

17.01.2022

TAMILNADU MEDICAL SERVICES CORPORATION LTD.,
TENDER FOR FIXING RATE CONTRACT FOR SUPPLY, INSTALLATION AND
COMMISSIONING OF WHOLE BODY MULTISLICE CT SCANNER 16 SLICE/ROTATION
TENDER NO. 727/CT/RC/TNMSC/ENGG/2021,DT.07.09.2021

Corrigendum

a) The following amendments are issued:-

Sl. No.	Tender document reference	Instead of	Read as
1.	Page no. 52 Section V – Schedule of requirements	Existing text	Revised text at Annexure I
2.	Page No.54 Section VI: Technical Specification	Existing text	Revised text at Annexure II
3.	Page no. 74 Section VII – Bid Form and Price Schedule Price Schedule	Existing text	Revised text at Annexure IV

b) The following clarifications are furnished.

Sl. No.	Tender document reference	Points raised	Clarification
1.	Page no. 24 Section II - Instruction to bidders 30. Signing of Contract	Request to amend as 30.2 Within 21 days of receipt of notification of award, the successful bidder shall sign	No change. Hence Published terms and Condition prevails.

Sl. No.	Tender document reference	Points raised	Clarification
	30.2 Within 10 days of receipt of notification of award, the successful bidder shall sign the contract agreement, for the supply and installation and also for the comprehensive AMC contract as applicable after the warranty period.	the contract agreement, for the supply and installation and also for the comprehensive AMC contract as applicable after the warranty period.	
2.	<p>Page no. 30</p> <p>Section III - General Conditions of Contract</p> <p>5. Patent Rights</p> <p>5.1. The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India</p>	<p>Request to amend as</p> <p>The Supplier's total cumulative liability, arising from all causes of action of any kind, including, but not limited to , Contract, Tort (including negligence), Strict liability, breach of Warranty, infringement of intellectual property rights, Risk purchase, misrepresentation, or otherwise, shall not exceed 10% of the amount received under this Contract. The Supplier shall not be liable to the Purchaser for any indirect, special, incidental, or consequential damages arising out of or related to this</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
		Contract, Lost profits, lost sales, business investments, loss of any goodwill. Limitations shall apply, notwithstanding any failure of essential purpose of any limited remedy.	
3.	<p>Page no. 31</p> <p>Section III - General Conditions Of Contract</p> <p>4. Inspection & tests</p> <p>7.2. The inspections and test may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. Where conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance including access to drawings and production data - shall be furnished to the inspectors at no charge to the Purchaser.</p>	Request to amend as 'The inspections and test may be conducted at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance including access to drawings and production data (but not including Blue prints and technical drawings or any other proprietary nature documents) – shall be furnished to the inspectors at no charge to the Purchaser.	No change. Hence Published terms and Condition prevails.

Sl. No.	Tender document reference	Points raised	Clarification
5.	<p>Page no. 33</p> <p>Section III - General Conditions Of Contract</p> <p>13. Spare Parts</p> <p>13.1b, In the event of termination of production of the spare parts:</p> <p>(i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements;</p> <p>and</p> <p>(ii) following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if and when requested.</p>	<p>Request to amend as</p> <p>In the event of termination of production of the spare parts:</p> <p>(i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements;</p> <p>The documentary evidence may be in the form of literature, data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods.</p>	<p>No change. Hence Published terms and Condition prevails.</p>
6.	<p>Page no. 35</p> <p>Section III - General Conditions Of Contract</p> <p>16. Prices</p>	<p>Request to amend as</p> <p>Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>16.1. Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any prices adjustments authorized in the special Conditions of Contract or in the Purchaser's request for bid validity extensions, as the case may be.</p>	<p>the prices quoted by the Supplier in its bid, with the exception of any prices adjustments authorized in the special Conditions of Contract or in the Purchaser's request for bid validity extensions, as the case may be. However any difference, due to change in laws, rules and regulations whether State or Central, in the sales tax/service tax or any other taxes considered and actually levied by the concerned authorities shall be borne by Purchaser.</p>	
7.	<p>Page no. 13</p> <p>Section II - Instruction to bidders</p> <p>9.4. Fixed price: Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non responsive and</p>	<p>To be amended in line with above proposed amendment that change in prices due to change in Taxes/Duties/Any other levies should be acceptable by buyer.</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	rejected, pursuant to ITB Clause 22.		
8.	<p>Page no. 37</p> <p>Section III - General Conditions Of Contract</p> <p>25. Termination for Convenience</p> <p>a. The Purchaser, may by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective.</p>	<p>Request to amend as</p> <p>a. The Purchaser, may by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. However purchaser shall not terminate any purchase orders which are already placed upon the supplier & shall accept the delivery of the equipment as per the contract.</p>	<p>No change. Hence Published terms and Condition prevails.</p>
9.	<p>Page no. 37</p> <p>Section III - General Conditions Of Contract</p> <p>25. Termination for</p>	<p>Request to delete this clause</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>Convenience</p> <p>b. The Goods that are complete and ready for shipment within 30days after the Supplier's receipt of notice of termination shall be purchased by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect.</p> <p>(a) to have any portion completed and delivered at the Contract terms and prices; and /or</p> <p>(b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.</p>		
10.	<p>Page no. 39</p> <p>Section III - General Conditions Of Contract</p> <p>31. Taxes and Duties</p>	<p>Request to amend as</p> <p>Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi,</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>31.1. Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.</p> <p>However, Sales tax in respect of the transaction between the Purchaser and the Supplier shall be payable extra, if so stipulated in the Notification of Award.</p>	<p>road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. However, Sales tax/ GST in respect of the transaction between the Purchaser and the Supplier shall be payable extra.</p>	
11.	<p>Page no. 41</p> <p>Section IV - Special Conditions of Contract</p> <p>10. Payment (GCC clause 15)</p> <p>Payment for Goods and Services shall be made in Indian Rupees as follows:</p> <p>(i) No advance payment will be made.</p> <p>(ii) 100% payment will be made against successful</p>	<p>For Equipment/items quoted in Foreign Currency:-: 100% through foreign Confirmed & Irrevocable letter of credit, payable as:-</p> <p>80% against dispatch/Shipment documents as mentioned in letter of credit & balance 20% after Final Acceptance Certificate issued by end user.</p> <p>For Equipment/items quoted & supply in Indian Rupees:- 100% payment should be done through confirmed &</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>completion of installation and commissioning of MRI equipment at the respective sites against certification from the consignee.</p>	<p>irrevocable Inland letter of credit, payable as:- 80% against presentation of dispatch documents:- Packing list, Invoice in triplicate, Insurance certificate, Supplier's warranty certificate, copy of Lorry/Railway receipt. 20% after Final Acceptance certificate issued by end user. Consignee wise LC shall be opened based on site readiness status from respective consignees. Turnkey/Site Preparation (if any): 30% advance against advance bank guarantee of equivalent amount and balance 70% after handing over.</p>	
		<p>Request to amend as :- Payment shall be made in Indian Rupee through Inland Letter of Credit with:- a) 90% of payment shall be made against proof of delivery of equipment. b) Balance 10% of payment shall be made within one</p>	

Sl. No.	Tender document reference	Points raised	Clarification
		month from the date of installation.	
12.	<p>Page no. 41</p> <p>Section IV - Special Conditions of Contract</p> <p>10. Payment (GCC clause 15)</p> <p>f) If the price includes customs duty, relevant documentary evidence for import of the equipment / goods (Bill of lading / Airway Bill, Bill of entry and invoice copy) and proof for payment of Custom duty shall be furnished.</p>	<p>Request to deleted following points:-</p> <p>Also note below documents clause shall not be applicable Indian Rupees Offer.</p> <p>f) If the price includes customs duty, relevant documentary evidence for import of the equipment / goods (Bill of lading / Airway Bill, Bill of entry and invoice copy) and proof for payment of Custom duty shall be furnished.</p>	<p>No change. Hence Published terms and Condition prevails.</p>
13.	<p>Page no. 43</p> <p>Section IV - Special Conditions of Contract</p> <p>2. Performance Security (GCC Clause 6)</p> <p>2.1. Substitute Clause 6.1 of GCC by the following:</p> <p>Within 7 days after the Supplier's receipt of</p>	<p>Request to amend as</p> <p>Performance Security Within 21 days after the supplier's receipt of Notification of Award, the supplier shall furnish performance security to the Purchaser for an amount of 3% of the contract value valid upto 60 days after the date of completion of performance</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>Notification of Award, the Supplier shall furnish performance Security to the Purchaser for an amount of 5% of the contract value valid up to 60 days after the date of completion of Performance obligations including warranty obligations.</p>	<p>obligations including the warranty obligations.</p>	
14.	<p>Page no. 43</p> <p>Section IV - Special Conditions of Contract</p> <p>2. Performance Security (GCC Clause 6)</p> <p>Performance security for Maintenance contract</p> <p>After successful completion of warranty period of 3 years, the supplier shall furnish performance security for 5% of the comprehensive AMC applicable for 7 years maintenance period valid for 7 years period of maintenance.</p>	<p>Request to amend as Performance security for Maintenance contract</p> <p>After successful completion of warranty period of 3 years, the supplier shall furnish performance security for 3% of the comprehensive AMC applicable for 7 years maintenance period valid for 7 years period of maintenance.</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
15.	<p>Page. No.44</p> <p>Section IV - Special Conditions Of Contract</p> <p>3. Inspection and Tests (GCC Clause 7)</p> <p>The Purchaser or its representative shall inspect and/or test any or all the equipment to confirm their conformity to the Contract specifications, prior to despatch from the manufacturer's premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the equipment on receipt at destination.</p>	<p>Request to amend as 'The Supplier shall furnish an inspection certificate from a reputed third party inspection agency to the Purchaser to verify conformity to technical specification.</p>	<p>No change. Hence Published terms and Condition prevails.</p>
16.	<p>Page no. 44</p> <p>Section IV - Special Conditions of Contract</p> <p>2. Performance Security (GCC Clause 6)</p> <p>2.4. Add Clause 6.5 to the</p>	<p>Request to amend as</p> <p>In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	<p>GCC of the following:</p> <p>In the event of any contract amendment, the supplier shall, within 7 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for further period of 60 days thereafter.</p>		
17.	<p>Page. No. 44</p> <p>Section IV- Special Conditions of Contract</p> <p>16. Annual Maintenance Contract</p> <p>16.4. The scope of comprehensive Annual Maintenance contract shall include replacement of all parts without any exclusion other than specified by the purchaser. The supplier shall undertake at least one preventive maintenance service per quarter of the year and attend to all break</p>	<p>Request to amend as</p> <p>The scope of comprehensive Annual Maintenance Contract shall include replacement of all parts without any exclusion. The supplier shall undertake at least one Preventive Maintenance Service per quarter half year of the year and attend to all break down maintenance calls. The payment for the comprehensive maintenance will be made at the end of each quarter against certification from the end user for</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	down maintenances calls.	satisfactory completion of Preventive Maintenance within the quarter and attending the breakdown calls within 3 working days. from the date of intimation.	
18.	Page. No. 81 Section IX - Performance Security Form	Request to add the following in Performance security format: The Bank also agrees that this guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Courts. This guarantee is to be returned to the Bank immediately on expiry. If the Bank does not receive the bank guarantee latest by the expiry date, it shall be deemed to be automatically cancelled.	No change. Hence Published terms and Condition prevails.

Sl. No.	Tender document reference	Points raised	Clarification
19.	<p>Page. No. 49</p> <p>Section IV- Special Conditions of Contract</p> <p>16. Annual Maintenance Contract</p> <p>16.1. Any major repair pointed out by the Purchaser shall be rectified by the Supplier from the date of intimation within a period of 3 calendar days and commission the equipment to the satisfaction of the Purchaser. Failing which the Purchaser has a right to levy a penalty on the Supplier a sum of Rs.50,000/- per day or part thereof for each equipment until the equipments are repaired and commissioned to the satisfaction of the Purchaser</p>	<p>Request to amend as</p> <p>Any major repair pointed out by the Purchaser shall be rectified by the Supplier from the date of intimation within a period of 5 working and commission the equipment to the satisfaction of the Purchaser. Failing which the Purchaser has a right to extend the CMC period by double days of the excess downtime days.</p> <hr/> <p>Request to amend as:-</p> <p>Instead of monetary penalty, extension of warranty/contract period by two days for every extra day beyond the permissible downtime should be considered</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
20.	<p>Page. No. 45</p> <p>Section IV- Special Conditions of Contract</p> <p>6. Insurance (GCC Clause 10) For delivery of goods at site, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from “Warehouse to Warehouse” (Final destinations) on “All Risks” basis including War Risks and Strike.</p>	<p>Request to amend as ‘For delivery of goods at site, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from “Warehouse to Warehouse” (Final destinations) on “All Risks” basis and Strike.</p>	<p>No change. Hence Published terms and Condition prevails.</p>
21.	<p>Page 52</p> <p>Section V - Schedule of Requirements</p> <p>Delivery Schedule: - 60 days from the date of purchase order.</p>	<p>Request to amend as 90 days from the date of handing over of site with permanent power/water or opening of Confirmed & Irrevocable letter of credit, whichever is later Consignee wise LC shall be opened based on site</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
		<p>readiness status from respective consignees.</p>	
		<p>Request to amend as 90 days from the date of handing over of site with permanent power/water or opening of Confirmed & Irrevocable letter of credit, whichever is later Consignee wise LC shall be opened based on site readiness status from respective consignees.</p>	
		<p>Request to amend as 90 days from the date of handing over of site with permanent power/water or opening of Confirmed & Irrevocable letter of credit, whichever is later Consignee wise LC shall be opened based on site readiness status from respective consignees.</p>	

Sl. No.	Tender document reference	Points raised	Clarification
22.	<p>Page 52</p> <p>Section V - Schedule of Requirements</p> <p>Delivery Schedule: - 60 days from the date of purchase order.</p>	<p>Request to amend as 90 days from the date of handing over of site with permanent power/water or opening of Confirmed & Irrevocable letter of credit, whichever is later Consignee wise LC shall be opened based on site readiness status from respective consignees.</p> <p>Requested to amend as 'Delivery period of 24 weeks from the date of receipt of purchase order / site readiness / permanent power availability whichever is later and Installation and commissioning to be completed within 60 days of receipt of the stores/ goods at site.</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
		Requested to amend as 'Delivery period of 90 Days from the date of Purchase Order.	
23.	<p>Page 52</p> <p>Section V - Schedule of Requirements</p> <p>5. For the rate contract, the imported component price will be frozen at the foreign currency rates for a period of three years from the date of notification of award and the payment will be made at the time of actual placement of order and at the prevailing exchange rates. The customs duty, GST etc., will be at the actual rate at the time of placement of order. For the local currency quoted items, an annual increase of</p>	<p>Request to amend as</p> <p>For the rate contract, the imported component price will be frozen at the foreign currency rates valid for a period of 1 year from the date of notification of award and extendable on yearly basis on mutual acceptance. The payment will be made at the time of actual placement of order and at the prevailing exchange rates. The customs duty, GST etc., will be at the actual rate at the time of placement of order. For the local currency quoted items,</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	4% per year will be given	an annual increase of 6% per year will be given.	
24.	<p>Page 52</p> <p>Section V - Schedule of Requirements</p> <p>Place of Delivery: - Delivery places will be intimated at time of placement of order.</p>	Request to provide delivery location	No change. Hence Published terms and Condition prevails.
25.	<p>Page No. 69</p> <p>Section VI-A Qualification Criteria</p> <p>1. Manufacturer Bidder</p> <p>The bidder must have manufactured and supplied satisfactorily the similar model quoted in each schedule of the Schedule of Requirements either directly or through of any other authorized dealer to the extent of</p>	Request to amend as 'The bidder must have manufactured and supplied satisfactorily the similar model quoted in each schedule of the Schedule of Requirements either directly or through of any other authorized dealer to the extent of at least 1 No. for Sl. No.1, 2 & 3 under "Section – V, for Schedule of Requirements which minimum 5 No in each year during the last three years in India for Sl. No.1, 2 & 3 should have been supplied to Indian Institution	No change. Hence Published terms and Condition prevails.

Sl. No.	Tender document reference	Points raised	Clarification
	<p>at least 1 No. for Sl. No.1, 2 & 3 under “Section – V, for Schedule of Requirements” in any one of the last five years of which minimum 1 No. for Sl. No.1, 2 & 3 should have been supplied to Indian Institution and should be in use satisfactorily with no adverse report for at least one year preceding the date of bid opening.</p>	<p>and should be in use satisfactorily with no adverse report for at least one year preceding the date of bid opening.</p>	
26.	<p>Page No. 71</p> <p>Section VI-A Qualification Criteria</p> <p>a. The supply made to public sector/Government units in India/private sector, the bidder should submit an affidavit confirming that the performance statement given is correct along with copy of purchase order, copy of</p>	<p>Request to amend as</p> <p>a. The supply made to public sector/Government units in India/private sector, the bidder should submit an affidavit confirming that the performance statement given is correct along with copy of purchase order with masked values in support of satisfactory completion of</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	invoices, proof of payment received from Purchasers, documentary evidence (end user certificate) in support of satisfactory completion of orders and function as stated above.”	orders and function as stated above.”	
27.	<p>Page no. 78</p> <p>Section VIII Contract Form</p> <p>2. The following documents shall be deemed to form and be read and constructed as part of this Agreement, viz.:</p> <p>(a) the Bid Form and Price Schedule submitted by the Bidder;</p> <p>(b) the Schedule of Requirements;</p> <p>(c) the Technical Specifications;</p> <p>(d) the General Conditions of Contract;</p>	<p>Request to amend as</p> <p>2. The following documents shall be deemed to form and be read and constructed as part of this Agreement, in case of inconsistency among below documents, the terms and conditions of Supplier offer no _____ dated _____ shall prevail:</p> <p>(a) the Bid Form and Price Schedule submitted by the Bidder;</p> <p>(b) the Schedule of Requirements;</p> <p>(c) the Technical Specifications;</p>	<p>No change. Hence Published terms and Condition prevails.</p>

Sl. No.	Tender document reference	Points raised	Clarification
	(e) the Special Conditions of Contract; and (f) the Purchaser's Notification of Award	(d) the General Conditions of Contract; (e) the Special Conditions of Contract; and (f) the Purchaser's Notification of Award (g) Supplier offer no. ___ dated ____.	

All other terms and conditions of the tender remain unaltered.

The above forms part of the bidding documents. The bidder shall attach the copy of this corrigendum duly signed by their authorized signatory, in their bid.

Sd/-
Managing Director

SECTION – V
SCHEDULE OF REQUIREMENTS - REVISED

Sch. No.	Brief Description	Unit	Qty.	Bid security (Rs.)
1.	Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A with X-ray generator power 50 KW or more and X-ray Tube capacity 5 MHU or more	Nos.	5	Rs.5,00,000/-
2.	Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –B with X-ray generator power 32 KW or more and X-ray Tube capacity 3.5 MHU or more	Nos.	5	
3.	Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –C with X-ray generator power 24 KW or more and X-ray Tube capacity 2 MHU or more	Nos.	5	

Delivery Schedule: - 60 days from the date of purchase order.

Place of Delivery: - Delivery places will be intimated at time of placement of order.

Note:

- 1) The quantity indicated is tentative and the actual quantity may vary at the time of placement of orders. No claim on such variation will be entertained.
- 2) TNMSC reserves the rights to procure any number of CT Scanner from any of the above options to any of the hospitals based on the price differential and caseloads and the relative advantage of prices with respect to higher specification. The decision of TNMSC in this aspect shall be final.
- 3) The rate contract will be for a period of 3 years from the date of notification of award.
- 4) The bidders are also permitted to quote the imported component price in any foreign currency which will be converted into Indian Currency fixed by SBI on the date of opening of technical bid for evaluation of prices and the bidders should quote for the other component in Indian Rupees.

- 5) For the rate contract, the imported component price will be frozen at the foreign currency rates for a period of three years from the date of notification of award and the payment will be made at the time of actual placement of order and at the prevailing exchange rates. The customs duty, GST etc., will be at the actual rate at the time of placement of order. For the local currency quoted items, an annual increase of 4% per year will be given.
- 6) The bidder should indicate the following break up as a part of price bid separately.
 - a) CIF value of imported component.
 - b) Applicable customs duty on the assessable value.
 - c) Customs clearance charges.
 - d) Local transport to site.
 - e) Local accessories.
 - f) Installation and commissioning including turnkey.

SECTION VI : TECHNICAL SPECIFICATIONS - REVISED

ANNEXURE A

1. SPECIFICATION FOR WHOLE BODY MULTISLICE CT SCANNER (16/SLICE ROTATION) INCLUDING TURNKEY WORKS (50KW/5MHU tube)

The model offered should be the latest state of art having independent 16 row detector should be slip ring Technology. The speed should be adequate for all body, neurological and vascular imaging examinations. The offered should meet the Specifications as follows:

Gantry

1. The CT scanner should have low Voltage Slip Rings incorporated in the Gantry
2. Minimum scan time for a 360 degree rotation should **be 0.6 seconds** or less.
3. The gantry should have a tilt of ± 30 degrees on either side **Physical/ digital tilt** and remote tilt should be available as standard.
4. The gantry should be provided with User control panels on either side for easy positioning.
5. CT should be capable of acquiring at least 1 mm slice or less in 16 slice Helical mode. (Specify the actual range)
6. The gantry should have 3D positioning Laser lights.
7. The scan field of view (FOV) in acquisition mode should be 420 mm and above with intermediate steps for scanning different anatomies. (Specify the actual value)
8. Aperture should be of 70 cm in diameter or more.

X – Ray Tube:

1. The X-ray tube current should be **30 or less to 300 mA** with increments in steps.
2. The system should work combined with iterative technique to avoid excess X-ray dose, the tube current should not exceed **360 mA** to avoid unnecessary radiation to the patient.
3. Generator should be compact and inbuilt in the Gantry.
4. The system X ray power should be **50 KW or above**.
5. Tube voltage should be variable from 90 or less to 135 KVA.
6. The X ray tube should be essentially with dual focus with capacity of **at least 5MHU** or more. Any special feature of the X-ray tube to be highlighted with literature.

7. Specify the focal spots of the X-ray tube.
8. The X ray tube should have a cooling rate of not less than **700 KHU per min.**(Tubes with Higher Cooling rate preferred).
9. The X-ray tube Cooler Unit should be in built in the Gantry.
10. The system should be equipped with Ultra Low Dose Technology, specify the technology with detailed technical data on it.

Detectors:

1. The Effective Elements / Channels should be at least 650 or more per row.
2. In built mechanism for adapting the tube current during each scan. This should enable radiation dose reduction where body part thickness is less. Specify mechanism used in the system.
3. Specify the fan angle of the X-rays and the geometry. The detectors should not require frequent calibration.
4. Specify total number of rows and the total Number of Detector Cells.

Patient Table:

1. The patient table offered should have a minimum load bearing capacity of at least 200KG.
2. Vertical table travel: range and speed should be specified.
3. The floating table top width should be at least 45 cm for better comfort.
4. The range of metal free scan should be at least 150 cms.
5. Specify the reproducing accuracy of the table.
6. Remote UP/DOWN, FWD/BWD of the patient Couch should be standard.

Spiral / Helical Section:

1. The system offered should have spiral capability of at least 100 seconds & above. Real time helical atleast @ 10 images /sec should be standard.
2. The range of Spiral facility in Axial Direction should be more than 100 cms.
3. The image reconstruction time should be at least 10 images/second or more.
4. Bolus triggered spiral acquisition should be possible.
5. System should perform dose Reduction scans using the latest technology and specify the Technology.
6. High Resolution scan package should be offered as standard. Slice thickness and range should be freely selectable.

Computer Section:

1. The main console CPU offered should be the Latest Multi-tasking Processors and a menu driven platform with a RAM size of at least 12 GB or more. (Specify the actual value)
2. The monitor should be the latest Color of at least 19 inches or above and flat screen.
3. There should be console with one monitor & a Separate Independent Work Station.
4. The display matrix should be at least 1024/1024.
5. The Hard disk Capacity for both Image and Raw data should be more than 200 GB. (Specify the actual value)
6. It should have facility to store at least 100,000 Images. (Specify the actual value)
7. The system should be supported with archiving facility of DVD / CD Main console.
8. DICOM facility to send, store, print, receive, Query/Reterive, MWM, MPPS, etc should be standard.
9. PC based connectivity should be standard for easy transfer of Images & Report.

Image Processing section:

1. The Main Console should have standard software like 3D Volume rendering, MIP, CT Angio, Color Angio Display, 3D Artefact Suppressions, Pre set 3D Reconstruction & Display Protocols, Auto Bone Removals and Metal artifact suppression protocols, Cerebral (Brain perfusion) & Neuro DSA , CT Colonoscopy, should be standard.
2. Advanced workstation with minimum of 1TB storage with 3 GB RAM and software's for Abdominal analysis, Vascular Aorta, Circle of Willis, Carotid, Larynx airway, Renal and CT Runoff and all 3D VRT, SSD, Angio application, Virtual Bronchospy and DVD/CD archival is required with the latest software version in market and unlimited free upgrade of new versions.
3. The following software should be offered as standard (MPR, ROI, VOLUME CALCULATION, CT NUMBER Measurement of between – 10,000 to + 25,000, WINDOW WIDTH, WINDOW LEVEL, TOPOGRAM DISPLAY, CINE DISPLAY, HRCT LUNG, DYNAMIC SCAN)
4. Direct Display of MPR Images immediately after scan is preferable.

Resolution:

1. The system spatial resolution of the system should be 14 lp/cm or above, mention the same.
2. The low contrast resolution should not be more than 3mm at 0.3%. Shoulder, Pelvis Streak Artifact suppression software should be standard.
3. Noise Suppression protocols to maintain LCR at low dose should be standard.
4. Special Software's (Like MA Modulation in Routine) to ensure Dose efficiency should be standard.
5. Specify the CT Dose Index.

Accessories:

1. Multi size Dry Laser Imager of any reputed make.
2. Color Laser Printer of any reputed make.
3. Lead Glass of at least 2 ft by 4ft.
4. Stabilizer for the Entire system
5. UPS with 30 minutes back up of suitable capacity to handle CT Computer, Laser Imager, Work Stations and Color Printer.
6. Single Head Contrast Injector of reputed make with 100 No: Syringes & Tubing's.
7. European CE/FDA approval.
8. The equipment should have a valid AERB type approval or in case of NOC valid type approval certificate has to be submitted prior to submission of invoice for payments. The renewal of the same shall be the responsibility of the supplier. QA analysis and report shall be the part of the installation process. The license of operation shall be the responsibility of the supplier. The institute / hospital shall provide the necessary support. If required the company shall depute its engineer to complete these formalities.
9. Contrast Injector
 - (a) Single head contrast injector of reputed make with 100 nos. syringes and tubings.
 - (b) The bidder shall quote the difference in price between dual head fully automatic pressure injector of reputed make with 100 nos. of syringes and tubings and the single head pressure injector with the syringes and tubings as optional. The

purchaser reserves its rights to procure the equipment with dual head pressure injector with syringes and tubings instead of single head injector with syringes and tubings by adding the difference in price at its discretion. However, the difference in price between the dual head injector with accessories and single head injector with accessories will not be considered for price evaluation.

11. LED medical image viewer- 3 film size (4 feet or more)-2 Nos. per unit is required.
12. UPS with atleast 30 minutes backup for console and workstation is required.
13. Laser colour printer and desktop computer is required.
14. Necessary furniture like revolving chairs and tables, cupboards should be provided.

Warranty:

1. Three Years for CT Scanner System including Main system, X ray tube accessories.
2. Comprehensive AMC including all system, X ray tube, accessories should be quoted from 4th to 10th year
3. Installation and user training to be provided at site.

Software and Capability- Main Console:-

1. Perform whole body scanning including pediatric, infant, trauma, vascular, neurological application.
2. Real time contrast monitoring acquisition with auto scan initiation protocol with auto injector trigger (Bolus tracking).
3. Dose saving protocols must be available. Specify the technology.
4. Automatic tube current selection suited for selected exam.
5. Standards functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
6. Real time MPR (Curved/oblique/coronal/sagittal)
7. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
8. Minimum and maximum intensity projections.
9. 3-D shaded surface display (SSD).
10. Advanced 3-D volume rendering technique (VRT)
11. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
12. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy, Colonoscopy)
13. Automatic bone sculpting / removal

14. Deleted.
15. Perfusion software if available

Software – Additional Workstation Console (1 No.) from Principal CT Manufacturer Only:-

1. Standard functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
2. Real time MPR (Curved/oblique/coronal/sagittal)
3. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
4. Minimum and maximum intensity projections.
5. 3-D shaded surface display (SSD).
6. Advanced 3-D volume rendering technique (VRT)
7. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
8. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy)
9. Automatic bone sculpting / removal
10. CT brain perfusion (May be available in main console or in additional workstation or in both)
11. CT Colonoscopy
12. Filming option is mandatory.
13. The workstation should be a dedicated one and should not a shared one with the main console i.e., the workstation should be capable to perform post processing & filming function even if the main console is in switch off condition.
14. The workstation should have dedicated HDD to store the processed image and it can access all the post processed images without depending on the main console.
15. Tele Radiology Software package (server or Cloud based) - Optional (Price to be quoted separately). **Please specify the details of the package offered.**

Turnkey works : (Price to be quoted Separately)

The Purchaser will provide one suitable room of required dimensions for installing the CT scanner and also adjoining rooms of required size such as Equipment room, Console room, Patient Waiting room, Change room and Reception. It is the responsibility of the Supplier to provide and finish the interiors of the rooms in all respects for successful installation and commissioning of the equipment to the satisfaction of the Purchaser.

This shall include everything required for successful commissioning but not limited to the

following:

- i. **Civil Works:** Necessary Civil works like Platform, Pedestals, etc., if any, required shall be provided.
- ii. **Flooring:** Shall provide and lay Anti-static flooring of 2 mm thick, manufactured by reputed standard manufacturers as per BS 2050-1978. Colour as per Purchaser's requirement.
- iii. **False Ceiling:** Shall provide and fix false ceiling of Luxalon make (84 R) with necessary fixing arrangements as per manufacturers specifications. Colour as per Purchaser's requirement.
- iv. **Wall tiles** - Walls up to ceiling shall be provided with vitrified tiles 60cm x 60cm. Colour as per Purchaser's requirement.
- v. Radiation shielding of walls, doors etc., as per AERB and BARC regulations.
The area of 1500 sq. ft. for each site will be considered for price evaluation purpose. However the payment will be for the actual area of work done and the payment will be made as per actuals
- vi. **Electrical Works (Lump Sum Cost):**
 1. The purchaser will provide main incoming power at one point near the CTScanner Room. The supplier shall supply and install the main incoming switch fuse unit from this point, separate lighting and power distribution boards and lay distribution lines required for all items installed with the CT Scanner and electrical lighting for the main equipment and Console room, Patient waiting room, Change room, etc.
 2. Adequate safety measures in the electrical power supply system as per standards.
 3. Dedicated isolated earthing as per standards.
 4. Floor trenches with wooden /concrete covers in blocks for the cables in the Equipment room.
 5. Necessary concealment with wire mesh/sheet metal at the cable entry / exit points, various openings in the equipment and electrical panels etc., to make the system rodent/ pest proof.
- vii. Cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point should be quoted separately. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual

work done and the payment will be made as per actuals

- viii. **Plumbing:** Required Plumbing work shall be provided. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual work done and the payment will be made as per actuals
- ix. 6 ton capacity AC (3x2ton capacity) for gantry and 4 ton capacity AC (2x2toncapacity) for console room shall be provided for each CT scanner.

ANNEXURE B

2. SPECIFICATION FOR WHOLE BODY MULTISLICE CT SCANNER (16/SLICE ROTATION) INCLUDING TURNKEY WORKS (32KW / 3.5 MHU tube)

The model offered should be the latest state of art having independent 16 row detector should be slip ring Technology. The speed should be adequate for all body, neurological and vascular imaging examinations. The offered should meet the Specifications as follows:

Gantry

1. The CT scanner should have low Voltage Slip Rings incorporated in the Gantry
2. Minimum scan time for a 360 degree rotation should be 0.8 seconds or less.
3. The gantry should have a tilt of ± 30 degrees on either side **Physical/ digital tilt** and remote tilt should be available as standard.
4. The gantry should be provided with User control panels on either side for easy positioning.
5. CT should be capable of acquiring at least 1 mm slice or less in 16 slice Helical mode. (Specify the actual range)
6. The gantry should have 3D positioning Laser lights.
7. The scan field of view (FOV) in acquisition mode should be **420 mm** and above with intermediate steps for scanning different anatomies. (Specify the actual value)
8. Aperture should be of 70 cm in diameter or more.

X – Ray Tube:

1. The X-ray tube current should be **30 or less to 240 mA** with increments in steps.
2. The system should work combined with iterative technique to avoid excess X-ray dose, the tube current should not exceed 360mA to avoid unnecessary radiation to the patient.
3. Generator should be compact and inbuilt in the Gantry.
4. The system X ray power should be **32 KW or above**.
5. Tube voltage should be variable from **90 or less to 130 KVA**.
6. The X ray tube should be essentially with dual focus with capacity of **at least 3.5 MHU** or more. Any special feature of the X-ray tube to be highlighted with literature.

7. Specify the focal spots of the X-ray tube.
8. The X ray tube should have a cooling rate of not less than 500 KHU per min.(Tubes with Higher Cooling rate preferred).
9. The X-ray tube Cooler Unit should be in built in the Gantry.
10. The system should be equipped with Ultra Low Dose Technology, specify the technology with detailed technical data on it.

Detectors:

1. The Effective Elements / Channels should be at least 650 or more per row.
2. In built mechanism for adapting the tube current during each scan. This should enable radiation dose reduction where body part thickness is less. Specify mechanism used in the system.
3. Specify the fan angle of the X-rays and the geometry.The detectors should not require frequent calibration.
4. Specify total number of rows and the total Number of Detector Cells.

Patient Table:

1. The patient table offered should have a minimum load bearing capacity of at least **180KG**.
2. Vertical table travel: range and speed should be specified.
3. The floating table top width should be at least 45 cm for better comfort.
4. The range of metal free scan should be at least **135 cms**.
5. Specify the reproducing accuracy of the table.
6. Remote UP/DOWN, FWD/BWD of the patient Couch should be standard.

Spiral / Helical Section:

1. The system offered should have spiral capability of at least 100 seconds & above. Real time helical atleast @ 10 images /sec should be standard.
2. The range of Spiral facility in Axial Direction should be more than 100 cms.
3. The image reconstruction time should be atleast 10 images/second or more.
4. Bolus triggered spiral acquisition should be possible.
5. System should perform dose Reduction scans using the latest technology and specify the Technology.
6. High Resolution scan package should be offered as standard. Slice thickness and range should be freely selectable.

Computer Section:

1. The main console CPU offered should be the Latest Multi-tasking Processors and a menu driven platform with a RAM size of at least 12 GB or more. (Specify the actual value)
2. The monitor should be the latest Color of at least 19 inches or above and flat screen.
3. There should be console with one monitor & a Separate Independent Work Station.
4. The display matrix should be at least 1024/1024.
5. The Hard disk Capacity for both Image and Raw data should be more than 200 GB. (Specify the actual value)
6. It should have facility to store at least 100,000 Images. (Specify the actual value)
7. The system should be supported with archiving facility of DVD / CD Main console.
8. DICOM facility to send, store, print, receive, Query/Reterive, MWM, MPPS, etc should be standard.
9. PC based connectivity should be standard for easy transfer of Images & Report.

Image Processing section:

1. The Main Console should have standard software like 3D Volume rendering, MIP, CT Angio, Color Angio Display, 3D Artefact Suppressions, Pre set 3D Reconstruction & Display Protocols, Auto Bone Removals and Metal artifact suppression protocols, Cerebral (Brain perfusion) & Neuro DSA , CT Colonoscopy, should be standard.
2. Advanced workstation with minimum of 1TB storage with 3 GB RAM and software's for Abdominal analysis, Vascular Aorta, Circle of Willis, Carotid, Larynx airway, Renal and CT Runoff and all 3D VRT, SSD, Angio application, Virtual Bronchospy and DVD/CD archival is required with the latest software version in market and unlimited free upgrade of new versions.
3. The following software should be offered as standard (MPR, ROI, VOLUME CALCULATION, CT NUMBER Measurement of between – 10,000 to + 25,000, WINDOW WIDTH, WINDOW LEVEL, TOPOGRAM DISPLAY, CINE DISPLAY, HRCT LUNG, DYNAMIC SCAN)
4. Direct Display of MPR Images immediately after scan is preferable.

Resolution:

1. The system spatial resolution of the system should be 14 lp/cm or above, mention the same.
2. The low contrast resolution should not be more than 3mm at 0.3%. Shoulder, Pelvis Streak Artifact suppression software should be standard.
3. Noise Suppression protocols to maintain LCR at low dose should be standard.
4. Special Software's (Like MA Modulation in Routine) to ensure Dose efficiency should be standard.
5. Specify the CT Dose Index.

Accessories:

1. Multi size Dry Laser Imager of any reputed make.
2. Color Laser Printer of any reputed make.
3. Lead Glass of at least 2 ft by 4ft.
4. Stabilizer for the Entire system
5. UPS with 30 minutes back up of suitable capacity to handle CT Computer, Laser Imager, Work Stations and Color Printer.
6. Single Head Contrast Injector of reputed make with 100 No: Syringes & Tubing's.
7. European CE/FDA approval.
8. The equipment should have a valid AERB type approval or in case of NOC valid type approval certificate has to be submitted prior to submission of invoice for payments. The renewal of the same shall be the responsibility of the supplier. QA analysis and report shall be the part of the installation process. The license of operation shall be the responsibility of the supplier. The institute / hospital shall provide the necessary support. If required the company shall depute its engineer to complete these formalities.
9. Contrast Injector
 - (a) Single head contrast injector of reputed make with 100 nos. syringes and tubings.
 - (b) The bidder shall quote the difference in price between dual head fully automatic pressure injector of reputed make with 100 nos. of syringes and tubings and the single head pressure injector with the syringes and tubings as optional. The

purchaser reserves its rights to procure the equipment with dual head pressure injector with syringes and tubings instead of single head injector with syringes and tubings by adding the difference in price at its discretion. However, the difference in price between the dual head injector with accessories and single head injector with accessories will not be considered for price evaluation.

10. LED medical image viewer- 3 film size (4 feet or more)-2 Nos. per unit is required.
11. UPS with atleast 30 minutes backup for console and workstation is required.
12. Laser colour printer and desktop computer is required.
13. Necessary furniture like revolving chairs and tables, cupboards should be provided.

Warranty:

1. Three Years for CT Scanner System including Main system, X ray tube accessories.
2. Comprehensive AMC including all system, X ray tube, accessories should be quoted from 4th to 10th year
3. Installation and user training to be provided at site.

Software and Capability- Main Console:-

1. Perform whole body scanning including pediatric, infant, trauma, vascular, neurological application.
2. Real time contrast monitoring acquisition with auto scan initiation protocol with auto injector trigger (Bolus tracking).
3. Dose saving protocols must be available. Specify the technology.
4. Automatic tube current selection suited for selected exam.
5. Standards functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
6. Real time MPR (Curved/oblique/coronal/sagittal)
7. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
8. Minimum and maximum intensity projections.
9. 3-D shaded surface display (SSD).
10. Advanced 3-D volume rendering technique (VRT)
11. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
12. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy, Colonoscopy)

13. Automatic bone sculpting / removal
14. Deleted
15. Perfusion software if available

Software – Additional Workstation Console (1 No.) from Principal CT Manufacturer Only:-

1. Standard functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
2. Real time MPR (Curved/oblique/coronal/sagittal)
3. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
4. Minimum and maximum intensity projections.
5. 3-D shaded surface display (SSD).
6. Advanced 3-D volume rendering technique (VRT)
7. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
8. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy)
9. Automatic bone sculpting / removal
10. CT brain perfusion (May be available in main console or in additional workstation or in both)
11. CT Colonoscopy
12. Filming option is mandatory.
13. The workstation should be a dedicated one and should not a shared one with the main console i.e., the workstation should be capable to perform post processing & filming function even if the main console is in switch off condition.
14. The workstation should have dedicated HDD to store the processed image and it can access all the post processed images without depending on the main console.
15. Tele Radiology Software package (server or Cloud based) - Optional (Price to be quoted separately) – **Please specify the details of the package offered.**

Turnkey works : (Price to be quoted Separately)

The Purchaser will provide one suitable room of required dimensions for installing the CT scanner and also adjoining rooms of required size such as Equipment room, Console room, Patient Waiting room, Change room and Reception. It is the responsibility of the Supplier to provide and finish the interiors of the rooms in all respects for successful installation and commissioning of the equipment to the satisfaction of the Purchaser.

This shall include everything required for successful commissioning but not limited to the

following:

- i. **Civil Works:** Necessary Civil works like Platform, Pedestals, etc., if any, required shall be provided.
- ii. **Flooring:** Shall provide and lay Anti-static flooring of 2 mm thick, manufactured by reputed standard manufacturers as per BS 2050-1978. Colour as per Purchaser's requirement.
- iii. **False Ceiling:** Shall provide and fix false ceiling of Luxalon make (84 R) with necessary fixing arrangements as per manufacturers specifications. Colour as per Purchaser's requirement.
- iv. **Wall tiles** - Walls up to ceiling shall be provided with vitrified tiles 60cm x 60cm. Colour as per Purchaser's requirement.
- v. Radiation shielding of walls, doors etc., as per AERB and BARC regulations. The area of 1500 sq. ft. for each site will be considered for price evaluation purpose. However the payment will be for the actual area of work done and the payment will be made as per actuals
- vi. **Electrical Works (Lump Sum Cost):**
 1. The purchaser will provide main incoming power at one point near the CTScanner Room. The supplier shall supply and install the main incoming switch fuse unit from this point, separate lighting and power distribution boards and lay distribution lines required for all items installed with the CT Scanner and electrical lighting for the main equipment and Console room, Patient waiting room, Change room, etc.
 2. Adequate safety measures in the electrical power supply system as per standards.
 3. Dedicated isolated earthling as per standards.
 4. Floor trenches with wooden /concrete covers in blocks for the cables in the Equipment room.
 5. Necessary concealment with wire mesh/sheet metal at the cable entry / exit points, various openings in the equipment and electrical panels etc., to make the system rodent/ pest proof.
- x. Cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point should be quoted separately. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual

work done and the payment will be made as per actuals

- vii. **Plumbing:** Required Plumbing work shall be provided. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual work done and the payment will be made as per actuals
- viii. 6 ton capacity AC (3x2ton capacity) for gantry and 4 ton capacity AC (2x2ton capacity) for console room shall be provided for each CT scanner.

ANNEXURE - C

3. SPECIFICATION FOR WHOLE BODY MULTISLICE CT SCANNER (16 SLICE ROTATION INCLUDING TURNKEY WORKS (24 KW/2MHU)

The model offered should be the latest state of art having independent 16 row detector should be slip ring Technology. The speed should be adequate for all body, neurological and vascular imaging examinations. The offered should meet the Specifications as follows:

Gantry

1. The CT scanner should have low Voltage Slip Rings incorporated in the Gantry
2. Minimum scan time for a 360 degree rotation should be less than 1 second.
3. The gantry should have a tilt of ± 30 degrees on either side **Physical/ Digital tilt.**
4. The gantry should be provided with User control panels for easy positioning. (Specify the locations)
5. CT should be capable of acquiring at least 1 mm slice or less in 16 slice Helical mode. (Specify the actual range)
6. The gantry should have 3D positioning Laser lights.
7. The scan field of view (FOV) in acquisition mode should be 420 mm and above with intermediate steps for scanning different anatomies. (Specify the actual value)
8. Aperture should be of 65 cm in diameter or more.

X – Ray Tube:

1. The X-ray tube current should be **180 mA** equivalent to 333 mA with increments in steps.
2. The system should work combined with iterative technique to avoid excess X-ray dose and unnecessary radiation to the patient.
3. Generator should be compact and inbuilt in the Gantry.
4. The system X ray power should be 24 KW or above.
5. Tube voltage should be variable from **90 or less to 130 KVA.**
6. The X ray tube should be essentially with dual focus with capacity of at least 2 MHU or more. Any special feature of the X-ray tube to be highlighted with literature.
7. Specify the focal spots of the X-ray tube.
8. The X ray tube should have a cooling rate of not less than 300 KHU per min.

(Tubes with Higher Cooling rate preferred). (Specify the actual value)

9. The X ray tube Cooler Unit should be in built in the Gantry.

10. The system should be equipped with Ultra Low Dose Technology, specify the technology with detailed technical data on it.

Detectors:

1. The Effective Elements / Channels should be at least 650 or more per row.
2. In built mechanism for adapting the tube current during each scan. This should enable radiation dose reduction where body part thickness is less. Specify mechanism used in the system.
3. Specify the fan angle of the X-rays and the geometry. The detectors should not require frequent calibration.
4. Specify total number of rows and the total Number of Detector Cells.

Patient Table:

1. The patient table offered should have a minimum load bearing capacity of at least 180KG.
2. Vertical table travel should be available: Specify range and speed.
3. The floating table top width should be at least 45 cm for better comfort.
4. The range of metal free scan should be at least 120 cms. (Specify the actual range)
5. Specify the reproducing accuracy of the table.
6. Remote UP/DOWN, FWD/BWD of the patient Couch should be standard.

Spiral / Helical Section:

1. The system offered should have spiral capability of at least **90 seconds & above**. Real time helical atleast **@ 9 images /sec** should be standard.
2. The range of Spiral facility in Axial Direction should be more than 100 cms.
3. The image reconstruction time should be atleast **9 images/second** or more.
4. Bolus triggered spiral acquisition should be possible.
5. System should perform dose Reduction scans using the latest technology and specify the Technology.
6. High Resolution scan package should be offered as standard. Slice thickness and range should be freely selectable.

Computer Section:

1. The main console CPU offered should be the Latest Multi-tasking Processors and a

menu driven platform with a RAM size of at least 8 GB or more. (Specify the actual value)

2. The monitor should be the latest Color of at least 19 inches or above and flat screen.

There should be console with one monitor & a Separate Independent Work Station.

3. The display matrix should be at least 1024/1024.

4. The Hard disk Capacity for both Image and Raw data should be more than 200 GB.

(Specify the actual value)

5. It should have facility to store at least 100,000 Images. (Specify the actual value)

6. The system should be supported with archiving facility of DVD / CD Main console.

7. DICOM facility to send, store, print, receive, Query/Reterive, MWM, MPPS, etc should be standard.

8. PC based connectivity should be standard for easy transfer of Images & Report.

Image Processing section:

1. The Main Console should have standard software like 3D Volume rendering, MIP, CT Angio, Color Angio Display, 3D Artefact Suppressions, Pre set 3D Reconstruction & Display Protocols, Auto Bone Removals and Metal artifact suppression protocols, CT Colonoscopy, should be standard.

2. Advanced workstation with minimum of 1TB storage with 3 GB RAM and software's for Abdominal analysis, Vascular Aorta, Circle of Willis, Carotid, Larynx airway, Renal and CT Runoff and all 3D VRT, SSD, Angio application, Virtual Bronchospy and DVD/CD archival is required with the latest software version in market and unlimited free upgrade of new versions.

3. The following software should be offered as standard (MPR, ROI, VOLUME CALCULATION, CT NUMBER Measurement of between – 10,000 to + 25,000, WINDOW WIDTH, WINDOW LEVEL, TOPOGRAM DISPLAY, CINE DISPLAY, HRCT LUNG, DYNAMIC SCAN)

4. Direct Display of MPR Images immediately after scan is preferable.

Resolution:

1. The system spatial resolution of the system should be 14 lp/cm or above, mention the same.
2. The low contrast resolution should not be more than 3mm at 0.3%. Shoulder, Pelvis Streak Artifact suppression software should be standard.
3. Noise Suppression protocols to maintain LCR at low dose should be standard.
4. Special Software's (Like MA Modulation in Routine) to ensure Dose efficiency should be standard.
5. Specify the CT Dose Index.

Accessories:

1. Multi size Dry Laser Imager of any reputed make.
2. Color Laser Printer of any reputed make.
3. Lead Glass of at least 2 ft by 4ft.
4. Stabilizer for the Entire system
5. UPS with 30 minutes back up of suitable capacity to handle CT Computer, Laser Imager, Work Stations and Color Printer.
6. Single Head Contrast Injector of reputed make with 100 No: Syringes & Tubing's.
7. European CE/FDA approval.
8. The equipment should have a valid AERB type approval or in case of NOC valid type approval certificate has to be submitted prior to submission of invoice for payments. The renewal of the same shall be the responsibility of the supplier. QA analysis and report shall be the part of the installation process. The license of operation shall be the responsibility of the supplier. The institute / hospital shall provide the necessary support. If required the company shall depute its engineer to complete these formalities.
9. Turnkey: Civil, Electrical, plumbing as per site requirements
10. Contrast Injector
 - (a) Single head contrast injector of reputed make with 100 nos. syringes and tubings.
 - (b) The bidder shall quote the difference in price between dual head fully automatic pressure injector of reputed make with 100 nos. of syringes and tubings and the single head pressure injector with the syringes and tubings as optional. The purchaser reserves its rights to procure the equipment with dual head pressure injector with

syringes and tubings instead of single head injector with syringes and tubings by adding the difference in price at its discretion. However, the difference in price between the dual head injector with accessories and single head injector with accessories will not be considered for price evaluation.

11. LED medical image viewer- 3 film size (4 feet or more)-2 Nos. per unit is required.
12. UPS with atleast 30 minutes backup for console and workstation is required.
13. Laser colour printer and desktop computer is required.
14. Necessary furniture like revolving chairs and tables, cupboards should be provided.

Warranty:

1. Three Years for CT Scanner System including Main system, X ray tube accessories.
2. Comprehensive AMC including system, X ray tube, accessories should be quoted from 4th to 10th year
3. Installation and user training to be provided at site.

Software and Capability- Main Console:-

1. Perform whole body scanning including pediatric, infant, trauma, vascular, neurological application.
2. Real time contrast monitoring acquisition with auto scan initiation protocol with autoinjector trigger (Bolus tracking).
3. Dose saving protocols must be available. Specify the technology.
4. Automatic tube current selection suited for selected exam.
5. Standards functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
6. Real time MPR (Curved/oblique/coronal/sagittal)
7. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
8. Minimum and maximum intensity projections.
9. 3-D shaded surface display (SSD).
10. Advanced 3-D volume rendering technique (VRT)
11. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
12. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy, Colonoscopy)
13. Automatic bone sculpting / removal
14. Deleted

15. Perfusion software if available

Software – Additional Workstation Console (1 No.) from Principal CT Manufacturer:-

1. Standard functions like measurements, annotations, windowing, image addition and subtraction, artifact reduction capability, reversal of images, filters.
2. Real time MPR (Curved/oblique/coronal/sagittal)
3. Dynamic scanning and cine display-please specify the frame and number of images that can be displayed.
4. Minimum and maximum intensity projections.
5. 3-D shaded surface display (SSD).
6. Advanced 3-D volume rendering technique (VRT)
7. CT Angiography with colored facility, MIP, MPR, SSD, VRT.
8. 3-D virtual endoscopy (CT endoscopy, Bronchoscopy)
9. Automatic bone sculpting / removal
10. Deleted
11. CT Colonoscopy
12. Filming option is mandatory.
13. The workstation should be a dedicated one and should not be a shared one with the main console i.e., the workstation should be capable to perform post processing & filming function even if the main console is in switch off condition.
14. The workstation should have dedicated HDD to store the processed image and it can access all the post processed images without depending on the main console.
16. Tele Radiology Software package (server or Cloud based) - Optional (Price to be quoted separately). **Please specify the details of the package offered.**

Turnkey works : (Price to be quoted Separately)

The Purchaser will provide one suitable room of required dimensions for installing the CT scanner and also adjoining rooms of required size such as Equipment room, Console room, Patient Waiting room, Change room and Reception. It is the responsibility of the Supplier to provide and finish the interiors of the rooms in all respects for successful installation and commissioning of the equipment to the satisfaction of the Purchaser. This shall include everything required for successful commissioning but not limited to the following:

- i. **Civil Works:** Necessary Civil works like Platform, Pedestals, etc., if any, required shall be provided.
- ii. **Flooring:** Shall provide and lay Anti-static flooring of 2 mm thick, manufactured by reputed standard manufacturers as per BS 2050-1978. Colour as per Purchaser's requirement.
- iii. **False Ceiling:** Shall provide and fix false ceiling of Luxalon make (84 R) with necessary fixing arrangements as per manufacturers specifications. Colour as per Purchaser's requirement.
- iv. **Wall tiles** - Walls up to ceiling shall be provided with vitrified tiles 60cm x 60cm. Colour as per Purchaser's requirement.
- v. Radiation shielding of walls, doors etc., as per AERB and BARC regulations. The area of 1500 sq. ft. for each site will be considered for price evaluation purpose. However the payment will be for the actual area of work done and the payment will be made as per actuals
- vi. **Electrical Works (Lump Sum Cost):**
 1. The purchaser will provide main incoming power at one point near the CTScanner Room. The supplier shall supply and install the main incoming switch fuse unit from this point, separate lighting and power distribution boards and lay distribution lines required for all items installed with the CT Scanner and electrical lighting for the main equipment and Console room, Patient waiting room, Change room, etc.
 2. Adequate safety measures in the electrical power supply system as per standards.
 3. Dedicated isolated earthing as per standards.
 4. Floor trenches with wooden /concrete covers in blocks for the cables in the Equipment room.

5. Necessary concealment with wire mesh/sheet metal at the cable entry / exit points, various openings in the equipment and electrical panels etc., to make the system rodent/ pest proof.
- xi. Cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point should be quoted separately. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual work done and the payment will be made as per actuals
- vii. **Plumbing:** Required Plumbing work shall be provided. Approx. of 50 metres will be considered for price evaluation purpose. However the payment will be for the actual work done and the payment will be made as per actuals
- viii. 6 ton capacity AC (3x2ton capacity) for gantry and 4 ton capacity AC (2x2toncapacity) for console room shall be provided for each CT scanner.

Note: Bidders shall furnish technical compliance statement for the model quoted, details of manufacturer including deviations if any. Technical catalogue /data sheet shall also be furnished in support of technical compliance statement without fail.

B	Turnkey Works (Per site)										
i	Minor Civil works and finishing works as per specification		Lump sum per site								
ii	False Ceiling as per specification		Per sq. ft.								
iii	Flooring as per specification		Per sq. ft.								
iv	Wall tiles as per specification		Per sq. ft.								
v	Radiation shielding as per specification		Per sq. ft.								
vi	Electrical works as per specification		Lump sum per site								
vii	cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point		Per mtr.								
viii	Plumbing works		Per mtr								
ix	Air Conditioning unit as per specification		1 set.								
2.	Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure – B with X-ray generator power 32 KW or more		5 Nos.								

	and X-ray Tube capacity 3.5 MHU or more										
A	Optionals										
i	Tele Radiology Software package (server or cloud based)		1 no.								
ii	Difference in price between Dual head pressure injector with syringes and tubings and single head pressure injector with syringes and tubings as per specification		1 no.								
B	Turnkey Works (Per site)										
i	Minor Civil works and finishing works as per specification		Lump sum per site								
ii	False Ceiling as per specification		Per sq. ft.								
iii	Flooring as per specification		Per sq. ft.								
iv	Wall tiles as per specification		Per sq. ft.								
v	Radiation shielding as per specification		Per sq. ft.								
vi	Electrical works as per specification		Lump sum per site								
vii	cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core		Per mtr.								

	aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point										
viii	Plumbing works		Per mtr								
ix	Air Conditioning unit as per specification		1 set.								
3.	Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure – C with X-ray generator power 24 KW or more and X-ray Tube capacity 2 MHU or more		5 Nos.								
A	Optionals										
i	Tele Radiology Software package (server or cloud based)		1 no.								
ii	Difference in price between Dual head pressure injector with syringes and tubings and single head pressure injector with syringes and tubings as per specification		1 no.								
B	Turnkey Works (Per Site)										
i	Minor Civil works and finishing works as per specification		Lump sum per site								

ii	False Ceiling as per specification		Per sq. ft.								
iii	Flooring as per specification		Per sq. ft.								
iv	Wall tiles as per specification		Per sq. ft.								
v	Radiation shielding as per specification		Per sq. ft.								
vi	Electrical works as per specification		Lump sum per site								
vii	cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point		Per mtr.								
viii	Plumbing works		Per mtr								
ix	Air Conditioning unit as per specification		1 set.								

i. Unit price in (6) (Rs. in words)

1. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A but with X-ray generator power above 50 KW with 5 MHU X-ray Tube as per specification with HSN code & rate of GST.....

A. Optionals

i. Tele Radiology Software package (server or cloud based) with HSN code & rate of GST.....

ii. Difference in price between Dual head pressure injector with syringes and tubings and single head pressure injector with syringes and tubings as per specification with HSN code & rate of GST.....

B. Turnkey Works (per Site)

- i. Minor Civil works and finishing works as per specification with HSN code & rate of GST
- ii. False Ceiling as per specification with HSN code & rate of GST.....
- iii. Flooring as per specification with HSN code & rate of GST.....
- iv. Wall tiles as per specification with HSN code & rate of GST.....
- v. Radiation shielding as per specification with HSN code & rate of GST.....
- vi. Electrical works as per specification with HSN code & rate of GST.....
- vii. cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point with HSN code & rate of GST.....
- viii. Plumbing works with HSN code & rate of GST.....
- ix. Air Conditioning unit as per specification with HSN code & rate of GST.....

2. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A, but with X-ray generator power above 32 KW with 3.5 MHU X-ray Tube as per specification with HSN code & rate of GST.....

A. Optionals

- i. Tele Radiology Software package (server or cloud based) with HSN code & rate of GST.....
- ii. Difference in price between Dual head pressure injector with syringes and tubings and single head pressure injector with syringes and tubings as per specification with HSN code & rate of GST.....

B. Turnkey Works (per Site)

- i. Minor Civil works and finishing works as per specification with HSN code & rate of GST
- ii. False Ceiling as per specification with HSN code & rate of GST.....
- iii. Flooring as per specification with HSN code & rate of GST.....
- iv. Wall tiles as per specification with HSN code & rate of GST.....

- v. Radiation shielding as per specification with HSN code & rate of GST.....
 - vi. Electrical works as per specification with HSN code & rate of GST.....
 - vii. cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point with HSN code & rate of GST.....
 - viii. Plumbing works with HSN code & rate of GST.....
 - ix. Air Conditioning unit as per specification with HSN code & rate of GST.....
3. Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –B but with X-ray generator power above 24 KW with 2 MHU X-ray Tube as per specification with HSN code & rate of GST.....

A. Optionals

- i. Tele Radiology Software package (server or cloud based) with HSN code & rate of GST.....
- ii. Difference in price between Dual head pressure injector with syringes and tubings and single head pressure injector with syringes and tubings as per specification with HSN code & rate of GST.....

B. Turnkey Works (per Site)

- i. Minor Civil works and finishing works as per specification with HSN code & rate of GST
- ii. False Ceiling as per specification with HSN code & rate of GST.....
- iii. Flooring as per specification with HSN code & rate of GST.....
- iv. Wall tiles as per specification with HSN code & rate of GST.....
- v. Radiation shielding as per specification with HSN code & rate of GST.....
- vi. Electrical works as per specification with HSN code & rate of GST.....
- vii. cost per running metre of supply and laying of main electrical power cable(95 sq mm 31/2 core aluminium) from main power supply point of the hospital panel board to the CT scanner incoming point with HSN code & rate of GST.....
- viii. Plumbing works with HSN code & rate of GST.....
- ix. Air Conditioning unit as per specification with HSN code & rate of GST.....

a) Annual Maintenance Charges (labour only) per year /per unit for 7 years after 3 years free warranty maintenance period

1. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A but with X-ray generator power above 50 KW with 5 MHU X-ray Tube as per specification with HSN code & rate of GST.....
2. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A, but with X-ray generator power above 32 KW with 3.5 MHU X-ray Tube as per specification with HSN code & rate of GST.....
3. Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –B but with X-ray generator power above 24 KW with 2 MHU X-ray Tube as per specification with HSN code & rate of GST.....

b) Annual Maintenance Charges (Comprehensive) for 7 years / per year / per unit after free warranty maintenance period

1. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A but with X-ray generator power above 50 KW with 5 MHU X-ray Tube as per specification with HSN code & rate of GST.....
2. Whole Body Multislice CT scanner (16/Slice Rotation) including turnkey works as per specification Annexure –A, but with X-ray generator power above 32 KW with 3.5 MHU X-ray Tube as per specification with HSN code & rate of GST.....
3. Whole Body Multislice CT Scanner (16/Slice Rotation) including turnkey works as per specification Annexure –B but with X-ray generator power above 24 KW with 2 MHU X-ray Tube as per specification with HSN code & rate of GST.....

Note:

- (a) In case of discrepancy between unit price and total price, the unit price shall prevail.
- (b) **This price schedule should be placed in separate sealed cover “Cover B”**
- (c) **GST applicable for Annual Maintenance Charges shall be indicated separately.**
- (d) **The bidder should indicate the HSN code of the equipment/ service and applicable GST rates.**
- (e) **The bidder should quote for the prices separately from column 5(a) to 5(e) and should not state “as inclusive”.**
- (f) **The bidder should indicate the following break up separately.**
 1. **CIF value of imported component.**

- 2. **Applicable customs duty on the assessable value.**
- 3. **Customs clearance charges.**
- 4. **Local transport to site.**
- 5. **Local accessories.**
- 6. **Installation and commissioning including turnkey.**

Place:

Signature of Bidder.....

Date:

Name

Business Address