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DR. RAM MANOHAR LOHIA INSTITUTE OF MEDICAL SCIENCES
VIBHUTI KHAND , GOMTI NAGAR, LUCKNOW- 226 010
Phones: 0522-4918502, 4918510,Fax 0522-4918506 Website : www.drrmlims.ac.in

Ref. No. RMLIMS/MM(eq)/2019-20/ 5057 **Date:- 04.01.2020**

RE-TENDER/E-TENDER NOTICE

On line offers are invited through e-tender from Manufacturer/Direct Importers/Authorized distributors for the supply of various items. **The offers submitted earlier for the listed items by the bidders against tendered/Re-Tendered advertisement no. RMLIMS/MM(eq)/2019-20/ 4459/4648/4759 dated 30.11.2019/10.12.2019/17.12.2019 will be treated as cancelled. Therefore, those who have already submitted their offer against above advertisement are also required to submit again and they are required to deposit tender fee and EMD afresh and enclose its proof in technical bid as per tender terms & conditions, along with their complete offer. Earlier EMD deposited against the above mentioned cancelled tenders will be refunded to the bidder on their request.**

For detailed information like Name of Equipments, Date of submission, tender fee and opening of tender etc., you may please visit the e-tender portal www.etender.up.nic.in. The offer will be accepted on line only on e-tender portal with terms and conditions as mentioned in tender document. Any amendment will be uploaded only on the e-tender portal www.etender.up.nic.in. Details are also available in our website www.drrmlims.ac.in for reference only.

Director

Advertisement no. RMLIMS/MM(eq)/2019-20/5057 dated 04.01.2020

- Start date of Submitting of e-Tender is:- 06.01.2020
- Last date of Submission of e-Tender is:- 20.01.2020 upto 4:00 P.M.
- Date of opening of Technical bid is :- 21.01.2020 from 03:00 P.M. onwards

Equipment list

Sr. no.	Name of Department	Name of Equipment	Qty	Tender Fees including @18% GST	EMD Amount	Total estimated cost
1	Neurosurgery	ETO Machine **(3rd time offer)**	1	2360	50500	50,00,000.00
2	Biochemistry (Teaching)	Fully Automated Capillary Electrophoresis System **(3rd time offer)**	1	2360	30500	30,00,000.00
3	Biochemistry (Central Research Lab)	Liquid Chromatography Tandem - Mass Spectrometry (*LCMS/MS*) **(3rd time offer)**	1	2360	200500	2,00,00,000.00
4	PMR	Complete Audiometery Setup **(3rd time offer)**	1 set	2360	40500	40,00,000.00
5	Anaesthesiology	Fibreoptic Bronchoscope **(2nd time offer)**	1	2360	15500	15,00,000.00
6		Scrub Unit **(2nd time offer)**	2	2360	6500	6,00,000.00
7	Endocrine surgery	Thoracic surgery sternum saw **(2nd time offer)**	1	2360	2500	2,00,000.00
8	Urology	Harmonic Ultrasonic Energy Device **(2nd time offer)**	1	2360	15500	15,00,000.00
9		Laparoscopic Needle Holder **(2nd time offer)**	1	2360	15500	15,00,000.00
10		Laparoscopic lens 30° Up **(2nd time offer)**	1	2360	2500	2,00,000.00
11		Surgical Loupe **(2nd time offer)**	1	2360	3500	3,33,333.00
12	Surgical oncology	IOUS **(2nd time offer)**	1	2360	30500	30,00,000.00
13		OT Light/Camera/Video Recording with OT Integration of existing equipments **(2nd time offer)**	1	2360	30500	30,00,000.00
14		HIPEC **(2nd time offer)**	1	2360	50500	50,00,000.00

15	Biochemistry (Central Research Lab)	Infra-Red Spectroscope (IR Sepctroscope) **(2nd time offer)**	1	2360	25500	25,00,000.00
16	Gastrosurgery	Table mounted Abdominal Retractor **(2nd time offer)**	1	2360	30500	30,00,000.00
17	Common use like ICU, Cardiology etc.	Transport Monitor **(2nd time offer)**	7	2360	33500	33,00,000.00
18		Hanging Defibrillator **(2nd time offer)**	5	2360	23500	22,50,717.00
19	Urology	C-Arm **(2nd time offer)**	1	2360	65500	65,00,000.00

TENDER DOCUMENT 2019-20

GENERAL TERMS & CONDITIONS FOR INVITING E-TENDER NOTICE NO. RMLIMS/MM(EQ)/2019-20/5057 DATED 04.01.2020

The following terms & conditions should be complied with while submitting the tender:-

1. Competitive e-bids are hereby invited by the Director, Dr. RMLIMS, Gomti Nagar, Lucknow from the Original Equipment Manufacturer/ Direct importers/Authorized distributer for the supply of various items/equipments.

2. The tenderers shall submit the offer **online** in original copy of the tender documents duly singed with seal on each page. The tenderers terms and conditions be clearly typed or legibly written giving the full name and address of the tenderers. The tenderers should quote in figures as well as in words the rates and amount tendered by him/them. Alteration, if any, unless legible and attested by the tenderers, with their full signature, shall invalidate the tender. The tender should be signed by the tenderers himself/themselves or him/their authorized agent on his/their behalf. In case the tender is signed by the agent the authority letter (latest and on original letter head of the OEM with original signature) in his favour shall be enclosed with tender documents. The tenderers should take care that the rates and amounts are written in such a way that interpolation is not possible. No blank space should be left, which would otherwise make the tender liable for rejection.

3. **GST Registration certificate** duly self attested must be enclosed.

4. Bidder must submit last three year income tax return proof duly self-attested with the bid.
5. **The tenderers shall submit the offer online only as specified in https://etender.up.nic.in. The offline tender will not be considered under any circumstances.**

6. Tenders should be submitted in two-bid system consisting earnest money, tender fee, technical offer & price bid. The proof of online submission of tender fee & EMD should be submitted in first part along with technical bid and price bid be submitted in second part. The Price Bid should strictly be in the format as specified in e-tendering. **Instruments consisting different parts or items, then item wise price must be quoted in the price bid.**

7. All Quotes shall be FOR DR.RMLIMS, Lucknow. Delivery schedule with definite date of delivery at destination (taking into cognizance of transit facilities) must be indicated. This contractual delivery date/period should be inclusive of all the lead-time.The delivery date, as mentioned in the supply order will be binding on vendors.

8. The tenderers should clearly state whether he/they are Original Equipment Manufacturer/ Direct importers/Authorized distributer (declared by principal firm only) and the authority letter must be attached with technical bid.The tender submitted by third party and subletting of tender will not be entertained.

9. The tenderers submitting his/her tender would be deemed to have considered and accepted all the terms and conditions. No Enquiries, verbal or written, shall be entertained in respect of acceptance or rejection of the tender.

10. The offer shall be unconditional. Any conditional price bid and offer will not be entertained and the tender will be treated as cancelled.

11. The quantity shown in the Schedule may be increased or decreased to any extent depending upon the actual requirement.

12. The tenderer shall specify regarding after sales services facilities within the Guarantee/Warranty period and CMC period.

13. The tenderer shall also confirm the Installation, Commissioning, Demonstration and Training, if required, to the concerned department under intimation to The Joint Director (MM) of the Institute.

14. The Institute reserves the right to reject or accept the tender after reviewing the previous performance to the services given by the vendor in the equipment already supplied by him.

15. The Institute reserves the right to cancel/reject in full or any part of the tender which generally do not fulfill the conditions stipulated in the tender without assigning any reason.

16. The tenderer shall submit the pre-installation information like Civil works/ Electrical details etc. All necessary requirements along with the offer, in order to make the equipment functional and any subsequent request on post supply order will not be entertained.

17. **The firm has to submit an undertaking that the equipment is of latest model & version, has the latest state-of-art technology and till date no revised or amended version has been launched in regard to specification given in tender document. The spare parts will remain available for at least next ten years and Software upgradation, if needed, will be provided free of cost during warranty & CMC period.**

18. Any action on the part of the tenderer to influence anybody of the Institute will make his/their tender liable to rejection.

19. In the case of placement of Purchase Order, the vendor (the tenderers whose tender is accepted) shall have to confirm the purchase order within 7 days from the date of the dispatch of purchase order otherwise it will be deemed that offer is acceptable to the firm. Notwithstanding any other provision, the terms & conditions and any other items given in the Purchase order will be treated as binding with "Errors & omission excepted" basis. However, if the supplier notices any discrepancy in the order, he/ they must bring the same to the notice of the Institute and seek clarifications. Supplier will have to bear the responsibility for failure to take this action.

20. The Institute may, in writing, make any revision or change in the purchase order including additions or subtractions from the quantities originally ordered in the specifications or drawings. If any such revisions/changes affect the price or delivery, the same shall be subject to the adjustment of price/delivery, where required on a reasonable basis by mutual agreement in writing which should be communicated.

21. **PBG:-**
- The tenderer shall furnish performance bank guarantee/FDR (as security money) @15% of FOB/FOR value in favour of Director Dr.RMLIMS, Lucknow at the time of installation of the equipment/goods and the period of PBG/FDR shall be effective from the date of installation of the equipment upto 03 months after the end date of warranty period.
- PBG/FDR will be returned to the firm on submission of another PBG/FDR @ 15% of total CMC Value of 5 years which will be valid after 03 months from the date of expiry of CMC period.

22. The Institute reserves the right to cancel the purchase order or any part thereof and shall be entitled to revise the contract wholly or in part by a written notice to the vendor, if;-
- The Vendor fails to comply with the terms of the purchase order including specifications and other technical requirement.
- The vendor becomes bankrupt or goes into liquidation
- The vendor fails to deliver the goods in time and or does not replace the rejected goods promptly.

A receiver is appointed for any of the property owned by the vendor.

23. Upon receipt of the said cancellation notice, the vendor shall discontinue all works of the purchase order and matters connected with it.

24. Tender fee and EMD details:-

A. The tender fee (non-refundable) and Earnest Money Deposit (EMD) be deposited online as per following details and receipt / proof of the same must be attached with the technical bid. Otherwise tender will be treated as cancelled.

(a) Account Number- **177301088888888**

(b) Name of Account – Director, Dr.Ram Manohar Lohia Institute of Medical Sciences, Gomti Nagar, Lucknow

(c) Name of Bank and Branch – Indian Overseas Bank, Vibhuti Khand, Gomti Nagar, Luknow, U.P.-226010

(d) IFS Code- IOBA0001773

B. For online refund of EMD, following details be provided by the bidders in technical bid:

(a) Tender number
(b) Name of bidder/tenderer
(c) Name of equipment
(d) Amount of EMD
(e) Name of Bank and Branch
(f) IFS Code
(g) Name of account
(h) Bank Account number of the firm

i. In non-compliance of terms & conditions of the tender and/or supply order, EMD may be forfitted.
ii. The EMD of unsuccessful bidder will be released after the supply is matured.
iii. The EMD of successful bidder will be released after execution of supply order satisfactorily.
iv. No interest will be paid on EMD amount of successful/ unsuccessful bidders.

25. The tenderers shall deposit the required tender fee (non. refundable) of Rs. 2360.00 i.e. Rs. 2,000.00 + Rs. 360.00 as GST @18% (Rs. Two Thousand only + Three Hundred Sixty as GST @18%) online in favour of Director, Dr.RMLIMS, Lucknow, as per the details given in Clause no. 24. The proof of online submission should be submitted in first part i.e. technical bid.

26. Unless otherwise specified in the order, the order price shall remain firm and will not be subject to escalation of any description during the pendency of the order, notwithstanding the change in the cost of materials, labour and/or variations in taxes, duties and other levies on raw materials and components while the order is under execution even if the execution of the order is delayed beyond the completion date specified in the order for any reason whatsoever.

27. The price should be on F.O.R. Dr. RMLIMS, Lucknow, Central Store basis inclusive of all levies and duties.

28. Prices will be quoted on F.O.B. as well as estimated CIP/CIF upto Dr.RMLIMS, Lucknow, Central Stores (Insurance from Firm's warehouse to Dr. RMLIMS, Lucknow basis) for imported goods.

The Indian Agency Commission payable to Indian Agent, if any, shall be shown separately and that will be payable in equivalent rupee directly to Indian Agent. Indian Agency Commission payment shall be made on the basis of prevailing exchange rate at the time of payment or calculated as at the time of last date of submission of tender whichever is less. No taxes will be paid on Indian Agency Commission.

The supplier shall be responsible to get the goods air –freighted/sea freighted & air insured/marine insured up to the Dr.RMLIMS, Lucknow. Please quote price in Format enclosed as (**annexure-D**).

29. Declare separately the FOB and CIP/CIF prices.

30. The offer of the tenders shall remain valid for a period of at least 180 days from the date of opening of the tender.

31. All goods or materials shall be supplied by the tenderers whose tender is accepted, strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated. Any alterations of those conditions shall not be made without the consent of the Institute in writing which must be obtained before any work against the order is commenced. All material furnished by the seller pursuant to this order (irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by the Institute) will be guaranteed to the best quality of their respective kind (unless otherwise specifically authorized in writing by the Institute) and shall be free from faulty design, workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects with all operating conditions, if any, specified in this order.
In case of import, the suitable action will be initiated against the principal firm & tenderer, if equipment is not found in accordance with the specification as laid down in the supply order

32. The Equipment supplied shall carry an unconditional standard warranty for 5 years (60 months) to be declared by OEM from the date of satisfactory Installation and commissioning of the equipment. If any trouble or defect originating with the design, materials, workmanship or operating characteristics of any material arise at any time from the date of Installation, the same shall be promptly make such alteration, repairs and replacement as soon as notified thereof, the seller shall at his own expenses and as promptly as may be necessary to permit the materials functional in accordance with the specification and to fulfill the foregoing guarantee/ warranty and the Institute will enter into CMC agreement from six to ten year (6^{th} years to 10^{th} years) at the time of end of warranty date of the equipment.

33.
i. The firm shall remove and replace/repair such defective parts of the equipment at firm's expense with in the warranty period and the warranty of such spare parts will be given by the firm either upto the original warranty period of the equipment or thirty months (30) whichever is higher.
ii. If firm fails in the replacing such spare parts within the desired time period, the institute at its option, may get replaced the defective spare parts at firm's expense and the warranty clause written above will be applicable on the replaced spare parts. The cost of such spare parts shall be payable by the firm to the institute either dirct or will be claimed from PBG.

34. In the event that the materials supplied do not meet the specifications and are not in accordance with the drawings, data sheets or the terms of this order, rectification is required at site, the RMLIMS shall notify to the seller giving full details of differences. The seller shall attend the site, within seven days of receipt of such notice, meet the representative of the RMLIMS and action required to correct the deficiency.

35. If the seller fails to attend the fault within the prescribed time Dr. RMLIMS, Lucknow shall immediately get the same rectified on costs of the seller/supplier.

36. **Payment Terms** :-
- In case of Indian goods, 100% payment will be released within 30 days from the date of satisfactory installation.
- In case of purchase of goods/equipment by Letter of Credit mode, the payment schedule will be as follows.
  A - 75% will be released after shipment by negotiation.
  B - 25% will be released after satisfactory installation.

37. The mode of payment will be through irrevocable letter of credit or international Bank Draft (IBD). However, Indian Agency Commission or Technical Service charges would be paid in Indian rupee after satisfactory receipt & installation of goods at site duly verified by concerned HOD. Indian Agency Commission will be declared in the price bid. If Indian agency commission is not mentioned in the price bid no claim for it shall be admissible afterward. Please note, in case of IBD, the original bank draft may be handed over to firm only after satisfactory receipt and satisfactory installation of the equipment.

38. Delivery Time as mentioned in Purchase order or date of opening of letter of credit (L/C) or date of issue of letter to supply on the basis of payment through international Bank Draft (Payment through IBD will be made after supply and Installation of the equipment) shall be the essence of the order and no variation shall be permitted except with prior authorization in writing from the Purchaser.

39. In the event of delay in making delivery on the part of the vendor, it will be at purchaser's discretion to receive delivery with a late delivery penalty clause.

40. Force majeure shall mean and be limited to the following:

* Any wars or revolutions, hostility, Acts of public enemy, sabotage, fires, explosions, epidemics, quarantine restrictions and freight embargoes.
* Any riot or civil Communication
* Any earthquake, flood, tempest, lightning or other natural disaster
* Any strike, or lock-out (only those exceeding ten continuous day in duration) or other conditions affecting the performance of the seller's obligations.

41. The seller shall advise the RMLIMS by registered letter duly certified by Local Chamber of Commerce of Statuary authorities the beginning and end of the above causes of delay within 7(seven) days of occurrence and cessation of such Force Majeure conditions, in the event of delay lasting over one month, if arising our causes of Force Majeure, the RMLIMS reserves the right to cancel the order and the provisions governing termination state under articles shall apply. For delays arising out of Force Majeure, the seller shall not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure and neither the RMLIMS nor the seller shall be liable to pay extra costs provided it is Mutually established that Force Majeure conditions did actually exist. The seller shall categorically specify the extent of Force Majeure conditions prevalent in his works (such as power restriction etc.) at the time of submitting the bid and whether the same have taken into consideration or not in the quotations. In the event of delay in delivery and/or unsatisfactory manufacturing progress and supply, the RMLIMS has the right to cancel the purchase order as whole or in part without liability of cancellation charges.

In the event of rejection of non-conforming goods the vendor shall be allowed, without any extension of delivery time to correct the non-conformities, if the vendor fail to do so within stipulated time, the RMLIMS may cancel the order.

42. No payment shall be made for rejected material nor would the tenderer be entitled to claim for such items.

43. Rejected items would be removed by the tenderer from the site within two weeks of the date of rejection at their own cost. In case they are not removed they will be auctioned at the risk and responsibilities of the suppliers without any further notice.

44. **Penalty Clause** :-

a. In the case of not honouring the supply order, Ram Manohar Lohia Institute of Medical Sciences, will forfeit the EMD.
b. The time for the date of delivery/dispatch stipulated in supply order shall be deemed to be the essence of the contract and if the supplier fails to deliver or dispatch any consignment within the period prescribed for such delivery or dispatch in the supply order, liquidated damages may be deducted from the bill @ 0.5% per week or part thereof to maximum of 10% of the basic cost of goods for delayed supply (The delivery period will be calculated from the next day of the dispatch date of purchase order to the previous day of receipt of material in the Institute). The competent authority of the institute may also cancel the supply at the cost & liability of the supplier. In such a case, bid security of the supplier shall stand forfeited. The supply of equipment must be in single consignment, inclusive of all parts & accessories in adherence to the specification so as to make the equipment fully functional at the time of the installation. No installation repeat shall be signed in case of absence of any part as per the specification.

Late supply in the case of Letter of Credit goods the firm may supply the goods after getting written permission from the Institute with late delivery clause @ 0.5 % per week or part thereof to maximum of 10% of the basic cost (FOB/FOR) of goods for delayed supply (The delivery period will be calculated from the next day of the opening of Letter of Credit to the previous day of receipt of material in the Institute).

c. The standard delivery period shall be Letter of Credit (LC) period FOR/FOB nearest port in India and additional delivery period from nearest port to the Institute shall be not more than fifteen days (15 days).

Delivery period for the Indian/foreign supply will be as per offer made by the bidder in the Technical/Financial bid. (The Institute prefers delivery period not more than 105 days).

45. The firm may be required to facilitate the copy of supply order of other establishments (preferably Government) as mentioned in the installation list in the tender, to justify the tendered rates.

46. List of installations for the offered equipment/items only instead of allied/other range of equipment in India along with performance report duly signed and stamped by the user(s) may be provided with the tender documents.

47. All disputes and questions, if any, arise between the Institute and the bidder out of or in connection with the terms and conditions contained herein or as to the construction of application thereof, or the respective rights and obligations of the parties there under or as to any clause or thing herein contained or by reason of the supply or failure or refusal to supply any material or as to any other matter in any way relating to this offer shall be decided by the Director of the Institute and when the decision would not be accepted by the bidder, then the matter shall be referred to the chairman of the Institute as sole Arbitrator. The chairman of the Institute may appoint any suitable Arbitrator whose decision dully approved by the Chairman of the Institute shall be final and binding upon both parties and subject to adjudication of Lucknow Court. Place for arbitration shall be at Lucknow (U.P.), India. Venue of such arbitration proceedings shall be the Institute. Arbitration and conciliation Act 1996 and rules made there under shall be applied to the proceedings under this clause.

48. A minimum of 95% uptime of equipment is to be maintained during warranty period and also after warranty period during comprehensive maintenance contract for the next five years. If the equipment is not up time upto the above mentioned period suitable action shall be taken against the supplier including imposition of penalty as deemed fit.

49.
- The supplier should provide comprehensive maintenance contract (with spare/consumables /Accessories including laborer charges) inclusive of customs and all taxes for the next 5 years (i.e. years 6 to 10 inclusive). The CMC Rate for the sixth year should not be more than 5% of FOB and escalation in next year CMC should also not be more than 5% of the prior year CMC rates. If the rates of CMC are not clarified by the bidders, their offer will not be considered for comparison of price and will be treated as cancelled.
- GST on CMC will be treated as inclusive, if the firm has not mentioned GST rates separately.

The price bid will be opened **online** in the presence of authorized representative of technically qualified tenderer within reasonable time.

i. The evaluation report of technical bids by the technical committee will be the final decision for qualifying the firm.
ii. For Foreign Goods the exchange rate **(as per RBI reference rate)** of foreign currency will be the prevailing rate on the last date of submission of Tender .
iii. The prices for optional items if not required in Technical Specification will be excluded for ranking purpose.

50. **Custom Duty and Custom Clearance Charges** :- The supplier will get the equipment/consignment cleared from the custom. The Custom Duty and Custom Clearance Charges will be reimbursed to the firm on the production of appropriate document and certificate. No demurrage/warehouse charges will be payable by the Institute under any circumstances. No advance payment will be payable for custom duty/ custom clearance.

In addition to the clause no. 06 & 49 above the criteria for determining L-1 would be as followed:-

(i) Quoted CIP/CIF rates of the equipment with all standard and essential accessories as per specification with 5 years unconditional warranty.

(ii) Quoted CMC charges including GST after expiry of warranty period from 6th to 10th year.

(iii) Price with all accessories as per technical specifications along with Custom duty, Custom Clearance, Insurance, Freight, IGST, turnkey (if applicable) as quoted in price bid will be added for determination of L1 and if the rates are offered in Indian currency, the rates of GST quoted in price bid will be added for determination of L1.

If needed Institute may enquire the rate of taxes and duties at its own and only the correct rates will be applied for calculation of L-1 in the comparative chart.

For calculation of L-1 rates of taxes and duties in value or in percentage may be quoted in price bid prevailing at the time of submission of bid.

51. Payment to 3rd party on behalf of bidder will not be permitted in any circumstances.
52. All the operating and service manuals in duplicate to be provided by the vendor at the time of handing over the machine.
53. If there is any discrepancy in terms between General Terms & Conditions of Tender Document and specification of any equipment, then the details given in General Terms & Conditions of Tender Document will be considered valid and will be binding. Accordingly, the terms of comprehensive maintenance contract will be governed by the General Terms & Conditions of Tender Documents.
54. Catalogue, data sheet, complete module and other necessary document shall be provided in original form. In the shape of Duplicate or photocopier form of documents shall not be accepted.
55. In case of imported goods consignment must reach Indian port within currency of L/C.
56. No financial documents of any tenderer will be entertained after opening of financial bid/ technical bid.
57. The supplier will make atleast quarterly visit for maintenance during warranty period.
58. Unconditional warranty & Guarantee for 5 years to be declared by OEM (Original Equipment Manufacturer) /Tenderer from the date of installation. The warranty/guarantee must cover all parts of the equipment except consumable only.
59. The firm will provide an affidavit to this effect that "THIS IS TO CERTIFY THAT THE RATES QUOTED for the equipment TO DR. RMLIMS, LUCKNOW ARE THE LOWEST ONE. WE HAVE NOT QUOTED/SUPPLIED AT LESSER PRICE TO ANY ORGANISATION WITH THESE SPECIFICATIONS. IN CASE OF NON-SUPPLY IN INDIA, THE AFFIDAVIT TO THIS EFFECT WILL HAVE TO BE SUBMITTED BY THE FIRM.
WE FURTHER AGREE THAT IF ANY PRICE DISCRIPANCY IS FOUND ON LATER DATE, WE WILL BE LIABLE TO REFUND THE SAME.
60. Subletting of the tender to the sub-distributor is not permissible, if subletting is found, the EMD, submitted by tenderer, will be forfeited. If the same item is quoted by the principal and one or more distributors of same principal firm, the same will be treated as one tender and the lowest rate will be considered.
61. The tenderer shall insure after sales services facilities within the Guarantee/Warrantee period. The warrantee period may be extended for the period of the instruments remained out of order during warrantee period.
62. The Manufacturer or their Indian representative will ensure a proper after sales service as per our requirement from time to time, against the guarantee/warrantee clause as per terms and conditions agreed under negotiations would be provided to our Institute without fail. Any negligence on this account shall be the sole responsibility of foreign vendor as well as indian agent and the liability for compensation will be fixed by the Institute. An undertaking from the manufacturer that in the event of change of Indian Agent, the new agent will provide the CMC on similar terms and conditions or the manufacturer himself undertakes the responsibility of proving the satisfactory after sales services under such events. If the equipment is not rectified by the firm and the equipment is under breakdown for certain period, the Institute will impose the penalty clause for that period as deemed fit.
63. <u>If any information submitted by the bidder is found incorrect then</u>
    - The bidder may be blacklisted by the Institute; and/or
    - The bidder may be debarred from future participation; and/or
    - The Institute may impose such embargo in the bidder as deemed fit and/or

The Institute may take such action against the bidder as deemed fit.

64. **Turnover:-** The tenderer shall have an average annual turnover of not less than two times of the tentative cost of the tendered item/items during the last three financial years. Turnover details should be supported by a copy of balance sheet and Tax audit report duly certified by Chartered Accountant (CA).

65. Details of after sale service support should be provided which will include the followings:
    (a) Corresponding address of service centre.
    (b) Telephone No.(Office).
    (c) Name of Service Engineers along with mobile number & e-mail address.

66. The Price Bid of the technically qualified vendor will be opened on-line after technical evaluation is done.

67. **All fields and columns of price bid must compulsorily be filled.**

68. If, the equipment is of foreign make and quoted in Indian currency (INR), the firm will have to submit the AWB or Packing list of manufacturer/principal firm or Cargo Arrival Notice (CAN) in support of import, pertaining to the Institute, if the order is awarded to him/them. The date of these documents will be preferably of later date of supply order.

69. As per Institute's requirement and tender terms, the equipment need to remain functional during 05 years warranty as well as 05 years CMC period.

70. Any rule / guidelines declared by the Government would prevail over the existing terms and conditions.

71. **HSN code of the equipment/goods must be mentioned in price bid format**.

72. Check list as per annexure-A shall be submitted by the firm in technical bid.

73. Each & Every page or paper of the tender document should be serially numbered, singed & stamped by an authorized signatory of the bidder.

Note:-*Please note that separate tender should be quoted for each item/ equipment.*

Enclosed 1- Annexure A
(Format of Check List)
Enclosed 2- Annexure B
(Specifications of the Equipment)
Enclosed 3- Annexure C
(BOQ for items/equipment in Indian Currency)
Enclosed 4- Annexure D
(BOQ for items/equipment in Foreign Currency)

Joint Director (MM)
f**or Director**
Dr. RMLIMS,
Vibhooti Khand, Gomti Nagar,
Lucknow, (U.P.)

Annexure-A

Check list

e-Bid reference no: /RMLIMS/MM(eq)/2019-20/5057 dated 04.01.2020

Before submitting the tender, the bidder should check the following enclosures (to be submitted with Technical bid **compulsorily**).

S. No.	Particulars	Page (From)	Page (To)
1	Name of Bidder/Tenderer		
2	Name of Proprietor/ Managing Director of Bidder		
3	Permanent address of Bidder with e-mail and contact no. (Copy should be attached)		
4	The proof of online submission of tender fee & EMD		
5	GST Registration number (copy should be attached)		
6	Income Tax return certificate. (Last three years copy should be attached)		
7	Permanent Account Number (copy should be attached)		
8	The affidavit from a notary that the firm has never been black listed must be attached.		
9	The tenderers should clearly state whether he/they are Original Equipment Manufacturer/ Direct importers/Authorized distributer (declared by principal firm only) and the authority letter must be attached with technical bid.		
10	The tenderer shall specify regarding after sales services within the Guarantee/Warranty period and CMC period.		
11	The firm may be required to facilitate the copy of supply order of other establishments (preferably Government) as mentioned in the installation list in the tender, to justify the tendered rates.		
12	**Turnover:-**The tenderer shall have an average annual turnover of not less than two times of the tentative cost of the tendered item/items during the last three financial years.		
13	The firm will provide an affidavit to this effect that " THIS IS TO CERTIFY THAT THE RATES QUOTED for …… TO DR. RMLIMS, LUCKNOW ARE THE LOWEST ONE. WE HAVE NOT QUOTED/SUPPLIED AT LESSER PRICE TO ANY ORGANISATION WITH THESE SPECIFICATIONS. IN CASE OF NON-SUPPLY IN INDIA, THE AFFIDAVIT TO THIS EFFECT WILL HAVE TO BE SUBMITTED BY THE FIRM. WE FURTHER AGREE THAT ANY PRICE DISCIPANCY IS FOUND ON LATER DATE, WE WILL BE LIABLE TO REFUND THE SAME.		

Name, seal and Signature of bidder

Annexure-B

(1) Technical Specifications of ETO Machine

SN.	**Specification**
1	**The Ethylene Oxide (ETO) Gas Sterilizer Should be Fully Automatic with software Controlled Operation System Suitable for Low Temperature Sterilization of Heat and Moisture Sensitive Medical and Surgical Item**
2	The Chamber Should be Preferably Rectangular with Capacity of 200 to 250 L or 8 Cubic FT.
3	TheChamberShouldbedoublewalledandmadeofsuitablematerialwhichisresistantto corrosionand gas like T- Grade 6061.
4	The interior of the Chamber should be smoothly finished to minimize gas deposits/Made of Aluminum.
5	The SterilantShould be 100a» ETO Gas.
6	Sterilizer Should have automatic gas puncturing system and work under NEGATIVE PRESSURE ensuring operator safety.
7	The Sterilizer Should Work on single dose Cartridge of ETO with 2 D Barcode for record keeping.
8	The ETO Cartridge Should beEPA registered and should be of the same make of the sterilizer.
9	Sterilizer Should have a UL Certification.
10	Sterilizer Should have System for Variable Parameter Settings of Time , Temperature , Relative humidity (RH), Gas Exposure and Aeration Depending on Load and Composition of materials.
11	The Sterilizer Should have video Screen for display Status of Program Cycle Parameters including Pressure temperature and RH.
12	TheSterilizerShouldhaveDeviceofdatastorageforatleast100cycleaswellasfacilityof InternetandUSBConnectionforTransferofdataoftheCycle.
13	The Sterilizer Should Operate for the following minimum essential program cycles.
i)	Sterilization cycle for heat Sensitive objects that ensure Temperature from 33 to 55 degree C with Subsequent aeration for protection of the operating personnel.
ii)	Aeration Cycle to extract residual gas out of the sterilized objects after each sterilization Cycle.
iii)	Automatic Chamber evacuation cycle with Subsequent Venting before opening the Door lock to avoid any gas Exposure to Operating Personnel.
14	The Sterilizer Should have Single door with suitable Safety interlocking arrangement so that the Sterilizer process does not start unless the door is properly locked in position.
15	TheEquipmentShouldworkonNegativePressuretoavoidanyleakageofETOtothe Surroundings and Exposure of Gas to theOperator.

16	Sterilizer Should have USFDA and EPA Approval.
17	SterilizerShouldhave Inbuilt Alpha-numericGraphicalThermalPrintertoPrintdate,Programtypeand Program Parameters.
18	The Sterilizer Should beCompliant with EN-1422 Guidelines & BS EN ISO 9001:2000.
19	The manufacture should also provide ETO protection kit along with the equipment.
SN	Specification.
20	Sterilizer should be compliant with **RoHS Directive 2011/65/EU and** WEEE environmental and disposal directive 2012/19/E, ETO Batch -1.
21	Warranty five years from the date of installation & price of AMC and CMC to be quoted separately.
22	Consumables to carry out sterilization cycles min 50 cycles with packaging papers.
23	Incubatory should be provided free of cost for microbial testing of biological indicators.
24	Training and installation should be provided free of cost.
25	**2 latest performance certificate should be provided with tender.**

Annexure-B

(2) Technical Specifications of Fully Automated Capillary Electrophoresis System

1. The system should be multi-parametric instrument to perform HbA_1C, Hb, serum protein, immuno typing.
2. The system should be able to perform Hb electrophoresis and HbA_1C(simultaneously,if possible) using standard primarytubes.
3. The System should be able to cap piercing capacity for Hb and Hb A_1C samples for improved workflow and operator safety.
4. At least 500 tests of each parameter (including consumables) must be provided from the vendor in whole/parts (considering the expiry date) before installation.
5. At least 5 additional capillaries should be provided during span of 5 years warranty on as and when required basis.
6. The system should be fully automated electrophoresis system based on capillaryelectrophoresis technology with simultaneous migrations and complete walk away includingmigration and quantitation.
7. The system should use silica capillaries and electrophoresis in liquid flow.
8. The system should use deuterium lamp with optical fibers for emission and reception and should be included in warranty.
9. The system should accept all types of samples (sample cups or primary tubes) with barcode reader.
10. The system should have automatic loading and un-loading of reagent cups.
11. The system should have the capacity to load minimum 20 samples for Hb, HbA_1C, serum protein and CDT .
12. The system should perform direct analysis on EDTA blood for Hb/ HbA_1C electrophoresis.
13. The system should have red cell hemolysate preparation is automatically performed on the instrument for Hb & HbA_1C electrophoresis.
14. The system should not use any staining procedures and should not use any densitometer for quantification.
15. Software should be provided for automatic curve analysis with long-term storage capacity forresults.
16. The system should have automatic sample dilution for immuno typing.
17. Software should be provided for automatic curve analysis with long-term storage capacity forresults.
18. The system should have quality control set up and Levy Jennings graph.
19. The system software should allow the operator to take patient report in PDF format.
20. The system software should allow the operator to view pathological samples.
21. Suitable PC, printer, online 2 KVA UPS with one hour backup should be provided.
22. The bidders should be ready to provide HIS connectivity at their expense.
23. The vendor should be agree to do rate contract with institute at the time of finalization of bid.

Annexure-B

(3) Technical Specifications of Liquid Chromatography Tandem - Mass Spectrometry (LCMS/MS)

A highly Sensitive LC-MS/MS (Triple Quadrupole System),compact equipment for qualitative and quantitative estimation for wide range of research necessities which may be required for collaborative studies among various departments of the institute. It must be capable of IEM evaluation, steroid hormone pathway studies, highly sensitive biomarker assays, metabolomics, proteomics, TDM, immunosuppressant assays, forensic and pharmacological applications.		
1.	**Mass Stability**	0.1 Da over 24 hours
2.	**Dynamic range**	Should be 6 orders of magnitude or better
3.	**Mass analyzer**	**Quadrupole Analyzer:** • The instrument should be configured with a quadrupole mass filter for the efficient transmission of ions in MS mode and selection of precursor ions for MS-MS analysis (Tandem/Triple Quadrupole system) • The Quadrupole mass range 20–2000 m/z or better
4.	**Sensitivity**	Low level concentration detection and highest sensitivity • ESI positive/negative Ion Sensitivity: The signal/noise ratio for 1pg of reserpine should be 5,00,000:1 or better, in MRM mode. (All the specifications should be mentioned in company's brochure). • The sensitivity must be verified on company's brochure and demonstrated during installation.Lab data would not be acceptable
5.	**Scan speed**	Should have the scan speed of 15000 amu per sec or better
6.	**Ionization**	System should have orthogonal, multimodal (preferred)/interchangeable ionization source or probe (ESI & APCI) to cater broader range of applications.The instrument ionization source housing will have a fully ventilated, fully interlocked and hosting interchangeable APCI (Atmospheric Pressure Chemical Ionization) probe and ESI probes.
7.	**Multiple Reaction Monitoring (MRM)**	Minimum MRM dwell time 1ms or better
8.	**Desolvation Temperature**	Should be 500 °C or better
9.	**Vacuum System**	Robust high efficiency multi stage vacuum system with minimum maintenance and utility with low noise level. • Vacuum read backs must be digitally monitored and controlled through software to ensure fail-safe operation in the event of power failure. • All accessories required for the proper functioning of the vacuum system should be supplied.
10.	**Gas Control**	All gases must be controlled by the software.

11.	**Operating modes**	Mass spectrometer should have the following scan options: • Full scan • Selected Ion monitoring/ recording (SIM/SIR) • Product ion scan • Precursor ion scan • Neutral loss scan • Multiple Reaction Monitoring (MRM/SRM) • Enhance/advance product ion scan • Simultaneous full scan and MRM
12.	**Detector**	Photomultiplier or Channel Electron multiplier or DDD. A high sensitivity, high throughput detector.
13.	**Infusion device**	• An slow infusion device must be integral to the instrument and should be controlled by software • All accessories required for the proper functioning of the vacuum system should be supplied. • System should have built in switching valve.
14.	**Gas Generator (s)**	Should be supplied with the system along with the trouble free inbuilt compressor and appropriate capacity reservoir which should be sufficient enough to deliver the gases (purity > 99.999%) required to run the system. No external gas cylinder should be required for LCMS operation. If any gas extra gas cylinder is required then its installation and piping work should be done by vendor. Gas cylinder should be supplied in duplicate to provide standby during refilling.
15.	The mass spectrometer must be compatible with nano LC and nano source devices and their price may be quoted as optional item with rates locked for warranty period for present/future upgradation subject to availability of the funds.	
16.	The system must be capable of trapping ions with axial ejection.	
17.	**Applications:** **- Steroid hormones**- with LLOQ as following A). DHEA, 17-OH-pregnenolone, pregnenolone ≤ 100 pg/ml B). DHEA sulfate ≤50pg/ml C). Aldosterone, 18-OH-corticosterone, 21-deoxycortisol, coticosterone,cortisol, androstendione, testosterone, DHT, progesterone, 17-OH-progesterone, pregnenolone≤10pg/ml **- New born screening**- to cover aminoaciduria (phenylketonuria,homocysteinuria,MSUD, tyrosinemiaetc) and various FA disorders. **- Water soluble vitamins** like vitamin B12, MMA, Homocystine **- Neurotranmitters:** Catecholamines, biogenic amines etc	
18.	One set of internal standard for all the above along with one kit for new born screening are to be quoted.	
19.	The bidder shall be ready to provide application aid for development of home brew methods for all above tests in future as per feasibility.	
20.	Two years (complete) operator support must be provided.	

21.	On site demonstration before installation would be mandatory before installation and must be taken as criteria for acceptance/rejection.	
22.	**High Performance LiquidChromatography System:**	The complete system and the MS should be controlled by the single software • **Pump**: High pressure UPLC with pressure range of 18000 psi or more; binary with degasser. Operating flow range should be 0.05- 1.0 ml/min • **Autosampler**: With temperature control 4 °C to 40 °C or better. Sample capacity: 96 (1.5/ 2 ml vial) or better. • **Column Oven**: 20°C to 90°C or better. • **Detector**: UV-VIS
23.	**System Controller and Operating system**	Software must be Multitasking type. It must acquire and process the data simultaneously • Application manager must be compatible with data of full scan, SIM/SIR or MRM • Data Acquisition, Peak Integration, Calibration, Quantification and QC calculations must be fully automated • The Quantification method editor must be viewable in page view or spreadsheet. • Application manager must allow to monitor the molecular ion and up to 04 (four) • Confirmatory ions or better. • Must be capable of performing the following functions and should be upgradable: • Workstation must be able to control the MS, acquire, store, process and reproduce the data by the same computer. • Workstation must be able to control LC, Detector and auto sampler. • It must be able to regulate the gas pressure and flow during the data acquisition and append to the relevant data file. • Software must have automated calibration and Quantitative optimization. • Automated MS to MS/MS switching during a single run with user selectable criteria • Data may be processed as it is being acquired
24.	**PC, Printer & UPS**	• PC with suitable latest configuration and 64bit licensed latest operating system With following specification: Intel Core i7 generation Processor • 12 Gb DDR4 • 1 Tb SSD (for windows installation) with 3Tb HDD with RAID 1 Configuration

		• DVD RW (CD RW capable), 3 Ethernet ports, 2 single port Broadcom cards. Built in DisplayPort Video capable of a minimum digital resolution of 1920x1200. • Laser 6-button mouse and keyboard. • Suitable coloured laser Printer: Compact and user friendly • 10KVA UPS with 60 Mins back up • Suitable processing PC should be quoted along with system • Vendor should provide 2 nos of 2 ton split ac for lab • Tables for LCMS , UPLC and PC should be provided by vendor • An additional PC with i7 processor or equivalent, 1TB RAM, latest configuration, wall mount touchscreen, wireless mouse and keyboard to be provided for offline work.
25.	**Warranty**	5 years comprehensive warranty on total instrument including gas generators/cylinders and UPS
26.	**Application training &support in Institutional training programs**	10-12 such sessions are to be provided in first three years to support training programs at institution in addition to initial application training as a part of installation process.
27.	**Columns**	C18, 2.5 µ, 100 x 2.1 -01 nos C18, 2.5 µ, 50 x 2.1 mm -01 nos C8, 2.5 µm ,50 x 2.1 mm -01 nos C8, 2.5 µm , 100 x 2.1 mm -01 nos Phenyl-Hexyl , 2.5 µ 50 x 2.1 mm -01 nos HILIC, 2.5 µ, 100 x 2.10 -01 nos
28.	The institute shall provide partitioned cabin for instrument; other specifications for site preparation are to be fulfilled by the vendor only for successful installation. The vendors may visit the site for tentative expenditure.	
29.	**Important note:** **Offer should indicate all parts with details specification and Brand clearly as required in our specifications** The supplier should enclose the technical compliance statements against our technical specifications clearly mentioning for each point. The statement should be supported by relevant literature/data.	
30.	Two 1.5 ton split AC must be provided for marinating the temperature of the cabin.	
31.	One vibration free (preferably granite top/as per company specifications) optimized for the instrument along with a computer table	
32.	There must be at least one local (within Lucknow) installation along with recommendation from user.	

(4) Technical Specifications of Complete Audiometery Setup

A. Brainstem Evoked Response Audiometer (BERA)& Auditory Steady-State Response (ASSR)

A.1. BERA

A1.1. 2 channels.
A1.2. Windows based.
A1.3. Bone Conduction.
A1.4. Integrated database.
A1.5. Pre-programmed auto tests or protocols.
A1.6. Waveform reproducibility indication.
A1.7. Split left/right recordings.
A1.8. Simultaneous recording of condensation rarefaction stimuli.
A1.9. Normative data indication.
A1.10. Wave editing during testing
A1.11. Digital filter application (during and after test).
A1.12. Add, subtract curves
A1.13. Low noise amplifier
A1.14. EcochG recordings with markers
A1.15. Middle Latency, Late Latency (P300, MMN etc.)
A1.16. Preamplifier –
A1.16.1. Frequency: 0.5 – 5000Hz
A1.16.2. Noise: 4nV/√Hz
A1.16.3. CMR Ratio:not less than 100dB.
A1.17. Accessories to include- suitable table and patient chair, cup EP electrodes (40 Nos.), Button electrodes (40 Nos.), Insert earphone (2 Nos.), Conductive Paste (20 Nos.) and Abrasive Paste (40 Nos.).
A1.18. Equipment should conform to US FDA standards as Certified by any of the notified bodies.

A.2. ASSR

A2.1. Stimulus Rate : 40 or 90 Hz
A2.2. Masking: White Noise 0-100 dB SPL
A2.3. Display: Stimuli Level and Frequency
A2.4. ASSR and Audiogram
A2.5. Customer selectable correction factor available
A2.6. Impedance Check
A2.7. All accessories should be from the same vendor.
A2.8. Should have adjustable latency – intensity norms
A2.9. Should have feature of simultaneous stimulation of both ears from 500 to 4000 Hz.
A2.10. Since the equipment is to be used in Institutional setting for next 10 years, it should be supplied with branded PC with minimum Intel i9 processor, 8GB RAM (upgradable), 2TB HDD, 22" HD display with compatible coloured laserjet printer with Duplex printing, USB, LAN and WiFi connectivity,with compatible WiFi/LAN router, online UPS and computer table of adequate size and design.

B. Oto Acoustic Emissions (OAE)

B.1. Distortion Product Otoacoustic Emissions (DPOAE)

B1.1. Frequency: 0.5 to 12 kHz

B1.2. 4 Frequencies tested (3 for pass)
B1.3. Average test time should be less than 10 sec.
B1.4. SNR 6dB
B1.5. DPOAE Stimulus Intensity Range: 40 to 70 dB SPL
B1.6. Display: DP gram, Probe fit (Frequency & time), Spectrum, protocols.

B.2. Transient Evoked Otoacoustic Emissions (TEOAE)

B2.1. Frequency: 1 to 5 kHz
B2.2. 6 Frequencies tested (3 for pass)
B2.3. Average test time 64 sec.
B2.4. SNR: 4dB
B2.5. Stimulus Intensity Range: 83 dB SPL (±3 dB)
B2.6. Maximum Output (protection): 90 dB SPL
B2.7. Display: TEOAE Frequency response, probe fit (Frequency and time, including signal correlation)
B2.8. Microphone System Noise: -20 dB SPL @ 2 kHz (1 Hz bandwidth) / -13 dB SPL @ 1 kHz (1 Hz bandwidth)
B2.9. Stimulus Sampling Rate: 31,250 Hz
B2.10. Scope of supply- OAE device, OAE probe, Probe holder kit, test cavity, Cleaning kit, starter kit, USB cable, Software, Manual/User guide, UPS
B2.11. The equipment memory should have capacity to hold at least 3000 Patient Data and should be transferable to the PC/Laptop system.
B2.12. Should be supplied with branded Laptopi9 processor, 8GB RAM (upgradable), 2TB HDD, 15" HD LED display, connectable to printer through LAN and WiFi required under item A2.9. above.

C. Impedance audiometer with contra ear testing facilities

C1.1. Compliance 0.1 to 6.0 ml
C1.2. Probe tone level and accuracy: 226Hz +/-2%; 85dBSPL +/-2dB 1000Hz +/- 2%; 79dBSPL +/-2dB over ear canal volume range
C1.3. Pressure range and accuracy: +200daPa to -400daPa +/-10daPa or +/-10% (whichever is larger) over range 0.1ml to 5ml. Direction of sweep: Positive to negative pressure
C1.4. Volumetric range and accuracy: 226Hz: 0.2ml to 5ml; 1000Hz: 0.1ml to 5ml +/-0.1ml or +/-5% (whichever is larger)
C1.5. Analysis performed: Admittance peak level in ml (226Hz) or mΩ (1000Hz) & pressure at peak; Gradient in daPa (for 226Hz); Ear Canal Volume (ECV), Measurement sweep speeds: Selectable: 100, 200 or 300 daPa/sec.
C1.6. Test Time- < 3 Seconds
C1.7. Reflex Mode
C1.8. Test Frequencies- 500, 1000, 2000, 4000 Hz ± 2%
C1.9. Test Method- Ipsilateral, Contralateral
C1.10. Reflex levels: Ipsilateral: 70dBHL to 100dBHL (+/-3dB)
C1.11. Reflex levels: Contralateral: 70dBHL to 110dBHL (+/-3dB)
C1.12. Reflex detection threshold: 0.01ml to 0.5ml +/-0.01ml (configurable in 0.01ml steps)
C1.13. Analysis performed: Reflex maximum amplitude and pass/fail at each test level
C1.14. Series of fixed intensities
C1.15. Test - Ipsilateral Reflex Test with AGC
C1.16. Test Programme- Reflex Test selectable
C1.17. Probe - Light weight, adjustable, Hand Held , With Built in control light & switch
C1.18. Printer- Silent Thermal Printer , (with paper printer facility)
C1.19. Display-Graphic LCD with adjustable contrast
C1.20. Power Supply- Mains 100-240 Volts, 50/60 Hz 25 VA

C1.21. PC Interface- USB Cable
C1.22. Automatic self-calibration
C1.23. Regular calibration of equipment.

D. Pure Tone Audiometer

D.1. **Channel**: Two separate with independent attenuators.

D.2. **Stimulus type**: Tone, warble, pulsed tone, pulsed warble, (Frequency specific Hearing assessment noise)

D.3. **Special tests**: SISI, ABLB, DLI, MLB, Stenger, Tone Decay, Free field (Complete setup, including speakers), Speech test, Word Recognition, UCL, Tinnitus Matching,High frequency.

D.4. **Frequency range**:

D4.1. TDH 39 earphone- 250 to 8000 Hz or more
D4.2. Insert ear phones- 250 to 8000 Hz or more
D4.3. Bone conduction (BC)- 250 to 4000Hz

D.5. **Level Range**:

D5.1. Air conduction (AC): -10dBHL to 120dBHL
D5.2. Bone Conduction: -10dBHL to +80 dBHL
D5.3. Speech: -10dBHL to 100dBHL
D5.4. Masking: -10dBHL to 100dBHL

D.6. **Masking types**: Narrow band noise, Speech Noise, White noise.

D.7. **Stimulus modulation**:

D7.1. Warble Tone: 1to 10Hz + 5% Modulation
D7.2. SISI: 5, 2,1 dB decrements.

D.8. Should have full speed USB port connector (3.0 or more).
D.9. Should be supplied with required software with updates in CD.
D.10. Data storage facilities unlimited with computer software
D.11. **External Input**: CD player, Tap recorder or Microphone
D.12. Equipment should be provided with required electricity safety equipment (ups) and compatible with 220 V-50 Hz. AC Supply.
D.13. The setup should have two-way talk-back facility.

E. Video Nystagmography (VNG)

E.1. Fast eye-tracking (100Hz binocular)

E.2. Real time analysis

E.3. Automated 10 second calibration

E.4. Automated or manual analysis

E.5. **Goggle**:

E5.1. Light weight and comfortable
E5.2. Direct FireWire connection
E5.3. Replaceable foam cushions
E5.4. Adjustable mirrors and controls

E.6. **Additional features**:

E6.1. Cutting edge eye trackers adjust for make-up and dilated pupils
E6.2. Reader station enables shared access to patient reports from multiple work stations
E6.3. MWST (Monothermal Warm Caloric screening test after two warm irrigations)

E6.4. Torsional eye movement observation with full screen eye images
E6.5. Multi-language interface
E6.6. Nystagmus edit function
E6.7. Compact & convenient hardware
E6.8. Integration with Air or Aqua caloric irrigators (Specify AIR or AQUA)
E6.9. Tester comments recorded with results
E6.10. Short automated calibration
E6.11. User-defined tests
E6.12. Diagrams and statistics calculated automatically in real time
E6.13. High quality printouts of all analyses and selected raw data
E6.14. Full colour printed reports for each test.

E.7. **Physical Specifications**:

E7.1. Goggle Weight with one camera
E7.2. 240g (non-occluded view)
E7.3. 320g (occluded view)
E7.4. with two cameras
E7.5. 305g (non-occluded view)
E7.6. 385g (occluded view)
E7.7. Dispensing box with 24 pcs. of disposable goggle foam pads
E7.8. 302 x 216 x 131mm (L x W x H)

E.8. **Tests**:

E8.1. Bithermal Caloric Test
E8.2. Spontaneous Nystagmus Test
E8.3. Positional Test
E8.4. Dix-Hallpike Test

E.9. **Optional Tests**:

E9.1. Sinusoidal Pendular Test (only with rotary Chair)
E9.2. Step Rotation test (only with rotary Chair)

E.10. The equipment should be supplied with suitable table and patient chair.

E.11. Should be supplied with branded Laptop i9 processor, 8GB RAM (upgradable), 2TB HDD, 15" HD LED display, connectable to printer through LAN and WiFi required under item A2.9. Above.

General

1. PC/Laptops systems, wherever mentioned should include genuine/licensed operating system, licensed MS Office Home & Business (Latest Version), licensed Adobe Acrobat Full Version, licensed standard anti-virus software with all backup (DVD etc.) media of all the software and all the accessories to run the required software seamlessly.
2. All Equipment, including accessories, should be supplied by the same vendor.
3. All Equipment listed atB, C, D & E should conform to European CE/US FDA Standards as Certified by any of the notified bodies.
4. 5 years Warranty + 5 Years CMC, including all software upgrades and as per DrRMLIMS Terms and Conditions.
5. Undertaking to honour Warranty/CMC to be given by***both***, the Principal/Manufacturer and the Indian Vendor.

Annexure-B

(5) Technical Specifications of Fibreoptic Bronchoscope

1) Video Bronchoscope : Should have following specifications :

- Lighter and possess high resolution image quality.
- Fully immerssible in disinfectant solution.
- Three or more no. of remote control switches on control body.
- Compatible with leakage testing device with its air flow and pressure regulation through light sources air pump.
- Should have capability of Narrow Band Imaging
- Should have USFDA and CE Certification

Field of view	:	120 degree or more
Direction of view	:	0 degree, forward viewing
Depth of field	:	3 to 100 mm or better
Distal end outer diameter	:	4.9 mm or less
Insertion tube outer diameter	:	5.0 mm or less
Tip Bending rage	:	Up 180deg, Down 130
Working length	:	600 mm or more
Channel inner diameter	:	2.0 mm or more
Minimum Visible distance of instrument used thru channel	:	3 mm or closer from distal end.

Video Processor :

- Should be compatible with Analog, HD-SDI and DVI output & 16:9 & 16:10 output for a HDTV monitor should be available.
- Should have variable video out puts like HD/SD-SDI, DVI, RGB, YC and composite.
- Narrow Band Imaging capacity for compatibility with NBI Videoscopes.
- Equipped with high resolution HDTV Imaging capacity.
- Compact, lightweight (10-11 kg) and ergonomically designed
- USB Slot for image recording
- Automatic IRIS control & automatic white balance
- Electronic Zoom upto 1.5X.
- Equiped with memory back up for settings.
- Should have pre freeze function for image stabilization.
- Equipped with inbuilt LED light will be preferred due to low maintenance cost
- Should have USFDA and CE Certification

High Definition LCD Monitor :

- 19-21inch full HD LCD monitor with high resolution 1920X1200 (WUXGA)
- Lower Power consumption
- Aspect ratio 16:9 &16 :10 with output of (1080/60I:NTSC) (1080/50I:PAL) with RGB or YPbPr

Endoscopy reporting software

- Endoscopy software compatible with video processor unit capable of recording and archiving still and video images along with capability to provide reporting in modifiable format.

Compact Trolley

-Trolley should be of same make.

- Should be accommodate all the items mentioned above in one

"Every quarterly machine should be serviced by company service engineer with entry in the machine's log book to be provided by company till the completion of CMC period that is 10 years from successful installation."

Annexure-B

(6) Technical Specifications of Scrub Unit

1. Should be made up of corrosion free 304 SS material with silver finish.
2. Fittings made up of non-ferrous brass material and industrial grade aluminum with composite PVC coated pipe connection.
3. It should be 2 bay with thermostatic automatic mixer as well as manual mixer of hot and cold water with anti splash rolling front.
4. Should be sensor as well as foot and knee operated.
5. Should have Jaguar make spout.
6. Size should be approximately 60-80cm W X 1300-1400 H X 50-60 D.
7. It should have automatic soap dispenser.

Annexure-B

(7) Technical Specifications of Thoracic surgery sternum saw

Sternum saw hand piece

- Should have safe mode
- Should have two speed controls with standards and modes free speed of 1100-1300 cycles perminute
- Microprocessor controlled hand piece can be calibrated for the consistence performance
- Should have DC brush less motor for law maintains
- No lubrication required for lifetime
- Should have tool less mounting of accessories for all blades or attachments
- Saw noise levels should not be more than 84db
- Should be autoclavable
- With different blades it should have maximum speed of 1300 CPM
- Should be quoted with 2 sternum gaurds

Battery charger

- 220-240volts charger and should have the feature to count the changing cycle for a particular battery
- Should have capability to identify the worn out of battery
- Should have to charge four batteries at a time without any module or modification need
- Should have an indicator to provide battery status for charging
- Should be able to charge different batteries with same charger

Battery kit (2 sets)

- Li-on cell chemistry and also compatible with Ni Mh AND ni Cd batteries with low internal impedance to deliver higher current than other battery types
- Should be 9.9volts with capacity of 2.2Ah
- Weight should not be more than 0.9lbs
- Li-on cell capacity to produce more torque and autoclavable with life of 200approximate and average charging cycles
- Should have a run time of minimum 21 minutes
- Should be of reconditioned with no memory effect
- Should have capability to safety features like shuts off current to battery terminal when hand piece is not connected

Sterilization case (1 set)

- Should accommodate all hand piece, attachment and accessories for auto save

Should be supplied with following blades free of cost

Sternum blades 50 in number

Certification

- Should have US FDA as well as CE Certification for the said equipment
- Should have ISO Certification

Service and support

- The company must have their service centre in India and the regional service support
- The company must provide a loaner support in case equipment is under warranty or under CMC
- Company has to provide training and education for equipment handling to all CSSD, Biomedical staff and OT Staff
- Company must have to do minimum two times preventive maintenance in one year with company trained engineer

Annexure-B

(8) Technical Specifications of Harmonic Ultrasonic Energy Device

- System should have a universal connector to connect Ultrasonic energy and Advanced RF energy instruments & System should have automatic instrument recognition.
- System should be CE / FDA approved. System should have a touch screen display for fast and setup, operation and on-screen diagnostics.
- System should have the ability for software updates via USB memory stick.
- System should be a single generator that provides Ultrasonic energy and Advanced RF energy technology for soft tissue dissection and vessel sealing
- System should conform to the following international standards EN (IEC) 60601-1, EN (IEC) 60601-1-2, EN (IEC) 60601-2-2, EN (IEC) 60601-1-8
- System should provide Class 1 protection against electric shock; System should not have lateral thermal spread more than 1 mm.
- System should come equipped with system diagnostics and troubleshooting guide to pin point any problems in the systems, should have service center in India.
- System should be able to power ultrasonic energy instruments with 55.5 KHz frequency and have the ability to power ultrasonic energy instruments in the frequency range of 30-80 KHz in future
- The hand piece for the system should come with an inbuilt transducer & System should be able to power energy instruments with microprocessor controlled bipolar electrosurgical radiofrequency technology.
- System should be equipped with advanced RF energy technology that provides temperature controlled energy delivery which should maintain tissue temperature approximately at 100 degree Celsius.
- System should have pure ultrasonic energy mode & hand instruments that provide tissue / vessel seal strength up to & including 7mm with pure ultrasonic energy.
- System should have Advanced RF Energy hand instruments that provide tissue / vessel seal strength up to & including 7mm to withstand bursting pressure of 7 times the systolic pressure, compatible with Hand probe with 5mm shaft diameter with 110 degree articulation.
- System should be compatible with ultrasonic hook for laparoscopic procedures and open procedures.

System should consist of followings-

Capital-

1- Generator
2- Foot Switch & Cable
3- Two units of Hand Piece
4- Cart (OEM)

Ultrasonic probe for Minimally Invasive Surgery:

1. 5mm Lap Hand Activated Curved Coagulating Shears capable of sealing blood vessels up to 5mm in diameter 36 cm shaft length capable of back coring, Spot coagulation and otomy creation, should be having a 15mm curved active blade with sealing capability of 7mm with pure ultrasonic energy only- 2 pc
2. Laparoscopic 32cm long ultrasonic dissecting hook for laparoscopic Surgery.-two pc

RF Energy Instruments:

1. Hand probe with 5mm shaft diameter of shaft rotation with straight tip in the shaft length 35 cm and seals and transect vessels up to 7mm, sealing strength 7 times systolic pressure with 110 degree articulation with 360 degree of shaft rotation lap devices should be having temperature controlled mechanism within the jaw controlling temperature below 100 degree- one pc

Ultrasonic probe for Open Surgery:

1. Approx. 17cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with 16 mm active blade & 240-degree hand activation, triggers support multiple hand positions- three pcs
2. Open surgery ultrasonic hook with telescopic 4-9cm long shaft- one pc
3. Open surgery ultrasonic blade with telescopic 4-9cm long shaft- one pc

Annexure-B

(9) Technical Specifications of Laparoscopic Needle Holder

- Needle Holder, completely dismantlable into 3 parts for easy clearing and replacement. 5mm, 36 cms. Jaws curved left.

- Must be US – FDA & European CE approved

Annexure-B

(10) Technical Specifications of Laparoscopic lens 30° Up

1. Laparoscope – 10 mm 30 Degree

- Forward Oblique- Telescope 30°, enlarged view, ø 10 mm, Autoclavable
- Must be US – FDA & European CE approved

2. Laparoscope – 10 mm 0 Degree

- Straight Forward - Telescope 0°, enlarged view, ø 10 mm, Autoclavable
- Must be US – FDA & European CE approved

Annexure-B

(11) Technical Specifications of Surgical Loupe

1. Galilean Optical System Featuring Compact Design, Delivering Precise Image with Good Color Fidelity Extending To the Peripheral Zones, Excellent Depth Of Field Of View Ensuring Clear Visualization Of Anatomical Structures.
2. Magnification: 3.2X
3. Working Distance (Eye To Operating Area) Of 400-500 MM
4. Field Of View Diameter At Working Distance Of 500 Mm should be between 100-120MM.
5. Titanium Eyeglass Frame With Elastic Band And Soft Nose Piece.
6. Lens Protection Device Which Should Shields the Lens Against Splashes And Tissue Particles With High-Quality, Scratch-Proof Anti Reflective Coating.
7. Side Protection Shields For Protection Against Splashes And Particles
8. Sterilizable Contact Guard To Reliably Swing Loupes Up And Down For Unobstructed Vision And Eye Contact With Patients With Single Adjustment.
9. High Quality Surface Of The Optical System resistant To Standard Disinfectants
10. Quick Adjustment Of Eyepiece Tilt To Desired Viewing Angles Even In Extreme Treatment Option.
11. US FDA / European CE Approved
12. Demonstration If Required.

Annexure-B

(12) Technical Specifications of IOUS

Applications

The system should be latest state of the art digital colour Doppler system capable of producing images of high diagnostic quality for gastroenterology clinical and surgical applications. It should include laparoscopic, endoscopic and surgical applications with features of image guided biopsy, drainage procedures and clear visualisation of the needle.

Imaging modes

High resolution 2D , B/B ,B/M,B/D,B/C Doppler, triplex, M- mode, colour flow imaging , power Doppler, power angio imaging mode, colour M mode, simultaneous B/B colour mode , pulse wave Doppler and CW

System specifications

- Should have 256 grey shades
- Should have at least 17" LCD/TFT colour display with tilt and swivel facility to adjust height
- Following modes B,M,C, power Doppler, D mode and tissue harmonic imaging should be present
- Combination modes B+M,B+c,B+ Doppler,B+P,B+C+D(triplex), B+P+D(triplex) should be present
- Should have compound imaging/ pure harmonic detection for good image quality
- Should support convex, linear and laparoscopic probes
- Should be capable of harmonic imaging
- For better resolution of small vessels advance dynamic flow should be present
- Should have auto Doppler tracing in real time and directional power Doppler.
- Should support probe frequency from 2-13 Mhz
- Should have at least 3 active ports with universal port connectivity
- Should have at least 8 TGC With memory function
- Should have high frame rates more than 900 fps
- System dynamic range should be more than 170 db
- Should have high PRF range from 2-18 KHZ
- Should have 6 times or more read/write zoom facility with scrolling in basic and zoom
- Have real time measurement capability of changing vessels diameter (E tracking)
- Should have User adjustable B colorization maps , gain setting, color Doppler baseline, other important parameters with live/frozen,loops
- Scanning depth of minimum 24 cms
- Have facility to rotate M Mode cursor
- Have cine memory of more than 1000 frames and 256 sec M/D scroll
- Should have integrated hard disk for image storage and recall with complete image management
- Should be capable of doing all the measurements/ annotation on stores images
- Direct compatibility to attach laserjet printer/CD/DVD writer
- Should have facility to upgrade in future for elastography and US guided endoscopic procedures
- Should have a USB port

Soft ware package should have

- Facility to enrol complete patient and other information
- Text and anatomical site markings
- Software for abdominal applications with report formats

- Calculation of distance/area/volume/circumference
- Special measurements or analysis calculations for specific clinical applications
- Should have facility to calculate IMT

Transducers

- All transducers should have broad band beam former technology for extreme high resolution imaging
- 2.5-6 Mhz electronic convex probe with bioipsy attachment with at least 3 harmonic frequencies
- Bi plane rectal probe , convex freq ranging 4-7 Mhz, linear freq ranging 5-9 Mhz with biopsy attachment
- Colorectal anorectal probe with 360* FoV , freq ranging 8-5 Mhz at least 30 cm long
- Laparoscopic probe with frequency 8-4 Mhz and only 10 mm radius of curvature for liver assessment.
- 5-10 Mhz T shaped intra operative transducer
- Breast probe/Liver USG probe/IOUS (Intra op probes of various designs.)

Peripherals

- Suitable online UPS with 30 min backup
- Colour inkjet/laser jet printer of reputed make
- B/W thermal printer of latest model
- Unit should be DICOM ready for connecting to remote server/ laser camera

Warranty / AMC/CMC rates

- Complete system to be covered under 5 yrs warranty
- AMC/CMA rates to be offered for next five years after expiry of warranty
- Supplier must ensure availability of expertise service and maintenance at Lucknow
- Machine should be US FDA approved

Training

- The supplier will arrange for training of 2 doctors of the department at their cost

Note

- All specifications should be supported with product data sheet

Annexure-B

(13) Technical Specifications of OT Light/Camera/Video Recording with OT Integration of existing equipments

MONITOR ARMS

The monitors should be mounted/ suspended on a separate Flat Panel Arms. It must be versatile for variety of medical grade monitors in laparoscopy / endoscopy / C ARM monitor etc. the option of Dual monitor mounting / suspension must be provided

Suitable panel for power & signal to be laid down for extra various sizes Monitor at Wall of Modular OT.

SUSPENDED ARMS

There must be various arms suspended with inbuilt wiring and cabling for anesthesia, laparoscopy, endoscopy, various energy sources , C Arm, mobile Ultrasound, video microscope etc. the number of arms must be minimum 4 or 5 with possible folding/self covering for better cleaning of floors/ wall etc.

Extra arms with lesser weight bearing must be provided for variety with suitable power and cable supply for ergonomics and suitability

Integration of various pre existing energy sources, lights, suction and irrigation, gas supply is must in the arms

Overall integration of various gadgets with ergonomic design and optimized cabling for better upkeep sterilization and digitization for display or transmission

AUDIO-VISUAL COMMUNICATION SYSTEM

The operating rooms should be connected to the Conference room or hall for video conferencing and live transmissions. Suitable cable provision should be laid accordingly

The Audio/Video Router system should have the minimum following outputs. The router should be having 12x12 Digital and upgradable to 18x18 (DVI-I/ DVI-D) with open architecture and which is upgradable to future input / output requirements. The routing system should be able to integrate HD signal from within the OT.

Audio – Visual system should receive the signal from different sources like Room camera, Endoscopy camera, Overhead camera, Archiving System, C-Arm, Video Microscope, Mobile ultrasound.
The routing system should allow selection of multiple views for simultaneous transmission in suitable formats. PACS dedicated PC has to be provided in OT or suitable system to receive and transmit the PACS from OT.

Loudspeakers to be installed within the Operating room. 3-Channel Loudspeaker with Digital volume control and Audio mixer and Audio equalizer should be installed at a most suitable place. Suitable cable material and a patch panel should be offered as per the position of the Loudspeaker

The surgeon and his team should be able to do Bi-Directional Audio/Video communication from OT to Conference Room.

An HD Video Conferencing system should be there for external communication from the operating room. The system should be able to transfer high quality real time images and audio signals from multipoint at a suitable data transfer speed. The system should be compatible with 1080p full HD resolution for transmission over the ISDN lines or IP Service. The conferencing system should be controlled via the touch screen of the integration system from the OT. Suitable Number / Sets of Transmitters, Receivers and Cables, connectors and accessories should be offered as per the requirement.

CENTRAL CONTROL SYSTEM

Full High Definition minimum 19" or more Medical grade LED monitor should be wall mounted or desk mounted for the display of live transmission of images and video sequences from the Operating Room (eg. images from C arm, endoscope, OR light camera, Microscope etc.).

Should have provision to record the images and video sequences from OT.

The Full High-Definition Digital Documentation System should be a high-end computer system based on Windows embedded platform designed specifically for recording, managing, and archiving surgical images and video in native full HD resolution. The captured full high-definition images & videos can be accessed from the hard drive for printing or saving onto multiple forms of external media which includes CD/DVD, USB Flash Drive & Hospital network. It should be able to preview and simultaneously record views from two video sources parallel and archive as single patient file. The system should have security features

The system should be integrated with the Central Control System in such a way that the central control system is capable to route any running high-definition surgical videos, which is being recorded in it, onto any display device in an operating room.
It should have at least 1 TB internal Hard Disk Drive for in-system archiving. Also, it should have a feature of real time in-procedure DVD burning besides at-the-end procedure DVD burning.

Patient and image data should be able to call up and distributed to required monitors in the operating room

HIGH DEFINITION MONITOR FOR IMAGE DATA MANAGEMENT SYSTEM

Should have individual high definition medical grade minimum 32" LED monitor, wall mounted for images of PACS
Patient and image data should be able to call up and distributed to required monitors in the operating room

CAMERA INSIDE OT

HD cameras high speed with 10X Digital zoom lens, with pan tilt with power supply and reliable strong mounting assembly should be provided and integrated to the central control system .It should be controlled via 19" touch screen of integrated system

OT LIGHTS WITH FLAT PANEL ARM

LED OT Light with Double Dome (big size), Both Dome should be camera ready with flexibility to inter-change Camera Mount. Dome should have handle that can be sterilized and the rail that goes around the light let you position the light head with ease. OT Light should have unrestricted rotation of 360 degree so that light head around its own axis ensures more freedom of movement.

OR Light should have homogenous light beam through more than adequate overlapping beams and have low heat generation through cool, infrared-free light. it should be energy saving and long-life LED modules with a lifetime of minimum 40,000 hours
Main and secondary light head with 160,000 Lux light intensity and 75 cm 65 cm diameter.

Number of LED's should be More than adequate per dome to counter any shadow creation through multiple beams from Individual LED creating homogenous Light Spot.
Depth Of Illuminance, Color rendering index (Ra), Color temperature LED service life, Radiant energy, Temperature increase at head area, Laminar flow Index and other technical details must be suitable and state of the art.

OT Light Dome should be sturdy and inbuilt protection from any liquid , Moist & dust ingress. And Designed to help in cleaning & easy maintenance. Compliant with laminar flow to maximize the efficiency air-conditioning.

Should support optimal vision during Minimal Invasive Surgery with adequate Power Consumption with electronic adjustment of light field diameter with Programmable range of dimming and flexible adjustment. Change the color for tissue differentiation hemostats & surgical material etc. for better ergonomics and working quality.

FULL HD CAMERA SYSTEM

High-resolution Full HD image quality (1080P) Based on wireless technology with Excellent color reproduction and Intuitive controls directly on the controller or via an IR remote control. Should have Digital video outputs with Simple exchange so that the camera can be easily mounted on other lights. It should assist rotation of the lights

Should be CE and US FDA approved

Video editing software should be provided

Annexure-B

(14) Technical Specifications of HIPEC

1. Should have operating system for the selection & management of Hyperthermic Intraperitoneal (HIPEC) and Intrapleural Perfusion and Isolated Limb and Organ (ILP) Perfusion treatments.
2. Heating system, with ≥4 sensors to continuously monitor temperature
3. Warming system adjustable from 28^0 C to 46^0C for Intraperitoneal/Intrapleural Perfusion and from 28^0C to 45^0C for Isolated Limb and Organ Perfusion.
4. Availability of peristaltic roller pumps, for inflow & outflow
5. Facility for Isolated Limb or Organ Perfusion: configuration of gravimetrical venous return, not assisted mechanically by a pump's action.
6. Hyperthermic Intraperitoneal/Intrapleural Perfusion: perfusion's solution flow rate adjustable up to 2.000 ml/min useful for better temperature distribution inside the perfused cavity and reduction of loss of heat.
7. Hyperthermic Intraperitoneal/Intrapleural Perfusion: "by-pass" function, which permits to interrupt the circulation on the patient in case of risk situation (automatic management) or for the management of temporary problems (manual management).
8. Hyperthermic Intraperitoneal/Intrapleural Perfusion: automatic control of volumes, Temperature and fluid dynamic balance on the patient.
9. Hyperthermic Intraperitoneal/Intrapleural Perfusion: availability of a disposable preassembled circuit including a soft reservoir with at least 6 liters capacity and double stage wide surface filtration system for clusters and cell fragments filtration.
10. Independent temperature monitoring on the patient by means of medical probes (at least ≥4 probes)
11. Independent pressure monitoring of inflow & outflow of patient and Inflow and outflow of heater ≥4 pressure sensors
12. System's self-test at every power on.
13. Uninterrupted power supply system, with 90 minutes minimal safety from chemira pours autonomy.
14. The system provides and emergency procedure to be used in case of serious failure that prevents the User from operating the equipment (e.g. block of the User Interface). In this case, the User can recover & resume the treatment
15. Automatic selection of treatment Phases on set parameters (circuit filling, preheating, Circulation)

16. Storage and transfer of treatment and patient data by means of a Memory Card (type Compact Flash) and USB port.
17. Integrated thermal printer gives treatment details and temperature graph recorded on every 5 minutes during procedure.
18. Wide colour “touch-screen” display.
19. “Help on line” function.
20. Integrated system for automatic management of the procedure phases.
21. Electrical height regulation of the equipment and braking system.
22. Audio and visual alarms
23. Should have be facility for online trouble shooting
24. Should have at least 30-50 installation in India.
25. Back up should be available as on when required in less than 24 hrs.
26. Note: The machine rent should also be quoted (if available on rental basis) & cost of kit & other consumables should also be quoted which should be freezed for 3 yrs without which above tender quotation will be considered incomplete & will be rejected. If not available on rental basis, it should be clearly mentioned in bids.
27. Software should be upgraded on yearly basis
28. Training of Doctors and technical staff to be arranged at centre of international repute.
29. CE & FDA approved.
30. Smoke evacuator should also be quoted for safety from chemo vapours.
31. PIPAC canula should also be added along with ballon ports for pressurized chemo administration intraperitoneally in case of non CRS candidate along with administration system.

Annexure-B

(15) Technical Specifications of Infra-Red Spectroscope (IR Sepctroscope)

1. Optical system: Vibration isolated baseplate. Sealed and desiccated enclosure must offer extended intervals between desiccant replacements, at least 5 years.
2. Wavelength range: 7800 cm-1 to 375cm-1 or better
3. Spectral resolution: 0.5 to 0.8 cm-1 or better as standard (without any adjustment)
4. Wavelength Accuracy: 0.1 cm-1 or better
5. Wavelength precision: 0.01 cm-1 or better
6. S/N ratio: 35000:1 Peak-Peak per minute or better
7. Interferometer: Michelson interferometer, High stability, self-compensating for dynamic alignment changes due to a tilt and shear with 10 year warranty
8. Optics: Kinematicallymounted, zero alignment optics with high reflectivity and a low-angle off axis design.
9. Source and laser: Long-life source/ durable source. User replaceable from outside instrument 10 year warranty, He-Neon/solid state/equivalent laser 10 year warranty
10. Detector: Temperature-stabilised / thermoelectrically cooled/ room temperature DTGS detector
11. Beam splitter: Dedicated extended range KBr beam splitter to cover whole range 7800 – 375 cm-1
12. Sampling Accessories: All required accessories for Solid and liquid sample analysis for carrying out 100 samples along with demonstration to complete installation.
13. Sampling Accessories: monolithic Diamond ATR accessory for solid, Liquid and film type of sample analysis to cover range 7800 to 375 cm-1 or better
14. Operating Conditions: 5 -45 °C
15. Typical Desiccant lifetime: 5 years at 25 C and 90% relative humidity, if required
16. Software -Data processing function: Latest version windows based packaged incorporating instrument control data manipulation, comparison of two or more spectra, analysis and flexible report facilitations, operating assistant with simple step by step operating procedure from menus; multitasking functions with built in software, accept store and apply multi-point calibration curves for concentration with various curve fitting techniques, Quantitative analysis as per Beers Law or classical least squares.
17. Sigma-Delta conversion: System must be incorporated with Sigma-Delta converters to reduces spectral artifacts and increases ordinate linearity to produce accurate, reproducible results.
18. Automatic validation of Hardware & Software: Std internal validation to provide complete reassurance of quality of measurement conforming ASTM with NIST traceable external polystyrene film & and an Internal Schott NG11 filter for ordinate repeatability
19. Work Station (PC) Compatible branded wall mountable touchscreen PC with i5 processor, 500 GB storage with 1 TB hard disc, wireless mouse and wireless keyboard must be quoted along with system.Two granite top vibration-free tables with shelves to keep instrument and accessories with must be quoted with the equipment.
20. FTIR Libraries: External Libraries (internationally certified) should be provided comprising of-

Kidney stone analysis IR Library- should contain at least 1600 transmission spectra of human kidney stones and related chemicals, which should be a comprehensive collection of compounds found in human kidney such as different types of oxalates, phosphates, urate, silicates, other minerals and their mixtures as well as stones of drug or organic ions.

21. Application training is must before installation.

Annexure-B

(16) Technical Specifications of Table mounted Abdominal Retractor

- Advanced sturdy multipurpose table mounted retractor system for Upper abdominal, Hepatobiliary,colo-rectal and pelvic surgery.
- Should have bilateral frame to provide exceptional costal margin retraction
- Should have various detachable blade options in different configurations for retraction of abdominal wall, solid &hollow viscera. Blades like Balfour, Richardson, Malleable, Harrington, Deaver, Kelly etc. along with pediatric blades
- All blades should be detachable from blade holder & simultaneously different blade should be interchangeable to any/ all blade holders for dexterity
- Blade holder should have inbuilt angling system on the blade holder
- Blade & blade holder should have fixed retraction feature to hold organ
- Blade holder rods should have ratchet mechanism in built for retraction and holding position
- Should be of high quality steel
- US FDA and CE approved
- Physical demonstration is must
- Should have Suitable warranty

Annexure-B

(17) Technical Specifications of Transport Monitor

1. The monitor should be modular in Design for easy replacement of Modules by Users.
2. Monitor should measure 3/5 Lead ECG, Resp, Temperature, SpO2 with perfusion Index, NIBP, Dual IBP with transport module having screen of min. 5" touch as a basic parameters and all asked parameters should be displayed on transport module.
3. It should be upgradeable to RM, PICCO and ETCO2.
4. It should have bright, highly visible touch screen with 12" color TFT display for easy viewing from a distance.
5. The monitor should display at least 8 waveforms traces on a single screen
6. The monitor should have slots for modules for flexible configuration.
7. The monitor should have changeable screen configuration for various monitoring settings. The size of numerics should be adjustable.
8. There should be external ports for Slave display, Emergency Nurse Call & USB ports.
9. There should be alarm limit setting for every parameter
10. It should have priority color coded audio – visual alarm system with bright prompt message on the screen. There should be a separate color coded audio visual alarm when patient data deviates from normal limits and machine failure, improper function.
11. There should be complete ST Segment & Arrhythmia analysis.
12. The monitor should have OxyCRG screen.
13. Monitor should have inbuilt battery backup of min 2hrs
14. There should be various calculations like Drug dose, Oxygenation, Ventilation, Renal and Hemodynamic.
15. Monitor should have module to connect other devices like ventilators, pumps etc. having data on monitor screen. (Price to be quote separately)
16. The monitor system should be European CE/US FDA approved. Certificate should be attached with Tender.

Annexure-B

(18) Technical Specifications of Hanging Defibrillator

1. The AED should be supplied with 7” screen and user guide available on screen while operating the device.
2. It should have Latest Bi Phasic Technology with Energy Selection from 1 Joules to 360 Joules.
3. It should have 7” Colour TFT Display.
4. It should have Compact Design Weight should be Less than 3 KG
5. It should have Powerful battery Backup (200 Shocks of 300 Joules) on Fully Charged battery.
6. It should have Shock proof for Transport use.
7. It should have AED with Default configuration Meets 2005 AHA Guidelines.
8. It should have European CE Certification submitted along with bid.
9. It should meet IEC General Safety requirements.

Annexure-B

(19) Technical Specifications of C-Arm

- SHOULD BE OF INTERNATIONAL STANDARD, US FDA & CE APPROVED
- State of the art system with high frequency X-ray generator, Flat panel system and Suitable high resolution single flat screen monitor with split display.
- Should have minimum 8 frames Memory

Generator should be of 20 KHz, High frequency and micro processor controlled with maximum output more than 2000W

- High frequency X-ray Monobloc of 2 kw atleast
- Fluoroscopy KV range- 40KV to 110KV
- Fluoro range - 0.2mA to 6.0mA
- Snap shot - 40 to 110 kV, up to 20mA
- Pulse fluoroscopy - 40 – 110 kV, 0.2 – 10mA,
- Pulse rate must have: 1, 2, 4, 8, 12.5, 25 pulses / sec

X-ray tube

Stationary anode X-ray tube with focal spot not larger than 0.6

- Tube housing should be powered by integrated with advanced heat management system and with heat capacity more than 1,100,000 HU and cooling rate 30 Khu / min or more.
- Max. Anode heat content should be 45 KHU or more with anode heat dissipation not less than 600W

Collimator

- Iris collimator with +/- 90 deg rotation. It should be a virtual collimation without radiation.

System should have Intuitive TFT touch screen user interface on the C-arm

FLAT PANEL DETECTOR

Detector Resolution should be more than 1.5 k * 1.5 k
It should have Smart dosing
Carm with flat panel detector (CMOS) technology with beam filtration
LASER positioning device integrated
>8", high frequence

The following Digital Image Processing functions should be possible.

In Real time

- Edge enhancement at 5 levels in real-time
- Windowing and step windowing
- Digital image rotation and reversal without radiation.
- Stack filter (last image hold) : 5 levels

Post processing function

- Edge enhancement at 5 levels
- Windowing
- Zooming at 3 levels in
- Image rotation
- Grayscale inversion.

- Mosaic archiving with atleast 16- image mosaic display for Patient based data management should be possible

MECHANICAL SPECIFICATION

- All C-arm movements for every position should be fully counterbalanced
- Orbital rotation should be atleast - 120 deg / +45 deg
- C-Arm vertical free space should be 85 cm or more and the Source-image receptor distance 109 cm or more
- C-arm depth should be atleast 68cm or more
- Horizontal movement - 220mm
- Vertical movement – atleast 42 cm or more and should be motor driven
- Panning motion atleast ± 10°
- Steering and Braking lever should have parallel movements of the mobile for movement in all direction.

Interface and DICOM Software for Storage and Print should be available

Anatomical programs to determine ideal noise reduction, pulse width, etc. specific to anatomy should be possible.

Accessories

- Eight Light weight Lead Apron (0.5 mm Pb).
- Thyroid shield (4No.), Gonad shield (4nos.)
- Trolley with suitable integrated UPS to give at least 30 minutes backup and suitable voltage stabilizer should be provided.
- Sterilizable cover for C-Arm, x-ray tube and flat panel detector- 2 Nos. Disposable covers for C-Arm and flat panel detector- 50 Nos.

Annexure-C

BOQ for Items/Equipments in Indian Currency

Sr. no.	Description	
1	e-bid Notice No. RMLIMS/MM(eq)/2019-20/5057 dated 04.01.2020	
2	**Name of the equipment/item:-**	
3	**OEM Name/Make**	
4	**Model no.**	
5	**Equipment/Items HSN code no.**	
6	**Quoted unit PRICE IN INR (exclusive of all taxes)** (with 05 years unconditional warranty)	
7	GST value or % as applicable (on sr. no. 06)	
8	**Standard Accessories if required as per tender specification in INR with HSN code (exclusive of all taxes)** (with 05 years unconditional warranty)	
9	GST value or % as applicable	
10	**Total Equipment Price + Standard Accessories Amount (inclusive GST)** **(Sr. no. 6+7+8+9)**	
11	**CMC (From 6th to 10th Year)**	
12	6^{th}	
13	7^{th}	
14	8^{th}	
15	9^{th}	
16	10^{th}	
17	**Total CMC Cost**	
18	GST value or % on CMC (as applicable)	
19	**Total CMC Price + GST**	
20	**Total Cost of equipment [Total Amount + CMC with GST (6^{th} to 10^{th}yrs) in INR]** **(Sr. no 10+19)**	
Note:- All fields and columns of price bid must compulsorily be filled.		

Annexure-D

BOQ for Items/Equipments in Foreign Currency

Sr. no.	Description	
1	E-bid notice no. RMLIMS/MM(eq)/2019-20/5057 dated 04.01.2020	
2	**Name of the equipment/item:-**	
3	**OEM Name/Make**	
4	**Model no.**	
5	**Equipment/Items HSN code**	
6	**Quoted unit FOB PRICE: SGD/JPY/Euro/USD etc.** **(exclusive of all taxes)** (with 05 years unconditional warranty)	
7	**Standard Accessories unit FOB price if required as per tender specification in Foreign currency with HSN code** **(exclusive of all taxes)** (with 05 years unconditional warranty)	
8	**Equipment FOB Price + Standard Accessories price in foreign currency (Sr. no. 6+7)**	
9	(-) Less Indian Agency Commission (if any)	
10	**Net Equipment FOB Value**	
11	Add Freight & Insurance charges	
12	**Total Equipment CIP / CIF Value (Sr. no. 10 + 11)**	
13	***** Cost ofCustom Duty	
14	IGST+ other taxes	
15	***** Cost ofClearance Charges	
16	***** Add Indian Agency Commission in INR	
17	**Cost of Equipment (CIP/CIF Value) + Custom Duty+ Custom Clearance +IGST+ Indian Agency Commission in INR**	
18	*** Standard Accessories if required as per tender specification in INR** **(exclusive of all taxes)** (with 05 years unconditional warranty)	
19	GST value or % (as applicable) (on sr. no 18)	
20	Total Standard Accessories Price (INR) + GST (Sr. no. 18+19)	
21	Cost of turnkey work (if required)	
22	GST value or % on cost of turnkey work (if required)	
23	Total cost of Turnkey work inclusive GST **(**Sr. no. 21+22)	
24	**Total cost of Equipment** (Sr. no. 17+18+19+20+23)	
25	CMC on net FOB value (From 6th to 10th Year)	
26	6^{th}	
27	7^{th}	
28	8^{th}	
29	9^{th}	
30	10^{th}	
31	**Total CMC Value**	
32	GST value or % on CMC value (as applicable)	
33	**Total CMC Price (6^{th} to 10^{th}yrs) including GST**	
34	**Grand total amount of equipment (Sr. no. 24+33)**	

NOTE:- (*) Conditions applied.

* **Clearance Charges** will be paid on actual or maximum @ 1%(Inclusive all taxes) of FOB/CIF/CIP price whichever is less.

* **Indian Agency Commission** will be paid on the conversion rate of comparative chart on which basis the P.O. has been awarded or conversion rate at the time of payment whichever is less.

* **Detail List of standard accessories (as mentioned in sr. no. 07 or 18) with price must be annexed with price bid.**

All fields and columns of price bid must compulsorily be filled.