactory working of the equipment (those work not mentioned in the turnkey/BOQ)

Interior and Accessories for CSSD (Power/Drain/Lighting/AC/Exhaust)									
Ro om No.	Descrip tion	Flooring	Walls	Dra ins	Exhau st	Ventilatio n	Power/Isol ator	Lighting & Fans	Remarks
1	Soiled Recepti on	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided
2	Trolley Wash & Hold	Matt Tiles	Glazed tiles 2' x 2' up to roof	3" dra ins	-	-	-	Fluorescent Lights	
3	Wash & Disinfect ion Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	3" dra ins	-	-	40 A x 3 15 A x 6 5 A x 5	Fluorescent lighting+ fans	
4	Office	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditione d	5 A x 3	Fluorescent lighting	
5	Change Room Female	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
6	Change Room Male	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 Ax 2	Fluorescent lighting+Fans	
7	Technici an's Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 2	Fluorescent lighting+Fans	
8	Control & Packing Area	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air- conditioni ng +ve	100A x 5 15 A x 6 5 A x 5	Fluorescent lighting	
9	Linen inspecti on, foldi ng & Packing	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	5 A x 2	Fluorescent lighting+Fans	
10	Gauze cutting Room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	+ve Pressure ventilation	15 A x 2	Fluorescent lighting+Fans	

11	ETO sterilizer room	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	2" drains	Gas Exhaust	-	30 A x 2	Fluorescent Lights 15 Amp sockets x 3	No mixing of air conditioning. Gas exhaust to be terminated at safe distance according to safety norms.
12	Sterile Store	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to false ceiling	-	-	Air conditioned	5 A x 2	Fluorescent Lights	-
13	Issue Counter	Vitrified tiles 2' x 2'	Glazed tiles 2' x 2' up to roof	-	-	-	5 A x 4	Fluorescent lighting+Fans	Counter has to be provided

Bidder should clearly specify the rate for each work along with BOQ

I. CIVIL WORKS

Bidders are strongly advised to visit the site and carry out the assessment of works. Bidder has to carry out civil modifications required at the site. All material should be of high quality and sample should get approved by consignee.

Bidder will be responsible for doing SS panelling for sterilizer and washer disinfectant.

II. AIR- CONDITIONING

Air conditioning should be provided for areas such as clean store, sterile stores, packing area and officer room

1. Should provide split a/c or ductable package with wireless remote control for, sterile stores, packing area, clean store and office room. Ducting and false ceiling as necessary.
2. The capacity of the a/c should be sufficient to maintain the required temperature and humidity.
3. Should be energy efficient and 5 star rating.
4. Bidder should carry out necessary false ceiling work required for A/C.

III. ELECTRICAL WORKS

Bidder should specify the details of the electrical work. Bidder also should specify the cost of each and every electrical work separately. Detailed BOQ with rates should be attached.

1. Consignee will provide three phase supply at one point in CSSD Area. All remaining work has to be done by the bidder.

2. Electrical works and other cabling necessary for the efficient working of the equipment have to be done by the bidder.
3. Proper earthing should be provided for the equipment.

IV. FIRE FIGHTING

Bidder should provide fire detection, alarm and effective firefighting system. Bidder should provide adequate number of Dry CO2 cylinders-2 kg with essential accessories. Cylinders should be certified by respective regulatory board.

V. PLUMBING WORKS & DRAINING SYSTEM

All plumbing works associated with proper functioning of CSSD has to be carried out by the vendor. RO system required for the proper functioning of Sterilizers has to be provided by the bidder. Bidder will be responsible for supply and installation of water storage tanks and Booster pumps . Individual plumbing lines with valves are required. Detailed BOQ with rates should be attached.

VI. VENTILATION AND LIGHTING

Proper Ventilation system including fan and exhaust fan has to be provided for Cleaning and disinfection area, and linen folding area. Proper degassing and ventilation facilities should be available for ETO sterilizer room. Proper ventilation has to be provided in the receiver area and entrance foyer. Bidder has to provide proper lighting for all the areas.

VII. STEAM PIPE LINES

All necessary work associated with the installation of sterilizer including integrated steam piping, pressure control valves and exhaust as required should be done by the vendor. All steam piping should be of SS 316.

VIII. DEMOLITION

Bidder should demolish unwanted existing walls inside the existing CSSD area

PREFERED MAKES FOR TURNKEY WORKS		
SL NO	ITEMS	PREFERED MAKES
A	FLOORING	
1	Vitrified Tiles	Somany, Kajaria
2	Paint	Dulux, Asian Paints
B	PLUMBING	Kohler, Jaguar
C	SANITARY ITEMS	CERA, Hindware, Parryware
D	ELECTRICAL	

1	Cables	Finolex, Havells
2	Switches	Legrand, Crabtree
3	Distribution Box, Breakers	Legrand, L&T, Seimens
4	Lighting	Philips, GE
E	AIR CONDINTIONING	Bluestar, Voltas, Daikin

Bidder should specify the cost of each work separately with BOQ and total cost in INR as shown in the table.

BOQ		
CSSD- AIIMS RISHIKESH		
ROOM NO:	1	
Designation	SOILED RECEPTION	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE/RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED -SS	1
4	STORAGE CUPBOARD	1
5	COMPUTER	1
ROOM NO:	2	
Designation	TROLLEY HOLD & WASH	
ITEM NO	DESCRIPTION	QUANTITY
1	MANUAL TROLLEY WASHER	1
ROOM NO:	3	
Designation	WASH & DISINFECTION AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	WASHER DISINFECTOR (300 to 350L)	3
2	WIRE STORAGE SHELF MODULE FOR DIRTY/DISINFECTION AREA	2
3	INSPECTION LAMP WITH MAGNIFIER	3
4	ULTRASONIC CLEANER (40L)	2
5	WASH STATIONS WITH 2 SINKS FOR DIRTY AREA	2
6	SPRAY GUN RINZER	3
7	VACUUM CLEANER	1
8	HAND DRYER	1
9	WORKTABLE FOR WET GOODS FOR DIRTY AREA	2
10	LAB STOOL WITHOUT BACK REST(SS)	4
11	WASTE BIN PEDAL OPERATED -SS	2
12	PASS BOX	1
13	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
ROOM NO:	4	
Designation	OFFICE	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	STAFF CHAIR	1
3	VISITOR'S CHAIR	2
4	STORAGE CUPBOARD	1

5	WASTE BIN PEDAL OPERATED -SS	1
6	COMPUTER	1
ROOM NO:	5	
Designation	STAFF CHANGE ROOM FEMALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	6	
Designation	STAFF CHANGE ROOM MALE	
ITEM NO	DESCRIPTION	QUANTITY
1	CHANGE LOCKER - 4 COMPARTMENTS	1
2	WASTE BIN PEDAL OPERATED -SS	1
3	SHOE RACK	1
ROOM NO:	7	
Designation	TECHNICIAN'S ROOM	
ITEM NO	DESCRIPTION	QUANTITY
1	OFFICE TABLE	1
2	VISITOR'S CHAIR	4
3	STORAGE CUPBOARD	1
4	WASTE BIN PEDAL OPERATED -SS	1
ROOM NO:	8	
Designation	CONTROL & PACKING AREA	
ITEM NO	DESCRIPTION	QUANTITY
1	STEAM STERILIZER 550 LTR	5
2	CONTROL & PACKING TABLE WITH 2 SHELVES FOR CLEAN AREA	2
3	LAB STOOL WITHOUT BACK REST(SS)	8
4	HEAT SEALING MACHINE	3
5	WIRE STORAGE SHELF MODULE FOR CLEAN SUPPLY AREA	5
6	WASTE BIN PEDAL OPERATED -SS	2
7	INSPECTION LAMP WITH MAGNIFIER	3
8	DOCUMENTATION LABELLER	1
9	MULTI ROLL TAPE DISPENSER	1
10	INSTRUMENT TRAY SMALL	100
11	INSTRUMENT TRAY BIG	75
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	PAPER DISPENSING TROLLEY	1
14	DRYING CABINET	1
ROOM NO:	9	
Designation	LINEN INSPECTION,FOLDING & PACKING	
ITEM NO	DESCRIPTION	QUANTITY
1	LINEN FOLD TABLE FOR CLEAN AREA	1
2	LAB STOOL WITHOUT BACK REST(SS)	2
3	WASTE BIN PEDAL OPERATED -SS	1
4	LINEN DISTRIBUTION AND STORAGE TROLLEY	2
ROOM NO:	10	
Designation	GAUZE CUTTING ROOM	

1	GAUZE CUTTING MACHINE	2
2	WORK TABLE FOR DRY GOODS FOR CLEAN AREA	1
3	LAB STOOL WITHOUT BACK REST(SS)	2
ROOM NO:	11	
Designation	ETO ROOM	
ITEM NO	DESCRIPTION	QUANTITY
ROOM NO:	12	
Designation	STERILE STORE	
ITEM NO	DESCRIPTION	QUANTITY
1	WIRE STORAGE SHELF MODULE FOR STERILE STORE	10
2	WASTE BIN PEDAL OPERATED -SS	2
3	LAB STOOL WITHOUT BACK REST(SS)	4
4	CLOSED TRANSPORT TROLLEY FROM STERILE STORE TO OT	6
5	MODULAR STERILIZING BASKET-BIG	200
6	MODULAR STERILIZING BASKET-MEDIUM	100
7	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 110mm	3
8	CLOSED STERILIZATION CONTAINERS 300mm x 290mm x 140mm	3
9	CLOSED STERILIZATION CONTAINERS 590mm x 280mm x 260mm	3
10	FREE STANDING BASKET RACK	8
11	BASKET TROLLEY	1
12	TABLE TROLLEY FOR DIRTY/CLEAN/STERILE AREA	1
13	WORK TABLE FOR DRY GOODS FOR STERILE AREA	1
ROOM NO:	13	
Designation	ISSUE COUNTER	
ITEM NO	DESCRIPTION	QUANTITY
1	ISSUE /RECEIVE COUNTER	1
2	STAFF CHAIR	1
3	WASTE BIN PEDAL OPERATED -SS	1
4	PASS BOX	1
5	COMPUTER	1
OTHER EQUIPMENTS		
1	RO PLANT	1
FOR TSSU		
1	STERILIZER 250 L	2
2	TABLE TOP STERILIZER WITH ACCESSORIES 25L	15
TURNKEY WORKS		
I	CIVIL WORKS INCLUDING STAINLESS STEEL PANELLING FOR STERILIZER & WASHER DISINFECTER	Lump sum
II	AIR- CONDITIONING	Lump sum
III	ELECTRICAL WORKS:	Lump sum
IV	FIRE FIGHTING	Lump sum
V	PLUMBING WORK & DRAINING SYSTEM	Lump sum
VI	VENTILATION AND LIGHTING	Lump sum
VII	DEMOLITION WORK	Lump sum

SPECIFICATIONS

I. CSSD EQUIPMENT

1. Horizontal Sterilizer 550 litre or more with Accessories

Fully automatic Microprocessor controlled Horizontal Autoclave (Steam Sterilizer), with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be pneumatically (Compressed Air) /electrical operated double door with fully automatic vertical sliding movement along with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by steam/air to ensure the door remains closed during the process.
6. Double door safety is implemented through interlocks which prevent both doors from being opened simultaneously.
7. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 μm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in rigid removable sheet housing.

4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt steam generator, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. The steam generator should have **chloride free mineral wool/mineral glass wool of thickness 25 mm to 50 mm** insulation with **SS 316**. It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.
3. Primary components: 316 quality triclamps or threaded fitting components like – Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive, 7-9" colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & nonvolatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

1. The sterilizer should have at least 2 **temperature & pressure sensors** one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
2. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of $\pm 0.1^{\circ}\text{C}$ while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
3. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 set of loading and unloading trolley.

(i) Cycle Documentation – Printer:

The autoclave should be equipped with an **alpha-numeric Laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quite operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134⁰C
2. Heat Sensitive material, rubber, plastic, porous load 121⁰C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Certified**. Copy of certificate to be attached.

The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclaves (Europe) or USA: ST8 – Hospital Sterilizers

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) Steam Sterilizer should have provision for connecting a ¾” line terminating in the shutoff valve, nonreturn valve, pressure relief valve, steam riser, condensate drain and other essential accessories (for future steam connection from the central boiler).

(q) In case of suppliers offering standalone steam generator they should provide alternatives for ensuring clean steam (as per International Standards) .

i. With standalone generator

ii. For preheating the sterilizer with steam from a central boiler having adequate stand by supply

(r) High vacuum compressor with recycling facility.

2. Sterilizer 250 L with Accessories

Fully automatic Microprocessor controlled Autoclave (Steam Sterilizer), floor mounted with pre and post-vacuum treatment and with loading equipment.

(a) Door: The sterilizer supplied should be supplied with **automatic sliding door** with door safety features.

Door Safety Systems:

1. Pressure sensor system should be available in the chamber to monitor the chamber pressure. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber should not be opened when chamber is pressurized.
3. A mechanical safety edge stops the door if it is obstructed while closing, thus protecting operator & loading equipment.
4. A cycle should not start if the door is open or not properly locked.

5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear force of the door by steam/air to ensure the door remains closed during the process.
6. **The Sterilizer should be supplied with Automatic (Manual opening in case of automatic mechanism failure) vertical sliding door.**

(b) Construction:

1. Chamber & Doors: The chamber and doors should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor is slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer should be provided to protect the drain port from blockage by debris. The chamber is mounted on a stainless steel framework with height adjustable feet.
2. Surface Treatment: The internal surface should be electro-chemically treated for high quality smooth finish to facilitate cleaning. The resultant surface should be polished to less than 0.8 µm fineness to protect against corrosion. The internal corners should be rounded off to facilitate efficient cleaning.
3. Insulation: The sterilizer jacket and door should be completely insulated to keep the autoclave cool on the outside. The insulation should be completely encased in a rigid removable sheet housing.
4. Jacket: The jacket should be made of 316L quality stainless steel with pressure gauge.
5. Steam Generator: The sterilizer should have inbuilt steam generator of adequate capacity. In inbuilt model, it should be mounted under the sterilizer chamber & should be made of 316 quality stainless steel. **The steam generator should have chloride free mineral wool/mineral glass wool of thickness 25mm to 50mm insulation with SS 316.** It should have a built in thermostat, pressure safety valve & water level glass gauge inspection device visible from service area. The heating element should be of sufficient capacity to make the sterilization process faster with maximum cycle time of 45-50mins in pre vacuum. It should also have the automatic blow down valve & degassing system for feeding water to steam generator.

(c) Pipes, Valves and Components:

1. The piping system should be made of S.S. 316 quality. All the process valves should be stainless steel & should be **pneumatically** operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
2. Primary piping & fittings should be stainless steel threaded or stainless steel triclamp fittings.

3. Primary components: 316 quality triclamps or threaded fitting components like - Manual valve, non-return valve, pressure regulator, pneumatic valves, and steam trap etc.
4. Electrical Components: the terminals & contacts should be housed in a water tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) Air Filter : A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.

(e) Control System:

1. The control system should be microprocessor based PLC system specially designed for sterilization application. Control system should have touch sensitive ,7-9'colour display interface at operator loading side while it should have normal interface at unloading side. Apart from main PLC based control system the sterilizer should also have additional independent monitoring & documentation system which constantly cross checks the safety systems & time.
2. Multiple password access levels (specify number) should be provided to control access/operation of the machine preventing unauthorized access. These access levels should be user selectable. The control system should have CPU processor with battery back-up & non-volatile memories, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.
3. With the standard factory configuration, calibration of the temperature circuits and calibration of the pressure circuits require a access code.

(f) Temperature and Pressure Sensors:

4. The sterilizer should have at least 2 **temperature & pressure** sensors one at chamber drain & one in Jacket. It should also have **temperature & pressure sensor** in chamber.
5. The sensors should be PT100 sensors to confirm Class A of the IEC 571 standard, with accuracy of ± 0.1 deg C while the pressure sensor should have the accuracy 1% over the range of 0-5 bar.
6. Each sensor circuit should be calibrated with individual constants to correct the deviation in manufacturing and aging.

(g) Alarms:

Automatic process checking & failure correction should be possible by the control system. The range of alarm should include over temperature , pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), Continuous self-checking of all the safety devices, low water level ,water in chamber etc should be possible. All the alarms should be audio and visual.

(h) Loading/Unloading system:

Sterilizer should have the two rails for easy loading, shelf rack with shelves (carriage) with 1 trolley.

(i) Cycle Documentation - Printer:

The autoclave should be equipped with an **alpha-numeric laser/thermal printer** which prints the each cycle parameter performed by the sterilizer. The measured values of temperature and pressure are printed at fixed time intervals, according to various phases of the sterilization process such as 4 minute time interval for vacuum, 1 minute time interval for sterilization, and the start and end time of the drying phase. All these time intervals should be user defined. Vendor should supply customized time intervals as desired by the user prior to order delivery.

(j) Water Consumption:

Specify water consumption levels.

(k) Vacuum Pump:

High vacuum compressor (water ring type) with recycling facility for removal of air within the chamber should be provided & mounted on vibration isolator for quiet operations. . It should also have low water level alarm to protect it from dry run.

(l) Available Cycles:

The sterilizer should be designed to operate various programs. Apart from standard cycles, special cycle should be programmed by an authorized supervisor code only.

(m) Programs include:

1. Wrapped Instruments, Porous load 134deg C
2. Heat Sensitive material, rubber, plastic, porous load 121deg C
3. Rapid cycle for single open instrument
4. Heavy load cycle
5. Bowie & Dick test (7 Kg), PCD test
6. Leak test

(n) Directives & Standards:

13. It should meet EN ISO / IEC directives and product should be **European CE/ US FDA Standards**. Copy of certificate to be attached

14. The manufacturer should have ISO 13485:2003 or EN 285 for Large Autoclave

(o) Should pass a hollow load (A) test (Batch monitoring system).

(p) High vacuum compressor with recycling facility.

3. Table Top Sterilizer with Accessories

1. Sterilizer Type: Table Top Sterilizer

2. Capacity: 20-25 L
3. Chamber Size: The sterilizer should have Circular or Rectangular chamber .
4. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000/ EN ISO 13485:2003/ ISO 14001:2004.
5. Quality Standards: Sterilizer should be **US FDA/European CE certified**
6. Types of Cycles Process: Table Top Sterilizers should be equipped with B-process, N process as per latest EN 13060 . Proof of declaration of conformity.
7. Chamber:
 - Should be made of S.S.316 & should comply the Pressure Equipment Directive (PED) &EN 13445 norms.
 - Chamber should have working pressure 2.2 bar & design pressure upto 3.8 bar.
 - Chamber should be equipped with electrically heated jacket for preheating on standby mode.
8. Door Design: Should have radially opening door with at least two locking bolts for enhanced door safety. The doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 20-30 psi.
9. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
10. Cycle programs:
 - 134°C Wrapped.
 - 121°C Wrapped.
 - 134°C Flash/Rapid open instrument cycle.
 - 134°C Textile.
 - Test programs : Bowie & Dick, Leak Test.
11. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 L. The water reservoirs should have easy access for cleaning & to avoid bio film.
12. Steam Generator: Sterilizer should have inbuilt steam generator .The steam generator design should be with integrated energy storing system for building up power for sterilization loads in short time.
13. Control Panel: The control system should be microprocessor based PLC system specially designed for sterilization applications. The control system should have CPU processor with battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

14. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.
15. Accessories: The sterilizer unit should include rack with 5 levels & suitable size instrument trays should be the part of the supply for every sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required.
16. Electrical Requirement: 230V & 50 Hz electric supply.

4. Washer disinfecter with accessories

1. The washer disinfecter shall be suitable for cleaning and disinfection of surgical instruments/goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.
2. The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.
3. It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.
4. Chamber Capacity: Operational Volume should be 300 to 350 L. Should supply **12 Nos** of standard DIN trays. The chamber should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.
5. Washer should have following features:
 - uuu) For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.
 - vvv) Cleansable spray arms should be located at the top and bottom of the chamber.
 - www) Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
 - xxx) Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.
 - yyy) The drying air should be pre-heated.

- zzz) The washer should be equipped with independent temperature monitoring and validation test port.
- aaaa) Data interface RS232 should be available.
- bbbb) All electrical components should be easily accessible for easy service - ergonomic design.
- cccc) Washer should have a built in self-cleaning debris filter.**
- dddd) Washer should be equipped with audible alarm that alerts if error code occurs.
- eeee) Double door should be made of toughened glass for see through & should facilitate the loading process.
- ffff) The washer should have 3 dosing pump (detergent, alkaline & lubrication) for process chemicals, instrument lubricants/ enzymatic cleaners
- 6. The washer should perform:
 - y) Pre-rinses with cold water.
 - z) Main washes with hot water (60C) and detergent.
 - aa) Final rinse with water (55C)
 - bb) Disinfection with hot water (85C)
- 7. Unit to have LCD display and operating console to have membrane key pad for durability.
- 8. Unit should feature safety measures such as:
 - s) Automatic door lock.
 - t) Automatic temperature regulation.
 - u) Electronic adjustment of water level.
- 9. The unit should also have an interface as standard for an optional batch printer.
- 10. The washer disinfectant shall be supplied with universal rack, 4 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap.
- 11. Should ensure essential washing accessories.
- 12. Standards & Norms:
 - Should be **US FDA/European CE certified.**
 - Manufacturer should be ISO 13485:2003/ EN ISO15883/ISO9001

5. Reverse Osmosis Plant 1500 LPH

1. Reverse Osmosis Plant 1500 Liters per hour capacity
2. Should have stainless steel skid mounts for pre-treatments and RO unit
3. Should have booster Pumps.
4. Should have direct bypass valve and auto flush systems.

5. Should have thin film composite membrane of equivalent.
6. Should have dry run protection of pump.
7. Should have auto flush timer.
8. Should have automatic tank level control.
9. Should have over voltage and over current protection.
10. Should have high efficiency reverse osmosis membrane.
11. Should have 6000 L purified water reservoir with bacterial vent filter to ensure microbiological integrity.
12. Should have re-circulation pump provides instantaneous delivery flow.
13. Should have comprehensive micro-processor monitoring and control system.
- 14. Should be BIS/ CE certified. Certificate should be provided.**

6. Heat Sealing Machine

1. Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).
2. It should be microprocessor-controlled.
3. The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.
4. The ergonomically design should be tilted forward for increased user convenience and space saving installation.
5. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.
6. It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.
7. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.
8. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.
9. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.
10. It should offer a number of additional features, including:
 - ee) Automatic start-up
 - ff) Reverse feed function in case an instrument accidentally enters the sealing area
 - gg) Energy-saving stand-by mode

- hh) Pre-set temperatures
- ii) Re-settable counter function
- 11. Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.
- 12. Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.
- 13. Rotary heat sealer should be **European CE /US FDA certified**.

7. Spray Gun Rinser

1. Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
2. The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, like
 - ccc) syringes and cannulas with Record cone
 - ddd) Measuring and blood pipettes
 - eee) Catheters and small pipes
 - fff) Drainage tubing
 - ggg) Syringes and cannulas with Lure cone
 - hhh) Spray jet for rapid instrument cleaning
- iii) Bottles and Erlenmeyer flasks
- jjj) Water jet pumps for suction cleaning
- kkk) All appliances are stored within easy reach on a special wall-mounted rack (included).
 1. A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
 2. All tips should be able to get easily locked to the spray gun by a safety cone.
 3. The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
 4. Bidder should provide complete details of sets of standard and optional adapters, nozzles and accessories.

8. Multi-Roll Tape Dispenser

1. Size (LxWxH) 2600x600x1200mm
2. This dispenser for sterilizer tape should hold two reels of tape.

3. The heavy-duty bottom plate should be fitted with anti-slip rubber to prevent the dispenser from slipping when tape is torn off.
4. Should be made of high quality coated steel for long use.

9. Ultrasonic Cleaner (40 L)

1. The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 40 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
2. The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
3. The tank should be made of solid stainless steel (316).
4. The ultrasonic cleaner should have a display and control which could be easily seen and placed above any liquid for safety and reliability.
5. It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
6. Capacity should be 40 L
7. Should work on 230V, 50 Hz AC Supply.
8. Ultrasonic cleaner should be **European CE /US FDA** certified.
9. Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid

10. Manual Trolley Washer

1. Trolley washer should be wall mounted spray gun unit with holder for detergent.
2. Should have connection to hot water with ½” tubing or reinforced rubber hose.
3. Should work on normal water pressure
4. Cleaning agent should be automatically injected into the water flow.

11. Inspection Lamp with Magnifier

1. Should have two spring balanced arms with parallel movement of at least 150 degree in horizontal plane.
2. Magnifying lens should be of fixed 7 diopter bi-convex.
3. Lens diameter should be approximately 12.5 cm

12. Vacuum Cleaner

1. Should be upright vacuum cleaner
2. Should have vacuum and blowing functions
3. Should have 30 liter tank, rust-resistant
4. Should have 60 liters per second air flow, 17 kilopascals suction power
5. Should work on 230V, 50 Hz AC Supply.

13. Hand Dryer

1. Should be wall mount type
2. Should have infrared sensor for automatic detection of hands
3. Should have brushed 304 SS finish.
4. Motor should be at least 1/10 HP at 7500 RPM
5. Dryer should deliver the flow of 7300 LFM.
6. Should work on 230V, 50 Hz power supply
7. Should supply with all accessories such as clamps for mounting

14. Documentation Labeller

The labeller should be 3–line for printing the following information

kk) Person responsible for sterilization

ll) Load number

mm) Packaging content

nn) Sterilizer number

oo) Production date

pp) Expiry date

Should have 24 rolls of 750 3-line labels with double adhesives (Steam and ETO) indicator

15. Gauze Cutting Machine

1. Should be useful in cutting thickest of cotton gauze material
2. Should consist of a cutting unit and a knife sharpening unit
3. Blade size should be 200 mm.
4. Cutting Capacity should be 165 mm.
5. Should work on 230V, 50 Hz power supply.

16. Drying Cabinet

1. Should be automatic in operation
2. Inner chamber should be made up of stainless steel and outer chamber should be of epoxy painted CRCA sheets
3. Should have heaters of minimum 2 KW
4. There should be provision for setting the drying temperature and drying time.
5. Approximate Dimension: 600X600X 600 mm

II.CSSD FURNITURE ITEMS:

211. Wash Stations with 2 sinks for dirty area

1. Size Approx. (LxWxH) : 2000x750x850 mm
2. The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
3. Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear
4. The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
5. The worktop should slope to the sink, and reinforced by a full-length support frame.
6. The support frame should be a complete assembly with the front, back and ends welded together at the corners.
7. The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
8. The floor stand should be made of polished stainless steel.
9. The table should be available with double sink units preferably at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top
10. Corners should be curved to a 65 mm radius for easy cleaning.
11. The bottom should slope to the drain.
12. Sink units should be of sizes that allow processing of the large modular instrument trays
13. Sink units should have 650 mm wide and 900 mm high (adjustable ± 25 mm).
14. The legs should be able to provide strong support and hold to the entire unit securely.
15. The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.

16. Should be delivered ready for assembly.

212. Work Table for Wet Goods for dirty area

1. Size Approx. (LxWxH) : 1800x650x900 mm
2. Stainless steel tables specially designed for inspection and sorting of wet goods in heavy-duty areas and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. It should be delivered ready for assembly.
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

213. Work Table for dry Goods for clean area

(Pass Box Receiving)

1. Size approx. (LxWxH):1800x650x900 mm

2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

214. Work Table for dry Goods for sterile area

1. Size (LxWxH) :1800x650x900 mm
2. Stainless steel tables specially designed for working with dry goods and for general purpose pre-storage.
3. The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.

4. The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
5. The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
6. They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
7. The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
8. The worktop and support frame are bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
9. The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10 cm (\pm 25 mm) plastic foot, easy to clean, is mounted on each leg.
10. The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
11. Must be delivered ready for assembly
12. All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
13. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

215. Control & Packing Table with two Shelves for clean area

1. Size (LxWxH) : 2000x1500x900 mm
2. This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft beige colour that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
4. The rigid frame is made of stainless steel (304).
5. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

6. Should have double workspace. One workplace table should have 700 mm wide worktop and other workplace should have 1400 mm worktop.
7. The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
8. There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
9. The table should have a drawer unit (both sides as double model) mounted under the worktop.
10. Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.
11. Fluorescent tube fittings (Inspection lamp) should be available. (Optional)

216. Linen Fold Table for clean area

1. Size (LxWxH) : 2000x1400x900 mm
2. The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
3. The worktop should be made of a robust wood-based core material, surfaced with plastic laminate in a soft white colour that enhances the lighting for inspection of linen.
4. All edges of the worktop should be smooth.
5. The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
6. The table should have two electrical outlets (one on each side).
7. The rigid frame should be made of stainless steel (304).
8. There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

217. Wire Storage shelf module for dirty/disinfection area

1. Size (LxWxH) : 1500x450x1900 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.

4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

218. Wire Storage shelf module for Clean supply area

1. Size (LxWxH) : 1525x455x1895 mm
2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

219. Wire Storage shelf module for Sterile store

1. Size (LxWxH) : 1525x455x1895 mm

2. Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
3. Moreover, two single modules can be placed back to back and combined as a double module unit.
4. If two units are to be connected, 10 S-hooks should be supplied.
5. The wire construction should allow good air circulation while permitting easy inspection of the goods.
6. The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
7. The shelf unit should be easy to assemble on site and all parts should fit precisely.
8. Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
9. Each unit should include 5 shelves.
10. The shelf unit should have optional Ø 125 mm castors for using as a mobile storage unit by replacing the foot with castors.

220. Free Standing basket rack (15 Baskets) for Sterile store

1. Size (LxWxH) : 1850x480x2150 mm(Single), 1850x800x2150 mm(Double)
2. Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
3. The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
4. Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.
5. The guide-rails should be welded to a robust support column mounted on a rigid floor stand.
6. The columns should be joined by support frames on top and below the base of the rack.
7. To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
8. Each leg should have an adjustable foot (± 25 mm).
9. The rack should be made of SS.
10. The single rack should be a free-standing section that holds 5 baskets in each vertical.

221. Pass Box

1. Area : Dirty to Clean supply, ETO to Sterile supply & Sterile Issue

2. Size : 600x600x600mm, internal
3. Should be made up of SS 304 sheets with double wall construction
4. Should have UV lights for safe storage of components
5. UV light should automatically switch off when any one door is opened
6. Pass-through chamber should be based on electrical sliding hatches and should fit all types of standard racks.
7. The chamber should consist of two electrically operated sliding hatches.
8. Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.
9. The control should feature two modes of operation to open or close the hatch with a press button mechanism.
10. Should have door interlocking to prevent simultaneous opening of both the doors
11. Should have toughened glass paneling for easy visibility.

222. Stainless Steel Paneling for Sterilizer & Washer Disinfector

1. Size : To be measured at site as per actual conditions
2. All the sterilizers and washer disinfector should be recessed between the S.S. 304 quality panels.
3. The S.S. sheets should have 18 gauge thicknesses with superior finish to match it with equipment finish.
4. The sheets should be mounted on painted M.S. frame structure with adequate supports.
5. The panels should have the doors for service access from loading side
6. There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.

223. Closed Transport Trolley from Sterile Store to OT

1. Size : 1400x750x1260 mm(LxWxH) (External)
2. A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
3. Trolley should be fitted with large stainless steel wheels (Ø 160 mm) for easier maneuverability.
4. Should have two fixed and two swivel wheels with brakes.

5. Should be of fully welded stainless steel construction (minimum 18 gauges, 304).
6. The doors should open 270° for easy access and cleaning.
7. Trolley should have lockable doors and should include handlebars.

224. Linen Distribution & Storage Trolley

1. Size : 1020x740x1750 mm
2. Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
3. The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
4. These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
5. A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
6. A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
7. The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
8. The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
9. The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

225. Table Trolley for Dirty/Clean/Sterile Area

1. Size : 1080x550x800 mm
2. The table trolley is made of all-welded medical grade stainless steel tubing.
3. The trolley should have handlebars.
4. The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
5. The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
6. The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

226. Instrument Tray Big

1. Area : Various movement
2. Size : 450x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.
7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

227. Instrument Tray Small

1. Area : Various movement
2. Size : 340x250x70 mm
3. It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be stackable.

7. The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
8. All cross-points in the network and vertical wires to top and bottom frames should be point welded.
9. All free wire ends should be soft-polished to prevent injury when handled.
10. The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
11. It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

228. Modular Sterilizing baskets Big

1. Size : 585x395x195 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

229. Modular Sterilizing baskets Medium

1. Size : 585x395x100 mm
2. Area : Various movement
3. It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.
4. It should be self-drying after disinfection in hot water (min.+85°C)
5. It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
6. It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)
7. The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
8. There should be no sharp edges or wires.
9. The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
10. The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
11. It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

230. Staff Chair

1. Should be medium Back chair
2. Should rest on high quality 50mm castors on4 legs with cross reinforcement for sides with arm rest and foot stumps of PVC
3. Should have seamlessly upholstered seat and backrest, washable antimicrobial with poly foam cushion.
4. Colour of base should be black.
5. Should be height adjustable, broad, padded .
6. Should have upholstered arm rests and comfortable back rest.

231. Lab Stool without backrest.(SS)

1. Should have stainless Steel top
2. Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws
3. Should have four legged base made of 25mm steel tube mounted on rubber shoes.
4. Should have Stainless steel ring for footrest.

5. Should be pre-treated Epoxy powder coated frame work.

232. Storage Cupboard

1. Should have size 500 mmL x 450 mmH x 400 mm depth.
2. Material should be high quality, cold rolled, close annealed (CRCA) steel.
3. Should be provided with lockable doors

233. Waste Bin Pedal Operated-SS

1. Should be made up of high quality stainless steel.
2. Should have minimum capacity of 5 liters.
3. The covering lid should be open able by pressing the plate attached to the bottom.

234. Change Locker -4 Compartments

1. Change locker should have 4 compartments.
2. Should have 2 lockers at bottom and 2 at top.
3. Size of each compartment should be 20cmW x 80cmH x 45 cmD.
4. Should be of MS
5. Should be pretreated and epoxy powder coated.

235. Visitors Chair

1. Visitors chair should be ergonomically designed, sturdy and of good quality.
2. Should have comfortable seating and low back support.
3. Should have padded seats with anti-microbial upholstery of leather finish.
4. Should be with arm rests and fixed height.
5. Should have frame of MS tubing, multiple pretreated and finished with epoxy powder coating.

236. Open Storage Rack

1. Open racks should be made of stainless steel
2. Should be highly durable, and should have narrow holes for allowing ventilation.
3. Should be water resistant, disinfectant resistant and rust proof.
4. Should be provided with lockable castors
5. Approx. Dimensions: 180cm (H)x45 cm (W) x150cm(L)

237. OFFICE TABLE

1. Should be wooden executive office table.
2. Should be high quality, aesthetic and ergonomic design.

3. Top should be made of pre laminated, of high density pressed wood, properly treated.
4. Should be flame and water retardant. Lipped on all sides
5. Should have an option for placing keyboard of computer
6. Should have one shelf on left side
7. Size should be (approx):1200 mm(L)X800 mm(W)x750 mm(H)

238. Shoe Rack

1. Shoe rack to keep 12 pair of shoes.
2. Should be made up of MS powder coated rack with 4 tiers.
3. Should have length, breadth and depth to keeps shoes of all standard sizes.

239. Closed Sterilization Containers.

1. Sizes should be - 300x290x110 units
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

240. Closed Sterilization Containers.

1. Sizes should be - 300x290x140 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

241. Closed Sterilization Containers.

1. Sizes should be - 590x280x260 units.
2. Should have thermo lock drainage, steam penetration valve and stainless steel top.

242. Issue/Receive Counter

1. Construction: Counter Top should be made of granite top
2. Should be aesthetically good
3. Should provision for placing CPU,UPS, Mouse, Keyboard etc

243. Paper Dispensing Trolley

1. Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets should be made of stainless steel tube.
2. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

244. Basket Trolley

1. Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket.
2. Should be mounted on a 4 swivel castors of 75mm dia.
3. Should be made up of stainless steel.
4. Should be provided with handle for easy transport.
5. Load capacity approx. 150 Kg.
6. Dimension should be (approx.): 750mm(L)X500 mm(W)x150 mm(H)

245. Computer

1. Processor should be Intel core i3 (the latest available in the market)
2. Should have 4 GB RAM
3. Should have 400 GB hard disk
4. Should have DVD writer
5. Should have built in LAN
6. Should have at least 2 high speed USB outlets
7. Should have 17” LCD Monitor
8. Should have Mouse, Keyboard etc
9. Should have suitable UPS.

Training - Training to be provided at site to five persons from each institute for 2weeks

GENERAL TECHNICAL SPECIFICATIONS

GENERAL POINTS:

1. Warranty:

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

2. After Sales Service:

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

3. Training:

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

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

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

Turnkey:

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

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

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

Section – VIII

Quality Control Requirements

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

Tender Reference No.

Date of opening

Time

Name and address of the Tenderer:

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

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

- 02 Plant and machinery details
- 03 Manufacturing process details
- 04 Monthly (single shift) production capacity of goods quoted for
 - a. normal
 - b. maximum

- 05 Total annual turn-over (value in Rupees)
- 06 Quality control arrangement details
 - a. for incoming materials and bought-out components
 - b. for process control
 - c. for final product evaluation
- 07 Test certificate held
 - a. . type test
 - b. . BIS/ISO certification
 - c. . any other
- 08 Details of staff
 - a. technical
 - b. skilled
 - c. unskilled

Signature and seal of the Tenderer

Section – IX

Qualification Criteria

01. **Status:** The Bidder should be a Manufacturer or its authorized Agent.
02. **Turnover:** Eligible Bidders should have an average annual turnover in the consecutive past three financial years (2010-11, 2011-12, 2012-13) as mentioned in **Eligibility Table**. The turnover requirement is, calculated considering estimated cost and delivery/completion period. Bidder has to meet turnover requirement depending upon no of schedules/subschedule for which bid is submitted. Turnover criteria has to be met on cumulative basis if bid is submitted for multiple schedules/subschedules.
03. **Minimum Work of Similar Nature: Eligible** bidders should have successfully executed globally in last five years from the date of tender opening, similar turnkey project of the same manufacturer product of value, equivalent to exceeding 50% of the estimated tender value. Out of total 50 % value, at least one single similar work of minimum 25% value should have been executed in India. The details of requirement of MWSN (minimum work of similar nature) for different schedules, multiple schedules are mentioned in **Eligibility Table**. The value of the executed works shall be brought to the current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to last date of receipt of applications for tenders.
- Example/Clarification :** Similar Project means for CSSD means CSSD meeting major technical parameters of the current BOQ floated in the tender enquiry document.
04. **Solvency Certificate:** Eligible bidders should submit a solvency certificate of not less than 30% of the estimated value of work from a Nationalized / Scheduled bank. If the bid is submitted for multiple schedules/subschedules, the bidder has to meet as per the details given in **Eligibility Table**.
05. **Financial Status:** Eligible Bidders should not have incurred any loss in more than 2 years during the last five years ending 31st March 2013. Audited Profit & Loss account and Balance Sheet (duly notarized copies) for the immediate last five consecutive financial years should be submitted along with the bid
06. **Manufacturer Authorization:** Eligible bidders should submit a mandatory letter of authority from the Foreign Principal / Manufacturer, mentioning country of origin with name of manufacturing company for major products quoted by them.
07. **Bid for Complete Schedule/Part Schedule:** Bidder cannot choose to submit bid for part schedule/part sub schedule. If the bid is submitted for part schedule/sub schedule, the same will be termed as non- responsive. A bidder intending to get qualified and be considered for award of work for more than one schedule, will be required to meet the above qualification criteria on cumulative basis related to experience as well as financials, for such number of schedules.

Eligibility Table

For CSSD:-

S c h e d u l e	Qty Per AIIM S	Estim ated Cost Rs. Cr.	EMD Rs. Cr.	Turnover (Rs. Cr)		Minimum work of similar nature		50% of the similar project in last five years of the same manufacturer		Solvency of atleast 30% of the estimated tender value Rs. Cr	
				Averag e Annual Turnov er Rs. Cr	Cumulativ e Average Annual Turnover Rs. Cr.	Single order value of the same manufa cturer of last five years Rs. Cr	Single order value of the same manufactu rer cumulative of last five years Rs. Cr	Similar project in last five years	Similar Project of last five years cumulativ e	Solvency of atleast3 0% of the estimate d tender value Rs. Cr	Solvency of atleast 30% of the estimated tender value Rs. Cr
1	1	9	0.18	9.00	9.00	2.25	2.25	4.5	4.5	2.7	2.7
2	1	9	0.18	9.00	18.00	2.25	4.50	4.5	9.0	2.7	5.4
3	1	9	0.18	9.00	27.00	2.25	6.75	4.5	13.5	2.7	8.1
4	1	9	0.18	9.00	36.00	2.25	9.00	4.5	18	2.7	10.8
5	1	9	0.18	9.00	45.00	2.25	11.25	4.5	22.5	2.7	13.5
6	1	9	0.18	9.00	54.00	2.25	13.50	4.5	27	2.7	16.2

Note: The bidders have to quote for all the schedules while quoting. Say if the bidder is quoting for MOT the bidders have to quote for all six schedules. The purchaser will have the right to award the work to any site as per the eligibility and to the best benefit of the exchequer. however in case a Bidder intending to get qualified in more than one schedule they should submit EMD accordingly. The bidder must quote for all six schedules mandatorily, otherwise his bids will be summarily rejected. The purchaser reserve the right to go for reverse auction for finalizing price. Once reverse auction mode is adopted then subsequent to reverse auction , manual price bids of the techno-commercially responsive bidders will be opened and the L1 price among the two i.e. either through manual mode or e-mode favouring the best benefit to the purchaser will prevail.

Notes:

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

The bidder shall furnish Satisfactory Performance Certificate in respect of above, duly translated in English and duly endorsed by country embassy with counter endorsement of Indian embassy in the country of origin, alongwith the tender .

4. The bidder shall furnish a brief write-up, along with adequate data explaining and establishing his available capacity/capability (both technical and financial) to perform the Contract (if awarded) within the stipulated time period, after meeting all its current/present commitments. The Tenderer shall also furnish details of Equipment and Quality Control in the enclosed Section VIII.
5. Notwithstanding anything stated above, the Purchaser reserves the right to assess the Tenderer's capability and capacity to perform the contract satisfactorily before deciding on award of Contract, should circumstances warrant such an assessment in the overall interest of the Purchaser.
6. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre-determined place acceptable to the purchaser for technical acceptability as per the tender specifications, before the opening of the Price Tender.

PROFORMA 'A'
PROFORMA FOR PERFORMANCE STATEMENT

(For the period of last five years)

Tender Reference No. : _____

Date of opening : _____

Time : _____

Name and address of the Tenderer : _____

Name and address of the manufacturer : _____

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

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

Signature and seal of the Tenderer

**** The documentary proof will be a certificate from the consignee/end user with cross-reference of order no. and date in the certificate along with a notarized certification authenticating the correctness of the information furnished.**

**** The bidders are requested to submit the latest purchase order copies supplied to AIIMS, PGIMER, JIPMER, Institute of National importance for the specific model quoted along with the price bid.**

Section – X
TENDER FORM

Date _____

To

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

Ref. Your TE document No. _____ dated _____

We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. _____, dated _____ (*if any*), the receipt of which is hereby confirmed. We now offer to supply and deliver _____ (*Description of goods and services*) in conformity with your above referred document **for the sum as shown in the price schedules attached herewith and made part of this tender**. If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery schedule specified in the List of Requirements.

We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – “Special Conditions of Contract”, for due performance of the contract.

We agree to keep our tender valid for acceptance as required in the GIT clause 20, read with modification, if any in Section - III – “Special Instructions to Tenderers” or for subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal contract is executed, this tender read with your written acceptance thereof within the aforesaid period shall constitute a binding contract between us.

We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.

We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities.

We confirm that we fully agree to the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum if any

(Signature with date)

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

SECTION – XI PRICE SCHEDULE

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

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

Total Tender price in Rupees: _____

In words: _____

Note: -

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

Name _____

Business Address _____

Place: _____

Signature of Tenderer _____

Date: _____

Seal of the Tenderer _____

B) PRICE SCHEDULE FOR GOODS TO BE IMPORTED FROM ABROAD

1 Schedule	2 Brief Description of Goods	3 Country of Origin	4 Quantity (Nos.)	5 Price per unit (Currency)							6 Total price on CIP Named Port of Destination 4X 5 (e)	
				FOB price at port/ airport of Lading	Indian Agency Commission (% of FOB)**	Net FOB	Freight & Insurance (port of loading to port of entry) and other Incidental costs	Unit Price on CIP named port of Destination	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site**	Extended Insurance (local transportation and storage) from port of entry to the consignee site for a period including 3 months beyond date of delivery**	In foreign currency	In Indian Rupees

** To be paid in Indian Currency (Rs.)

(A) Total Tender price in foreign currency: _____

In words: _____

(B) Total Tender price in Indian Rupees: _____

In words: _____

Note: -

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warranty shall be quoted separately as per Section – XI – Price Schedule C
3. The Tenderer will be fully responsible for the safe arrival of the goods at the named port of entry in good condition as per terms of CIP as per INCOTERMS, if applicable
4. Custom duty @ 11.64% and 2% C& F charges will be added to the CIP price to arrive at the DDP price for evaluation purpose.

Indian Agent:

Indian Agency Commission - ___% of FOB

Signature of Tenderer _____

Place: _____

Date: _____

Name _____
 Business Address _____
 Signature of Tenderer _____
 Seal of the Tenderer _____

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

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

1	2	3	4					5	6
Schedule No.	BRIEF DESCRIPTION OF GOODS	QUANTITY. (Nos.)	Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.					Total Annual Comprehensive Maintenance Contract Cost for Each Unit for 5 years (4a+4b+4c+4d+4e)	Annual Comprehensive Maintenance Contract Cost for 05 years (3 x 5)
			1 st	2 nd	3 rd	4 th	5 th		
			a	b	c	d	e		

* After completion of Warranty period

NOTE:-

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

Place: _____

Date: _____

Name _____
Business Address _____
Signature of Tenderer _____
Seal of the Tenderer _____

D) PRICE SCHEDULE FOR TURNKEY

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

Note: -

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

Name _____

Business Address _____

Signature of Tenderer _____

Seal of the Tenderer _____

Place: _____

Date: _____

**SECTION – XII
QUESTIONNAIRE**

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

1. The tenderer should furnish specific answers to all the questions/issues mentioned in the Checklist. In case a question/issue does not apply to a tenderer, the same should be answered with the remark “not applicable”.
2. Wherever necessary and applicable, the tenderer shall enclose certified copy as documentary proof/ evidence to substantiate the corresponding statement.
3. In case a tenderer furnishes a wrong or evasive answer against any of the question/issues mentioned in the Checklist, its tender will be liable to be ignored.

SECTION – XIII

BANK GUARANTEE FORM FOR EMD

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

- 1) If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-

fails or refuses to furnish the performance security for the due performance of the contract or
fails or refuses to accept/execute the contract or
if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

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

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

.....
(Signature with date of the authorised officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch

To be enclosed with Techno-Commercial Bid

ANNEXURE-A

BIDDER PARTICULARS

Bidder Serial Number Allotted on Tender Document:_____

1. Name of the Bidder :
2. Address of the Bidder :
3. Name of the Manufacturer (s) :
4. Address(es) of the Manufacturer :
5. Name and address of the person: To whom all references shall be Made regarding this tender inquiry.

Telephone:

Telex : Fax

:

E-mail address :

Witness:

Signature

Name Address

Designation

Company Date

Company Seal

To be enclosed with Techno-Commercial Bid

ANNEXURE-B

UNDERTAKING

To,

.....
.....
.....

Sir,

Having examined the Bidding Documents of Tender No. _____
undersigned offer to supply, install, commission, operate maintain
and we undertake, if our bid is accepted, to complete delivery of
all the items specified in the contract within _____ weeks calculated from the date of
receipt of your Notification of Award and to complete the installation, testing commissioning _____

Signature and Seal

(In the capacity of)

Only Authorized to sign bid for and on behalf of

To be enclosed with Techno-Commercial Bid

ANNEXURE-C

BIDDER PROFILE

A. General Information:

(i) Location of Corporate Headquarters
: (ii) Date and Country of Incorporation
: (iii) Manufacturing Facility (S)
Location Size Capacity
(iv) No. of Service Facility(S) in India
Location
Strength
Area Covered
(v) Average yearly turnover for last three
years: (vi) Geographical Distribution of the
Supplier : No. of Offices
Locations
Staff strength
(vii) Total No. of installations of the system
offered. (viii) No. of Employees
Total No. Manufacturing R&D (If any)
Hardware Maintenance
Software

B. Reference of Major installation with similar products (attach documents in support, if available)
_____ S. No. Customer Name, Address Product Description

Telephone
Fax Number
(No. of Machines installation year wise).

Date.....

Signature and seal of bidder

SECTION – XIV

MANUFACTURER’S AUTHORISATION FORM

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

Dear Sir,

Ref: Your TE document No _____ dated _____

We, _____ who are proven and reputable manufacturers of _____ (*name and description of the goods offered in the tender*) having factories at _____, hereby authorise Messrs _____ (*name and address of the agent*) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

We also state that we are not participating directly in this tender for the following reason(s):
_____ (*please provide reason here*).

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

We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

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

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

Yours faithfully,

[*Signature with date, name and designation*]

for and on behalf of Messrs _____

[*Name & address of the manufacturers*]

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

2. *Original Letter may be sent. Photocopy not acceptable.*

SECTION – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

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

WHEREAS _____ (Name and address of the supplier) (Hereinafter called “the supplier”) has undertaken, in pursuance of contract no _____ dated _____ to supply (description of goods and services) (herein after called “the contract”).

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

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

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

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

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

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

.....
(Signature with date of the authorised officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch

To be enclosed with Techno-Commercial

ANNEXURE

PROFORMA OF GUARANTEE FOR SUPPLY OF SPARES DURING POST WARRANTY PERIOD

To,

.....
.....
.....

Sub: Tender No.....

Dear Sir,

In consideration of the (hereinafter referred to as "Purchaser" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assignees) having awarded to M/s..... with its Registered/Head office at (hereinafter referred to as the "Supplier" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assignees), a contract by issue of the Purchaser's letter of Award no..... dated entering into a formal contract to that effect with the Purchaser on vide agreement dated..... (hereinafter referred to as the contract).

We the supplier hereby give a guarantee for the supply of all necessary spares demanded for the routine and emergency maintenance of being supplied by us to for a period of not less than 5 years after the warranty period of 5 years and life time spares thereafter in case asked for by the purchaser.

We further clarify that for the first 5 years i.e. warranty period of 5 years, we are covered by the warranty clause as mentioned. For the remaining period of 5 Years and thereafter for the life time, a detailed list of spares will be supplied to the purchaser for the purpose of enabling him to decide spares needed for routine and emergency maintenance.

Dated..... day of.....20.....

Witness : (Name of manufacturers):

Signature and Seal:

(Signature) Name:

For & on behalf of M/s....

SECTION – XVI

CONTRACT FORM - A

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

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

Contract No _____ dated _____

This is in continuation to this office's Notification of Award No _____ dated _____

1. Name & address of the Supplier: _____
2. Purchaser's TE document No _____ dated _____ and subsequent Amendment No _____, dated _____ (if any), issued by the purchaser
3. Supplier's Tender No _____ dated _____ and subsequent communication(s) No _____ dated _____ (if any), exchanged between the supplier and the purchaser in connection with this tender.
4. In addition to this Contract Form, the following documents etc, which are included in the documents mentioned under paragraphs 2 and 3 above, shall also be deemed to form and be read and construed as integral part of this contract:

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

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

5. Some terms, conditions, stipulations etc. out of the above-referred documents are reproduced below for ready reference:

- (i) Brief particulars of the goods and services which shall be supplied/ provided by the supplier are as under:

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

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

- Total value (in figure) _____ (In words) _____
- (ii) Delivery schedule
 - (iii) Details of Performance Security
 - (iv) Quality Control
 - (a) Mode(s), stage(s) and place(s) of conducting inspections and tests.
 - (b) Designation and address of purchaser's inspecting officer
 - (v) Destination and despatch instructions
 - (vi) Consignee, including port consignee, if any

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

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

Received and accepted this contract

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

For and on behalf of _____

(Name and address of the supplier)

(Seal of the supplier)

Date: _____

Place: _____

CONTRACT FORM – B**CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT**

Annual CM Contract No. _____ dated _____
Between _____

(Address of Head of Hospital (AIIMS))
And _____

(Name & Address of the Supplier)

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

In continuation to the above referred contract

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

1	2	3	4					5	6
Schedule No.	BRIEF DESCRIPTION OF GOODS	QUANTITY. (Nos.)	Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.					Total annual comprehensive maintenance contract for 5 years for each unit for 5 years	Total Annual Comprehensive Maintenance Contract Cost for 5 Years [3 x (4a+4b+4c+4d+4e)]
			1 st	2 nd	3 ^r _d	4 th	5 th		
			a	b	c	d	e		
								4a+4b+4c+4d+4e	(3*5(4a+4b+4c+4d+4e))

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

- b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from _____ (date of expiry of Warranty) and will expire on _____ (date of expiry of CMC)
- c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years as contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts, _____ & _____) and Turnkey (if any).
- d) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.
- e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
- f) All software updates should be provided free of cost during CMC.
- g) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. _____ [(fill amount) equivalent to 2.5 % of the

cost of the equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of 21 (twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Purchaser/Consignee.

- h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.
- i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HOD concerned. The payment will be made in Indian Rupees.
- j) **Paying authority:** _____ (name of the consignee i.e. Hospital (AIIMS) authorised official)

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

Received and accepted this contract

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

For and on behalf of _____

(Name and address of the supplier)

(Seal of the supplier)

Date: _____

Place: _____

SECTION – XVII
CONSIGNEE RECEIPT CERTIFICATE
(To be given by consignee’s authorized representative)

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

- 1) Contract No. & date : _____
- 2) Supplier’s Name : _____
- 3) Consignee’s Name & Address with
telephone No. & Fax No. : _____
- 4) Name of the item supplied : _____
- 5) Quantity Supplied : _____
- 6) Date of Receipt by the Consignee : _____
- 7) Name and designation of Authorized
Representative of Consignee : _____
- 8) Signature of Authorized
Representative of Consignee with
date : _____
- 9) Seal of the Consignee : _____

SECTION – XVIII
Proforma of Final Acceptance Certificate by the Consignee

No _____

Date _____

To

M/s _____

Subject: Certificate of commissioning of equipment/plant.

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

- (a) Contract No _____ dated _____
- (b) Description of the equipment(s)/plants: _____
- (c) Equipment(s)/ plant(s) nos.: _____
- (d) Quantity: _____
- (e) Bill of Loading/Air Way Bill/Railway Receipt/ Goods Consignment Note no _____ dated _____
- (f) Name of the vessel/Transporters: _____
- (g) Name of the Consignee: _____
- (h) Date of commissioning and proving test: _____

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

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

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

The supplier has fulfilled its contractual obligations satisfactorily ## or

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

- a) He has not adhered to the time schedule specified in the contract in dispatching the documents/ drawings pursuant to ‘Technical Specifications’.
- b) He has not supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the

period specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).

- c) The supplier as specified in the contract has not done training of personnel.

The extent of delay for each of the activities to be performed by the supplier in terms of the contract is

The amount of recovery on account of non-supply of accessories and spares is given under Para no.02.

The amount of recovery on account of failure of the supplier to meet his contractual obligations is _____ (here indicate the amount).

(Signature)

(Name)

(Designation with stamp)

Explanatory notes for filling up the certificate:

- i) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.
- ii) He has supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the time specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
- iii) Training of personnel has been done by the supplier as specified in the contract.
- iv) In the event of documents/drawings having not been supplied or installation and commissioning of the equipment(s)/plant(s) having been delayed on account of the supplier, the extent of delay should always be mentioned in clear terms.

**SECTION – XIX
ANNEXURES**

Annexure 1

**DETAILS OF SHIPPING ARRANGEMENT FOR LINER CARGOES IN RESPECT OF
C & F/CIF/TURNKEY/F.O.R CONTRACTS FOR IMPORTS**

- 1. (a) SHIPMENT FROM PORTS OF U.K INCLUDING NORTHERN IRELAND (ALSO EIRE), FROM THE NORTH CONTINENT OF EUROPE (GERMANY, HOLLAND, BELGIUM, FRANCE, NORWAY, SWEDEN, DENMARK, FINLAND AND PORTS ON THE CONTINENTAL SEABOARD OF MEDITERRANIAN (I.E. FRENCH WESTERN ITALIAN PORTS), TO PORTS IN INDIA.**

The Seller should arrange shipment of the goods by vessels belonging to the member lines of the India-Pakistan-Bangladesh Conference. If the Seller finds that the space on the 'Conference Lines' vessels is not available for any specific shipment, he should take up with India-Pakistan-Bangladesh Conference. Conferity House, East Grinstead, Sussex (UK), for providing shipping space and also inform the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

The Seller should arrange shipment through the Government of India's Forwarding Agents, M/s Schenker & Co., 2000-Hamburg (Cable: SCHENKER CO., HAMBURG) OR obtain a certificate from them to the effect that shipment has been arranged in accordance with instructions of the Ministry of Surface Transport, (TRANSCART), New Delhi.

(b) SHIPMENT FORM PORTS OF U.K. INCLUDING NORTHERN

Goods under this contract would be shipped by the national shipping companies of the Contracting Parties operating bilateral shipping service and vessels under the flag of third countries in accordance with the Agreement between the Government of German Democratic Republic and the Government of the Republic of India in the Field of Merchant Shipping signed on 9.1.1979, as amended up-to-date.

(c) ISHIPMENT FROM ADRIATIC PORTS OF EASTERN ITALY AND YUGOSLAVIA

The seller should arrange shipment of the goods by vessels belonging to the following Indian member lines;

1. The Shipping Purchaser of India Ltd.
2. The Scindia Steam Navigation Co., Ltd
3. India Steamship Co., Ltd

For the purpose of ascertaining the availability of suitable Indian vessels and granting dispensation in the event of their non-availability, the Seller should give adequate notice about the readiness of each consignment from time to time at least six weeks in advance of the required position to M/s Schenker & Co. 2000 HAMBURG (Cable: SCHENKER CO., HAMBURG) and also endorse a copy thereof to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

The seller should arrange shipment through the Government of India's Forwarding Agents M/s Schenker & Co. 2000 HAMBURG (Cable: SCHENKER CO., HAMBURG) or obtain certificate from them to the effect that shipment has been arranged in accordance with the instructions of the Ministry of Surface Transport, (TRANSCHART), New Delhi.

(d) SHIPMENT FROM POLAND & CZECHOSLOVAKIA

(i) IMPORTS FROM POLAND

Shipment under this contract would be made by the National flag lines of the two parties and vessels of the third flag conference lines, in accordance with the agreement between the Govt. of the Republic of India and the Govt. of the Polish People's Republic regarding Shipping Co-operation dated 27.6.1960 as amended up-to-date.

(ii) IMPORTS FROM CZECHOSLOVAKIA

Goods under this contract would be signed by the National flag lines of the two parties and vessels of the third flag conference lines, in accordance with the Agreement Co-operation in shipping between India and Czechoslovakia signed on 3.11.1978 and ratified on 19.12.1979, as amended up-to-date.

Shipping arrangement should be made by the Sellers in consultation with Resident Representative of the Indian Shipping Lines in Gdynia, Co., Morska Agencja W. Gdyniul, Pulaskiego 8, P.O. Box 246, Gdynia (Poland) – Telex : MG PL. 054301, Tel.: 207621, to whom details regarding contract number, nature of cargo , quantity, port of lading, discharging, name of Government consignee, expected date of readiness of each consignment etc. should be furnish at least six weeks in advance of the required position, with a copy thereof endorsed to the Shipping Co-ordination Officer, Ministry of Surface Transport, (Chartering Wing), New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(e) SHIPMENT FROM U.S.S.R

Shipment under this contract should be made in accordance with the agreement between the Government of the Republic of India and the Government of U.S.S.R on Merchant Shipping 1976, as amended up-to-date, by vessels of Indo-Soviet shipping Service.

(f) SHIPMENT FROM JAPAN

The shipment of goods should be made of India vessels to the maximum extent possible subject to the minimum of 50%.

The Seller should arrange shipment of the goods in consultation with the Embassy of India in Japan, Tokyo to whom details regarding contract number, nature of cargo, quantity, port of loading/discharge, name of Govt. consignee, expected date of readiness of each consignment etc. should be furnished at least six weeks in advance of the required position.

Note: The copies of such contracts are to be endorsed both to the Attached (commercial) embassy of India in Japan, Tokyo, and the shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi.

(g) SHIPMENT FROM AUSTRALIA, ALGERIA, BULGARIA, ROMANIA, EGYPT

The Seller shall arrange shipment of the goods by Indian flag vessels to the maximum extent possible subject to a minimum of 50 %. For the purpose of ascertaining the availability of suitable Indian vessels, the seller shall give adequate notice of not less than six weeks about the readiness of each consignment to the Shipping Purchaser of India Ltd., SHIPPING HOUSE, 245, Madame Cama Road, Bombay – 400 021 (CABLE: SHIPINDIA BOMBAY) and also endorse a copy thereof to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(h) SHIPMENT FROM PAKISTAN

The shipment of cargoes should be made by Indian vessels to the maximum extent possible subject to a minimum of 50 %.

Shipment arrangement should be made by the sellers in consultation with M/s Mogul Line Ltd., 16-Bank Street, Fort, Bombay – 400023 (Cable: MOGUL BOMBAY: Telex: 011 – 4049 MOGUL), to whom, details regarding contract number, nature of cargo, quantity, port of lading discharging, name of government consignee, expected date of readiness of each consignment etc. should be furnish at least six weeks in advance of the required position, with a copy thereof endorsed to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(i) SHIPMENT FROM U.S ATLANTIC & GULF PORTS

The Seller should arrange shipment of the goods by vessels belonging to the member lines of the India – Pakistan – Bangladesh – Ceylon and Burma Outward Freight Conference. If the Seller finds that the space of the ‘Conference Lines’ vessels is not available for any specific shipment he should take up with India – Pakistan- Bangladesh – Ceylon and Burma Outward Freight Conference, 19, Rector Street, New York, N.Y. 10006 USA, for providing shipping space and also inform the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(j) SHIPMENT FROM ST. LAWRENCE AN EASTERN CANADIAN PORTS

The Seller should arrange shipment of the goods by vessels belonging to the following shipping lines;

1. The shipping Purchaser of India Ltd.
2. The Scindia Steam Navigation Co., Ltd

If the Seller finds that the space in the vessels of these Lines is not available for any particular consignments, he should inform the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159) immediately so that dispensation from the shipping lines concerned to use alternative lifting may be sought.

(k) SHIPMENT FROM WEST COAST PORTS OF U.S.S CANADA AND OTHER AREAS NOT SPECIFICALLY MENTIONED ABOVE

The Seller should arrange shipment of the goods by Indian vessels to the maximum extent possible subject to a minimum of 50 %. For the purpose of ascertaining the availability of suitable Indian vessels and granting dispensation in the event of their non-availability, the Seller should furnish the details regarding contract number, nature of cargo, quantity, port of lading, discharging, name of government consignee, expected date of readiness of each consignment etc. to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159) at least six weeks in advance of the required position.

2. BILLS OF LADING

(i) C.I.F./C&F/TURNKEY SHIPMENTS

The Bills of lading should be drawn to indicate Shipper and 'Consignee' as under:

SHIPPER: The C.I.F (C&F)/TURNKEY SUPPLIERS concerned.

CONSIGNEE: As per consignee's particulars in the contract (The name and address of the 'Port Consignee' and 'Ultimate' both should be indicated).

(ii) F.O.R SHIPMENTS

The Bills of lading should be drawn to indicate shipper Consignee as under:

SHIPPER: The F.O.R suppliers Concerned

CONSIGNEE: Supplier's Indian Agent on order

Note:

1. Moreover the name of the 'Purchaser' and 'Ultimate' Consignee should appear in the body of the Bills of Lading as the 'Notify' or as a remark.
2. Two non-negotiable copies of the Bills of Lading indicating the freight amount and discount, if any allowed, should be forwarded to The Shipping Co-ordination Officer, Ministry of surface Transport (Chartering Wing), New Delhi after the shipment of each consignment is effected.
3. The seller should avoid the use of over-aged vessels for the shipment of the goods under the contract and if so used the cost of additional. Insurance, if any, shall be borne by the seller.

SECTION – XX
CHECKLIST
Name of Tenderer:
Name of Manufacturer:

SI No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
1. a.	Have you enclosed EMD of required amount for the quoted schedules?			
b.	In case EMD is furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	In case Bank Guarantee is furnished, have you kept its validity of 165 days from Techno Commercial Tender Opening date as per clause 19 of GIT?			
2. a.	Have you enclosed duly filled Tender Form as per format in Section X?			
b.	Have you enclosed Power of Attorney in favour of the signatory?			
3.	Are you a SSI unit, if yes have you enclosed certificate of registration issued by Directorate of Industries/NSIC			
4. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			
5. a.	Have you submitted satisfactory performance certificate as per the Proforma for performance statement in Sec. IX of TE document in respect of all orders?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
b.	Have you submitted copy of the order(s) and end user certificate?			
6.	Have you submitted manufacturer's authorization as per Section XIV?			
7.	Have you submitted prices of goods, turnkey (if any), CMC etc. in the Price Schedule as per Section XI?			
8.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
9. a.	In case of Indian Tenderer, have you furnished Income Tax Account No. as allotted by the Income Tax Department of Government of India?			
b.	In case of Foreign Tenderer, have you furnished Income Tax Account No. of your Indian Agent as allotted by the Income Tax Department of Government of India?			
10.	Have you intimated the name and full address of your Banker (s) along with your Account Number			
11.	Have you fully accepted payment terms as per TE document?			
12.	Have you fully accepted delivery period as per TE document?			
13.	Have you submitted the certificate of incorporation?			
14.	Have you accepted the warranty as per TE document?			
15.	Have you accepted terms and conditions of TE document?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
16.	Have you furnished documents establishing your eligibility & qualification criteria as per TE documents?			
17.	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening?			

N.B.

1. All pages of the Tender should be page numbered and indexed.
 2. The Tenderer may go through the checklist and ensure that all the documents/confirmations listed above are enclosed in the tender and no column is left blank. If any column is not applicable, it may be filled up as NA.
2. It is the responsibility of tendered to go through the TE document to ensure furnishing all required documents in addition to above, if any.

(Signature with date)

(Full name, designation & address of the person duly authorised sign on behalf of the Tenderer)

For and on behalf of

(Name, address and stamp of the tendering firm)

Section – XXI Consignee List

Consignee Code	Medical Institutions	Contact Address.	AirPort	Sea Port
Bhopal	All India Institute of Medical Science, Bhopal	The Director, All India Institute of Medical Science, Near Saket Nagar, Bhopal-462020	NEW DELHI	KOLKATA
Bhubaneswar	All India Institute of Medical Science, Bhubaneswar	The Director, All India Institute of Medical Science, AIIMS-Bhubaneshwar, Near Biju Patnaik Police Academy, Village-Sijua, Bhubaneshwar-751019, Orissa	KOLKATA	KOLKATA
Jodhpur	All India Institute of Medical Science, Jodhpur	The Director, All India Institute of Medical Science, Basani Ph-2, Jodhpur-342005, Jodhpur	NEW DELHI	KANDLA
Patna	All India Institute of Medical Science, Patna	The Director, All India Institute of Medical Science, AIIMS-Patna, Phulwari Sharif, Infront of DAV School, WALMI, Danapur, Patna-801105, Bihar	KOLKATA	KOLKATA
Raipur	All India Institute of Medical Science, Raipur	The Director, All India Institute of Medical Science, AIIMS-Raipur, Old TB Hospital, Tatibandh, Raipur-492001, Chattisgarh	KOLKATA	KOLKATA
Rishikesh	All India Institute of Medical Science, Rishikesh	The Director, All India Institute of Medical Science, AIIMS-Rishikesh, Barrage Road, Pashulok, Rishikesh-249203, Uttarakhand	NEW DELHI	KANDLA

NB: The consignee will ensure timely issue of NMIC, CDEC, Octroi Exemption Certificates, Road Permits & Entry Tax Exemption Certificates, wherever applicable, to the suppliers.