Baba Farid University of Health Sciences, Faridkot

E-TENDER NOTICE FOR supply & installation of* PET-CT & SPECT-CT Machine with Dual Head Gamma Camera with Civil Works including turnkey parts *for Nuclear Medicine Department. at GGS Medical College & Hospital, Faridkot.

E-Tender Form

(E-Tender enquiry for Supply and Installation of PET-CT & SPECT-CT Machine with Civil Works including turnkey parts in the department of Nuclear Medicine at GGS Medical College & Hospital, Faridkot

Tender Notification No :	**To be provided by the E-procurement portal of the Govt. of Punjab.**
Requirement	**E-Tender notice for supply and Installation of PET-CT & SPECT-CT Machine with Civil Works including turnkey parts**
Cost of the tender document:-	Rs.2360/- (Non-refundable) to be deposited through Online Mode Only in favor of Registrar, Baba Farid University of Health Sciences, Faridkot.
Tender Processing Fee	To be charged by Govt. of Punjab as per its norms. (Non- refundable)
Earnest Money Deposit (EMD)	As per scope of supply. The Earnest Money Deposit must be submitted in the shape of Online Payment in favor of Registrar, Baba Farid University of Health Sciences, Faridkot on or before due date (Refundable to the Non-successful bidders, without any type of interest or other charges). In case of successful tenderer, it will be returned after receipt of the security amount as per tender terms and conditions.
Date of start of downloading of tender documents	**Immediately** from the website of the Punjab Government i.e. https://eproc.punjab.gov.in
Website for downloading of the tender document:-	https://eproc.punjab.gov.in **However, the details may also be obtained from the University website i.e. www.bfuhs.ac.in and college website www.ggsmch.org**
Date time and place of Pre-bid Conference	***03.011.2023 up to 10.30 AM in the Committee Room, Baba Farid University of Health Sciences, Sadiq Road, Faridkot.***
Last date for downloading of the tender document:-	***28.11.2023 up to 12.30 pm***
Last date & time for uploading of the tender documents:-	***28.11.2023 up to 1.30 pm (through online mode only)***
Date, time and venue for opening of the Technical Bids	Technical Bids shall be opened online through e-procurement site of the Government of Punjab i.e. https://eproc.punjab.gov.in on any working day after due permission of the competent authority.
Date, time and venue for opening of the Price Bids	Financial Bid of the technically qualified bidders shall be opened online through e-procurement site of the Government of Punjab i.e. https://eproc.punjab.gov.in on any working day
Who can be contacted for obtaining more information about the tender.	Principal, Guru Gobind Singh Medical College & Hospital, Sadiq Road, Faridkot. 01639-251111, 90413-88395, 94655-13138, E-mail: procurement@ ggsmch.org ggsmc@punjab.gov.in , (on all working days from 9.00 a.m. to 5.00 p.m.)

NOTICE INVITING E-TENDER

E-Tenders are invited on or before **28.11.2023** from manufacturers or their authorized agents/distributors **for supply and Installation of PET-CT & SPECT-CT Machine with Civil Works including turnkey parts required at GGS Medical College & Hospital, Faridkot**. The tender document containing detailed terms & conditions may be downloaded from the E-procurement website of the Punjab Government i.e. https://eproc.punjab.gov.in and its detail may also be seen at the University website www.bfuhs.ac.in and college website www.ggsmch.org

TERMS AND CONDITIONS:-

1. The tender must be uploaded on or before the last date/ time of the submission of tender.
2. The Tender processing fee should be submitted through Net Banking/Credit card/Online mode only and as per Punjab Govt.
3. Technical Bids shall be opened online through e-procurement site of the Government of Punjab i.e. https://eproc.punjab.gov.in on any working day after due permission of the competent authority.
4. Financial Bid of the technically qualified bidders shall be opened online through e-procurement site of the Government of Punjab i.e. https://eproc.punjab.gov.in on any working day
5. The Registrar/Principal reserves all rights to accept or reject any or all the tenders without assigning any reason.
6. A Pre-Bid Conference will be held on ***03.11.2023 at 10.30 AM in the committee Room, Baba Farid University of Health Sciences, Sadiq Road, Faridkot. Any prospective bidder can attend the pre-bid conference to seek any clarifications about the tender. The proceedings of the pre bid conference will only be uploaded on the website https://eproc.punjab.gov.in and will form integral part of his tender document. Any clarifications/ Modifications/ Changes notified during the pre-bid conference will be mandatory and binding.***
7. Corrigendum/Addendum/Corrections, if only will be published on the Website ***https://eproc.punjab.gov.in***

Registrar

INSTRUCTIONS/ GUIDELINES TO THE TENDERERS

1. The bidder needs to register himself/ herself on **https://eproc.punjab.gov.in** the bidder is also required to obtain Class III digital signature certificates to complete this process.
2. Please download the Tender document from the website of e-procurement of the Govt. of Punjab **https://eproc.punjab.gov.in** Please fill all the relevant blanks on all the pages of the tender document sign along with a stamp/ seal all pages and then a scanned copy of the same may be uploaded on the website at the time of submission of the tender document.
3. **It should be clearly noted that this tender will be accepted though e-tender mode only.** The tenders submitted through offline mode will not be accepted under any circumstances.
4. **Tender Fee :** as per Govt. and should be deposited through online mode only
5. **Tender Processing Fee:** as per Punjab Govt. (non-refundable) may be deposited through online mode i.e. Net Banking/ Credit Card/ Debit Card only. The tender processing fee will not be accepted through any other mode.
6. **Refundable Earnest Money Deposit (EMD): As per scope** to be deposited online mode only in favor of Registrar Baba Farid University of Health Sciences, Faridkot.
7. **Upload** signed copy of Technical Bid Compliance Statement **(Annexure-I)**.
8. **Upload** an affidavit regarding Non-Black listing as per proforma given at **Annexure-II** duly attested by an Executive Magistrate or a Notary Public.
9. In case the Bidder is Authorized Supplier/Agency, the Authorization Certificate as per the Format given at **Annexure-'III'** (duly filled in), **to be uploaded**.
10. In case the Bidder is Authorized Supplier/Agency, an undertaking/certificate issued by their Principal Manufacturer/Supplier that in case dealership/distributorship is withdrawn after supply of the Instruments then the Principal Manufacturer/Supplier will be responsible for Guarantee/Warranty/AMC/CMC of the Equipments/Instruments. **(Annexure – 'IV')**, **to be uploaded**.
11. **Upload** details of Bank Account for refund of EMD **(Annexure – V).**
12. In addition to this, following **documents are to be uploaded** with Technical Bid:-
    - i) Details of registration as Company /Firm/ Establishment.
    - ii) **Certification as per *technical specifications***.
    - iii) Copy of Certificate of Registration for service Tax/TIN/TAN/PAN/VAT.
    - iv) A certificate from C.A. regarding Annual Turnover with Balance Sheet for the last 3 (three) financial years i.e. 2019-20, 2020-21.2021-22
    - v) Copy of the IT Returns for three financial years i.e.2019-20, 2020-21 &2021-22.
15. Price should be quoted and **uploaded** only in Excel Sheet proforma at **Annexure-'VI'**.

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SCOPE OF SUPPLY

Sr.	Name of Equipment	Approx. Qty. Reqd.	Earnest Money to be Submitted (in Rs.)
1.	**PET-CT Machine with Civil Works including turnkey parts**	01	60,00,000/-
2	**SPECT-CT Machine with Dual Head Gamma Camera with Civil Works including turnkey parts**	01	40,00,000/-

Quantity may increase / decrease as per requirement.

TECHNICAL SPECIFICATIONS

Technical specifications

Positron Emission Tomography / Computed Tomography (PET/CT)	
A	**Technical Specification**
i	A latest technology digital SiPMT based Positron Emission Tomography system with integrated spiral CT scanner capable of generating 128-slices/ rotation, for commissioning by the vendor **on buyback Basis.** ***(which includes decommissioning of existing PET/CT and disposal of spent Sources)***
ii	The system should be US-FDA/ CE-European with 4 digit notified body number / BIS certified.
iii	Scope of the work: The bidder shall be responsible for supply, installation and commissioning of the PET/CT **on turn-key basis.**
iv	The bidder should visit the site and check the proposed area allocated for the installation of equipment is in line with the requirement. A certificate should be attached that the space is adequate for the installation of the quoted systems.
v	The final price comparison of rates for awarding the contract will be made after adding price of all the components (price of the PET/CT including accessories & CMC and turnkey part) and deducting the price of buyback offer (quote separately for each component).
vi	The radiation equipment offered against this tender shall duly conform to the prescribed International/National standards and norms of radiation safety. Type approval certificate/NOC from AERB, Mumbai for the quoted model MUST be attached with the technical bid or else the bid will be summarily rejected.
vii	All the QA / acceptance tests as per NEMA and AERB need to be carried out by company engineer **in the presence of Nuclear Medicine Physicist** of the department. A detailed report needs to be submitted for onwards transmission to AERB to get the license for operation of the equipment as stated in the Notice Inviting Tender (NIT). All the required phantoms for QA tests will need to be arranged by the vendor. The Company will also arrange such phantoms during periodical QA tests.

viii	The tenders along with all the commitments, claims, specifications, guarantee, warrantee etc. pertaining to the equipment should be submitted directly by the Original Equipment Manufacturer (also referred to as Vendors or Suppliers), who shall be wholly and solely responsible for all the statements/commitments in this connection.
ix	Any options or added facilities not indicated in the specifications may also be given. Any improved modifications or updated versions of the system can be included in the quotations.
1	**General:**
i	A latest technology digital SipMT based whole body Positron Emission Tomography system with integrated spiral CT scanner capable of generating 128-slices per rotation. The system should be designed for providing volume measurements of metabolic and physiological processes using positron emitters, as well as for producing accurate structural and anatomical fusion images and making attenuation maps for CT based attenuation correction.
ii	The system should have capability for simultaneous data acquisition, processing, image reconstruction & analysis and fusion of PET with CT images.
iii	The system should operate on 220 (± 10) or 440V (± 20) V A/C, 50 HZ, as per the supply from Local Electricity Department.
iv	All the Application, Operating and Service Manuals in English language in duplicates should be provided by the vendor at the time of handing over the machine. At least one of these manual sets to be provided in computer readable format, preferably as Word for Windows format document**.**
2	**Gantry and Detector:**
i	Gantry should have integrated PET & CT hardware.
ii	The patient gantry aperture size should be ≥ 70 cm and uniform for both, PET and CT
iii	The PET scanner should employ non-hygroscopic high light yield crystals for detecting 511 KeV gamma photons for coincidence detection.
iv	The scanner must have a continuous ring of detectors without any gaps
v	Ring diameter should be ≥ 70 cm
vi	PET crystal thickness should be ≥ 20 mm
vii	The transverse field of view should be ≥ 50 cm
viii	The geometric axial field of view (FOV) must be ≥ 15 cm.

ix	It must be capable of acquiring 45 or more transverse cross- sectional slices, simultaneously without undergoing any axial motion
x	The scanner must have low power laser lines orthogonally mounted on the gantry for patient alignment and auto-contouring. The laser should be mounted in such a way that the patient can be positioned form either side of the gantry and the patient bed.
xi	Efficient Gantry cooling system for continuous running of the machine
3	**CT Specifications**
i	Multi detector CT having capability of generating 128 transverse cross-sectional slices simultaneously in one rotation.
ii	Multiple pitch factor settings should be available and freely selectable by the user.
iii	Rotation time should be ≤ 0.5 sec for 360 degree and must have option to select other rotation time settings.
iv	Image slice thickness should be from ≤ 1 mm to 10 mm and freely selectable
v	Low contrast resolution should be at least ≤ 5 mm @ 0.3% with 20 cm CATPHAN phantom
vi	High contrast resolution should be 15.0 Lp/cm or better at 0% MTF
vii	Microprocessor controlled high frequency ≥ 70 kW or more x-ray generator
viii	Tube Voltage range should be between 80 - ≥ 130 kV
ix	Anode heat storage capacity of 7.0 MHU or more
x	Tube Current of 20-600 mA and option to select any setting as per user.
xi	Automatic self-testing system
xii	Laser alignment light should control the iso-centric position of the patient in all planes
xiii	Filters / Collimators and other specific features to reduce radiation dose to the patient (with separate adult and pediatric protocols)
4	**Patient Bed:**
i	Precision bed with low attenuation carbon fiber pallet and minimum sag of the patient table top.
ii	It should be able to bear 180 kg or more patient weight.
iii	A digital readout of the horizontal and vertical position of the bed must exist and must be located near the aperture controls for the bed to provide ease in positioning
iv	The horizontal motion of the patient bed must be electrically motorized and computer controlled with an independent operator control option as well. Operator controls accessible from both sides of the patient must be provided for both horizontal and vertical movements.

v	Full body horizontal length should be ≥ 190 cm to cover the whole-body imaging (Head to Feet) in a single go.
vi	The table height should be good enough to unload the stretcher and wheel chair patients without footrest.
vii	A Digital readout of the horizontal and vertical position of the bed must exist and must be located near the aperture controls for the bed to provide ease in positioning.
viii	A flat panel for radiotherapy planning should also be provided.
ix	Low attenuation ergonomic head holder, pediatric pallet / restrain, knee-leg support and other accessory pallets
5	**Performance Specifications:**
i	All specifications must comply with NEMA Standards Publication NU2 or latest performance measurements without altering instrument parameters. QC Software to measure these parameters must be available in the system.
ii	TOF / Deep learning TOF based reconstruction algorithms for better lesion detectability
iii	Axial & Transverse spatial resolution at 1 cm & 10 cm from the central axis of the gantry should be ≤ 6.3 mm FWHM
iv	NEMA system sensitivity must be ≥ 8.5 cps/KBq at center
v	System energy resolution should be ≤ 12.0 %
vi	3-D scatter fraction should be ≤ 40%
vii	Peak NECR should be >105 Kcps,
viii	Additional feature that helps to enhance the NEMA spatial resolution values must be offered as a standard part.
6	**Data Acquisition and Reconstruction Workstations:**
i	One high performance multi-tasking Acquisition Workstation (separate for PET and CT) independent of main processing unit. The workstation should have a minimum 2TB storage, high processor speed, and high resolution (1024 x 1024 or more) antiglare flat panel Dual LCD monitor of minimum 19" size. The workstation should be of latest specifications at the time of shipment.
ii	*Acquisition Modes:* Acquisition in full 3-D mode must include Static, Whole Body, Dynamic and Gated cardiac acquisition.
iii	*Acquisition Protocols*: The acquisition program should support pre-programmed scan protocols with acquisition and reconstruction parameters and patient's information with simple, dynamic editing of parameters. These parameters would include all information necessary to acquire data on the PET scanner (e.g., scan duration, patient information, bed motion), as well as information necessary for reconstruction.

iv	*Whole Body Acquisition:* Multi bed acquisitions (e.g., for the purpose of whole-body oncology studies) should advance the bed from one position to the next automatically.
v	*Dynamic frame Mode Acquisition*: The acquisition set-up software must support multi-frame acquisition of different (arbitrary) frame durations with no loss of data between frames.
vi	List Mode Acquisition for cardiac studies should also be available as standard feature.
vii	*ECG Gating* should be part of the offer and is to be provided with necessary hardware and software.
viii	Intercom with user programmable patient instruction system
ix	Ultralow dose CT protocols should be available for hybrid PET/CT protocols. Same PET CT protocol should be usable for Contrast CT in single acquisition.
x	CT based attenuation correction
xi	*Reconstruction*: PET data acquisition and image reconstruction should be concurrent process i.e.; image reconstruction should simultaneously start for the acquired image while acquisition is still in process.
xii	Fully 3-D speedy iterative reconstruction with scatter correction, OSEM technique, High definition (HD) and Time-of-flight / Deep learning TOF reconstruction algorithms must be standard features.
xiii	Reconstruction time: At least 25 frames/sec
xiv	Advanced 3-D Volume rendering with 3-D fusion, Model / Image based 3-D scatter correction, virtual endoscopy & bronchoscopy
xv	Low dose iterative reconstruction algorithm should also be provided
xvi	*Pixel Size*: The User should have the option to specify the pixel size for reconstruction. The reconstruction program should support reconstruction in image sizes of at least 256 x 256 or higher.
xvii	*Scatter Correction*: Scatter correction must be provided based on scan of the actual patient whose scan is being corrected and processed automatically.
xviii	System management software for computerized calibration, quality control for all scanner performance parameters, diagnostics.
xix	Data editing facility for acquired data
xx	Latest DICOM based networking and compatible software for both PET & advanced CT applications.
xxi	Facility of DVD & CD writing and image transferring to processing workstation.
7	**Processing Workstation and Clinical Application Software:**

i	***Two nos.*** of high-performance multi-tasking post processing independent workstations to be provided each having minimum 16 GB RAM, minimum 512 MB graphic card, minimum 1 TB storage, Optical Mouse, Key-board and medical grade - anti-glare flat panel-2 MP monitors of at least 19" size. It should also have CD/DVD combo drive with writer facility along with USB port for data transfer. The graphical user inter-face (GUI) should be identical to that of the acquisition unit. Both Workstations should have concurrent licenses for all the software (as describe in this document). Both workstations should have multimodality viewing capability for smooth workflow in department. **OR** Latest technology Client-server architecture two nos. of client- workstations to be provided. Server: minimum 96 GB RAM, and minimum 2TB storage and should be provided with single floating license for all software. Client: Optical Mouse, Key-board and medical grade - anti-glare flat panel-2 MP monitors of at least 19" size. It should also have CD/DVD combo drive with writer facility along with USB port for data transfer. The graphical user inter-face (GUI) should be identical to that of the acquisition unit. Both workstations should have multimodality viewing capability for smooth workflow in department.
ii	Communications - Ethernet with TCP/IP protocols and DICOM-3.0 or latest networking of all possible equipment in the facility with their peripherals, seamless connectivity to acquisition station and image server.
iii	Image comparison software for review with longitudinal evaluation of baseline-follow up studies using PERCIST.
iv	Dynamic PET processing and viewing software
v	Fusion software for PET/CT/MRI/SPECT data, including imported data and provision for multiple phases in 3-D demonstration.
vi	Computer aided diagnosis software with quantification ability for neurological applications including assessment of dementia by measuring relative SUV
vii	Complete cardiac package with ECG gated studies (prospective and retrospective tagging) and ECG gated dose modulation
viii	Cardiac PET viability review application software. Should have single floating license in case of client server-based solution or should be available on both workstations in case of independent standalone workstations solution.
ix	PET DICOM 3.0 or higher version facilities for clinical applications must be implemented. It should have the ability to import MR /CT DICOM Data
x	Provision to make DICOM/ PDF/ JPEG /AVI /MPEG digital output.
xi	On site remote service diagnostic facility with Wi-Fi enabled broadband internet connection.

xii	**All future software updates (acquisition as well as processing) to the existing during warranty and CMC period shall be free of cost**
xiii	Latest advanced CT radiation dose reduction technology and software that should offer higher speed image reconstruction.
xiv	One 40 TB server for data storage, archiving and retrieval. It should be connected through DICOM with the main console.
xv	There should be provision of Tele reporting.
8	**Peripherals / Accessories:**
i	A 3-phase input/output UPS (APC, Tata Liebert, Emerson, Eaton or equivalent) with maintenance free batteries (Exide, Amron, Base, Yuasa or equivalent) for the complete system including CT with minimum 30 min. backup at full load should be provided.
ii	One latest dual head pressure injector compatible with CT and 200 sets of 200 ml disposable CT syringes with tubing and connectors.
iii	Rates for 400 sets of 200 ml disposable CT syringes with tubing and connector, per year should also be quoted for at least 2 years.
iv	One dose calibrator for PET radionuclides with **two** standard calibration sources of at least one mCi strength.
v	Machine specific source for calibration of the system to be provided and replaced as and when required during the period of warranty and CMC. At the time of replacement, old spent source will need to be transported back by the vendor to the manufacturer without any cost to the institute, to fulfill the AERB conditions.
vi	ECG gating device & necessary electronics to enable gated cardiac acquisition with inbuilt or external ECG print out facility. Provide two sets of ECG leads
vii	Required Phantoms for CT & PET Quality Assurance and system calibration.
viii	One high resolution color laser printer for color hardcopy on paper with 10 sets of all cartridges and 200 packets of compatible high quality glossy sheet per year during warranty and CMC period.
ix	Two desktop PCs of latest specifications with licensed windows & MS office and a LaserJet printer for patient reports. DVD/CD Writer and reader should be standard part of all computers.
x	One laser dry view CT Film Printer with CT films of 14” x 17” size. 20 packets of dry laser films should also be provided.
xi	Two portable area zone monitors/gun monitors
xii	Five digital pocket dosimeters
xiii	Two wall mounted laundry monitor for any Contamination.
xiv	Five dose carrier with handles
xv	Two lead lined stainless steel waste bins

xvi	One L bench for lead equivalent glass with 50 lead interlocking bricks and 20 lead interlocking corners bricks
xvii	Four sets of each, medium and small curved forcipes, tong tweezers, crucible tongs
xviii	Calibration sources supplied with machine for QA/QC purposes. Five more sources to be supplied, one each at 2 years interval during the next 10 years along with return of the old spent source without any extra cost to the Institute. Quote the price separately for freezing the rates.
xix	Head rest, Leg rest, Pediatric pallet, Head pallet, belts for head, belt for abdomen should be included as standard long with machine.
xx	One Dehumidifier for scanning room with dry portable vacuum cleaner, temperature and humidity monitor, rat repellent must be installed.
xxi	Customized table along with comfortable chair must be provided with Acquisition terminal and Workstation.
9	**Others**
i	The supplier shall be required to undertake all the site preparatory work in the area where the PET/CT will be installed
ii	Equipment is to be installed as per AERB requirements. Qualified personnel from the company should install and commission the scanner.
iii	Appropriately sized lead glass in the acquisition terminal room
iv	**Warranty**: The complete system should have a warranty including the radioactive reference source required for calibration of the scanner, crystals, detectors and CT X-Ray tubes replacement for a period of FIVE years after the satisfactory commissioning and handing over of the equipment. Warranty will include all accessories and third-party items. Pro-rata warranty is not acceptable.
v	**Comprehensive maintenance contract** (CMC) for whole system as in warranty clause including CT X-Ray tube replacement as and when required and accessories for a period of FIVE years after the expiry of warranty period. (6^{th} to 10^{th} Year), should be quoted year wise in INR by vendor
vi	Replacement of Batteries of UPS during warranty and CMC period will be done free of cost
vii	The peripherals / accessories, electronic / electrical consumables (batteries etc), phantom source and calibration sources will also form part of the warranty and CMC Service, repair and maintenance of all third-party items will be the sole responsibility of primary vendor. Replacement / Replenishment of the coolant for gantry will also form the part of warranty as well as CMC
viii	The price quoted for the equipment, turnkey works, warranty and CAMC should include all expenses including the customs duty, customs clearances, insurance, freight, clearance charges, and also all expenses towards the maintenance and repairs of the entire PET-CT unit including spare-parts, electrical and electronic items, computer systems, air- conditioning, cooling systems, networking, etc.

ix	GGSMCH/ BFUHS will not be held responsible for payment under any head other than CAMC payment during this 5-year period and necessary document required from time to time.
x	Maintenance contract from the local agents is also not acceptable.
xi	At least 95 % uptime should be maintained during warranty as well as CMC period.
xii	During warranty period and CAMC period, the vendor shall give in the form of Bank guarantee, an uptime guarantee of 95 %. A penalty of Rs.20, 000/per day will be charged after the expiry of **95 % uptime warranty**. If the machine lies non-functional for a period of more than one week continuously, the same penalty (at the rate of Rs.20, 000/- per day) will be imposed even if 95 % uptime clause is met with.
xiii	Any bid without agreeing to this uptime warranty and penalty clauses will be summarily rejected.
xiv	Availability of adequate spares and accessories for the next 10 years should be ensured the vendor.
xv	Onsite training by trained engineers and application specialists should be available.
xvi	The vendor shall provide complete and specific details of maintenance operations performed under service contracts.
xvii	After sale service to be available locally with availability of onsite engineer.
xviii	Warranty and service are considered as part of the bid specification.
xix	Periodic CT QA and NEMA testing must be done by vender on its own for next 10 years and all necessary phantoms and dose of activity required for that must be arrange by the vender itself.

3. SITE MODIFICATION/ CIVIL WORK for PET/CT

	SITE MODIFICATION/ CIVIL WORK
1	The scope of work for site modification for PET/CT shall include PET andSPECT examination room, console area, dose admin room, post admin room patient waiting areas, hot lab cum radio-pharmacy room, radioactive store, radioactive waste store, radioactive decontamination rooms, active toilets, cardiac room, general Patient Waiting Rooms, UPS area/room of PET/CT facility. ***(if, required additional to existing facility)*** ***Note:*** *All the required civil work of Ground Floor, First floor and Second floor [excluding Civil work of SPECT/CT machine room and SPECT/CT UPS room] will be a standard part.*
2	Renovation of the room for installation of the equipment as per AERB requirement including planning, designing and execution of all the works pertaining to Civil, Electrical, and Air Conditioning etc. While designing the area, the existing rooms should be retained wherever possible and only unavoidable changes should be made as

	per AERB norms. Acquisition terminal will require cordoning off with appropriately sized lead glass.
3	Supplier shall ensure that the equipment model quoted commissioned within the designated area with the area constructed by the Hospital as per AERB approved layout plan. All minor Structural changes which are part of turnkey including any brick work or concrete work should be carried as per AERB approved drawing.
4	Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.
5	Provisions should be made for placing the various accessories in console room, work-station and printer locations.
6	It should also include lead-lined doors with lead glass peeping windows, radiation warning indicators and signage, aluminum false ceiling, GVT floor tiles, and full-height wall tiles. ***(if, required additional to existing facility)***
7	All site modification works should comply with specified standards of the hospital/AERB.
8	Check and evaluate the structural stability of PET/CT and other Rooms under modification.
9	Double earthing with copper plate for the main equipment with use of earth leakage circuit breaker, as per ISI specifications.
10	The existing main power cable from the electric substation up to the distribution panel to be checked for size & capacity and be supplied and changed, if required
11	Any other minor work as per requirements also to be carried out.
12	All the dismantled material/ malba to be cleared and taken away by the vendor.
13	After sale service to be made available locally in Faridkot. Service through Third party is not allowed.
14	The acceptance of the installation shall be subject to satisfactory handing over of the System to the department and certificate to this effect will be issued by the institute. Warranty of equipment will start from the date of receiving the License from AERB.
15	Onsite training by trained engineer and application specialist for at least 4 weeks period and whenever required should be provided.
16	CCTV with audio and video recording with sufficient Hard Disk DVR storage capacity of minimum storage of 30 days of HD recording for monitoring patients and other prominent places of the department must be installed with Two viewing monitors of minimum size of 32 inches or more. CCTV viewing of post injection Patient waiting rooms (PET/CT & SPECT/CT) should be available for viewing in the respective consoles through Two HD monitors of size of 32 inch or above.

17	Painting of the entire section in ACC. The walls should be finished with acrylic / plastic emulsion.
18	Adequate fire safety system with Alarm and control panel (Dry/Wet type: as per equipment standard) should be provided for the entire Department: Ground, First and Second floor including Machine rooms, UPS Room, Console room, and corridors.
19	Adequate AHUs with sufficient capacity apart from Split ACs should be provided for efficient cooling, of PET/CT and SPECT/CT machine rooms, console, UPS rooms, patient waiting rooms, injection rooms, Radio pharmacy rooms, corridors, and other areas of Ground, first and second floor. [Replacement of existing all AHU Packaged units (7X17 T) and 16 Split ACs] Ducting, related False ceiling work, installation and functioning of AHUs will be the standard part of the tender.
20	Separate Patient addressing system with mike, speakers and bell system for both PET/CT and SPECT/CT connected to console room.
21	Warning Red light outside scanning room compatible with machines.
22	One Latest DG (Diesel Generator) Set with all accessories for the backup of the Electricity of the whole department on full load. It should be supplied with minimum 5 years warranty without any extra charge.

Warranty for 05 years
05 years CMC after expire of warranty

When quoting the price, the company can inspect the site wherever turnkey is involved.

Certificate (s) regarding **standard** in quality must be uploaded.

GUARANTEE / WARRANTEE SHOULD BE CLEARLY MENTIONED

Technical Specification for SPECT Machine with Dual Head Gamma Camera with Civil work including Turn key

	DETAILED TECHNICAL SPECIFICATIONS FOR SPECT/CT SYSTEM
	PART A: GENERAL
i	A latest technology latest release dual headed gamma camera having SPECT/CT technology, for commissioning by the company, for commissioning by the vendor **on buyback Basis.** ***(which includes decommissioning of existing SPECT/CT and spent Sources)***
ii	The principal company/authorized vendor submitting the tenders along with all the commitments, claims, specifications, guarantee, warrantee etc. pertaining to the equipment shall be wholly and solely responsible for all the statements/commitments as well as supply, installation and commissioning of the gamma camera.
iii	The bidder may visit the site and check the proposed area allocated for the installation of equipment is in line with the requirement. A certificate should be attached that the space is adequate for the installation of the quoted systems.
iv	The price of the main system and accessories should be quoted separately
v	The final price comparison of rates for awarding the contract will be made after adding price of all the components (price of the SPECT/CT including accessories & CMC and turnkey part) and deducting the price of buyback offer (quote separately for each part).
vi	Vendor should visit the department to have a look of the old equipment as well as space available for installation of the new system. A certificate should be attached that the space is adequate for the installation of the quoted system.
vii	The supplier shall be required to undertake all the site preparatory work in the area where the gamma camera is to be installed.
viii	The radiation equipment offered against this tender shall duly conform to the prescribed international/national standards and norms of radiation safety. AERB type approval certificate / NOC MUST are attached.
ix	All the QA/acceptance tests as per NEMA and AERB need to be carried out by company engineer in the presence of Nuclear Medicine Physicist of the department, for onwards transmission to AERB to get the license for operation of the equipment.
x	All the required Phantoms for QA tests will need to arrange by the vendor. The company will also arrange such phantoms during periodical QA tests during the duration of warranty & CMC period.
xi	Third party items procured to complete the tender requirements must be included in the warranty period and CMC

xii	Any options or added facilities not indicated in the specifications may also be given. Any improved modifications or updated versions of the system can be included in the quotation.
I.	**General**
i	System should be capable of performing all Planar, Dynamic, SPECT, Gated Cardiac SPECT, WB SPECT and Whole-body imaging applications.
ii	Integrated CT hardware for transmission attenuation correction and functional anatomical image fusion, for nuclear medicine images on same patient table. System should be supplied along with image fusion software & hardware.
iii	Automatic / protocol driven quality control should be provided. The system shall allow scheduling daily weekly and monthly quality control procedures without manual intervention.
iv	All the Application, Operating and Service manuals in duplicates should be provided by the vendor at the time of handing over the machine. At least one of these manual sets to be provided in computer readable format.
v.	The system should be HIS and PACS compatible DICOM ready. Vendor shall be responsible for integration of the new system with the PACS and HIS of the institute including all required software and hardware support without any additional cost
2.	**Gantry**
i.	Unobstructed wide-open integrated SPECT/CT gantry. with clockwise and anticlockwise movement with acquisitions with all detector configurations (90,180 and <90 degrees).
ii.	The system shall support non-circular orbits and automatic contouring for SPECT
iii.	A hand controller is necessary for gantry and detector motion and shall be provided.
iv.	The system shall support Step and Shoot and Continuous SPECT detector rotation modes for all acquisitions.
v.	Gantry motion controlled by remote control handset and via user defined programs.
vi.	Persistence scope (LED Color Display) mounted on the gantry or wall for continuous display of patient position and gantry parameters.
vii.	Should provide system compatible fully integrated bed ECG Gating Device and persistent display with all leads and cables for MUGA / Gated Data acquisition.
viii.	The gantry shall have safety features including emergency stop buttons on both sides of the gantry, and patient contact sensors on each collimator, the collimator support arm and covers
ix.	The gantry shall be linked to the patient table and have the necessary sensors to recognize the patient table position at all times to prevent accidental collisions.
x.	The system shall be able to perform non-uniform attenuation correction using CT attenuation maps acquired in the same system, for cardiac and general SPECT imaging.

xi.	Detector heads must extend out from the gantry far enough to facilitate imaging in a hospital bed as well as a stretcher, without having to move the patient to the edge of the bed in a dangerous position.
xii.	The ability to control the scan plus display the status of the acquisition and system should be available at the gantry. (i.e., p-scope, patient information, dual detector acquisition display, collimator installed, patient positioning display, patient table and detector angle position, radius and tilt).
xiii.	The patient positioning monitor shall be a touch-screen type for easy interaction.
xiv.	The user shall be able to unload the patient table from the imaging position from the hand controller, the gantry display, or the control box at the workstation console.
xv.	The system shall allow for scheduled daily and monthly quality control procedures to be performed automatically without manual intervention beyond clicking start.
3.	**Detector**
i.	Rectangular high-definition detectors having UFOV of at least 530 x 380 mm(± 5%) to enable adequate patient breadth coverage.
ii.	Crystal thickness should be 9.5 mm (3/8").
iii.	Number of PMTs should be 59 or more per detector with 1 ADC per PMT (True digital detector).
iv.	The detectors should be equipped with automatic body countering (ABC).
v.	System should have facility for automatic correction for energy, linearity and uniformity.
vi.	Performance parameters should conform NEMA NU-1, 2012 standards complying the latest specifications prevailing at the time of supply of equipment and clearly mentioned with literature support.
viii	Intrinsic Spatial Resolution: min requirement 3.8 mm or better than that.
ix	Intrinsic (integral) Flood Field Uniformity: min requirement: 3.5 % or better than that.
x	System Spatial Resolution (LEHR at 10 cm without scatter): min requirement 7.5 mm or better than that.
xi	Intrinsic spatial Linearity UFOV (Absolute, Differential): min requirement 0.55 mm or better than that.
xii	All Above NEMA NU-1, 2012 Standard should be competitive andbetter value shall be given added preference as the better NEMA value will provide better image quality.
xiii	The system must offer a maximum count rate of ≥460 kcps.
xiv	The system must offer a maximum count rate (@ 15% window) of ≥310 kcps.
xv	UFOV Field of View shall be equal to or larger than 52 cm x 37 cm (20.5 in x 14.5 in).

xvi	Reconstructed spatial resolution with scatter using iterative reconstruction must be equal to or better than 5.8mm center, 5.0 radial and 4.1 tangential per NEMA NU 1-2012.
xvii	Intrinsic Energy Resolution must be <10% per NEMA NU1-2012
xviii	Intrinsic Energy Resolution must be ≤11.9% for Tc99m at 310 kcps incident count rate.
xix	Change of energy peak position must be ≤0.5% up to 310 kcps incident count rate.
xx	System spatial resolution without scatter for FWHM in CFOV must be ≤8.0 mm for 310 kcps incident count rate
xxi	System absolute planar sensitivity (LEHR/ LEHRS at 10 cm) should be 200 cpm / micro-Curie or more.
xxii	Maximum count rate at 15% window should be 300 Kcps or more.
4.	**Collimators**
i.	One pair of Low Energy High Resolution (LEHR/ LEHRS) collimators with collision sensors along with proper storage carts and easy changing.
ii.	One pair of MEGP collimators with collision sensors along with proper storage carts and easy changing.
iii.	One pair of HEGP collimators with collision sensors along with proper storage carts and easy changing.
5.	**CT Specifications**
i.	In-built 6 or more slices per rotation CT to generate attenuation correction map to apply on nuclear medicine images for body attenuation correction along with anatomical and functional data co-registration software for exact image localization (SPECT/CT fusion software).
ii.	Fast rotation CT scanner with rotation time being <1.0 sec or better
iii.	Transaxial field of view should be 50 cm
iv.	Tube heat anode storage capacity of 2.0 MHU or more.
v.	CT should offer a 15 lp/cm high contrast resolution or better
vi.	Continuous X-ray generation with CT generator power of 24 KW or more.
vii.	Tube current: 20-200 mA or better
viii.	KV range should be from 80 to 130 or better
6.	**Patient Bed:**
i.	Single universal table for all studies i.e., Planar, SPECT and Whole body imaging and CT images.

ii.	Table top should be composed of low attenuation carbon fiber covered by mattress pad and straps and should be able to withstand not less than 200 Kg of body weight
iii.	Whole body imaging covering should not be less than 200 cm without the need for additional table extender
iv.	Table should have facility for lowering the height to facilitate easy patient transfer and should be movable to permit imaging for sitting, standing, stretcher/wheel chair patients. Minimum patient bed height should be < 54cm (<21 in) for easy loading/ unloading of patients.
v.	Adjustable head positioning pallets, injection arm rest, Cardiac arm rest, leg support, patient restraint & support
vi.	System compatible ECG Trigger to be provides.
vii.	The patient bed shall have a patient pallet thickness < 15mm (<0.6 in) to minimize distance between patient and detector during SPECT rotation.
viii.	The patient bed shall have motorized vertical & horizontal motion activated from the hand control, as well as preset positions.
ix.	
x.	The bed shall offer a lighted interactive scan planning ruler for automatic patient positioning on either side of the patient table.
xi.	Patient bed shall have the ability to position any part of the body under the detectors without moving the patient. All pallet motions shall be activated from the hand controller.
xii.	The attenuation of the pallet at 140 keV should be < 10%
xiii.	One Head rest, Leg rest, Paediatric pallet, Head pallet, belts for head, belt for abdomen.
7.	**Acquisition station**
i.	One Acquisition station independent of main processing unit capable of data acquisition in Cardiac SPECT, Gated SPECT, Static, dynamic, multi-gated, whole body scanning, SPECT and Gated SPECT.
ii.	High performance PC of latest specifications with multi tasking operating system, compatible mother board and integrated graphic card. It should have a minimum of 4 GB RAM, 2.67 GHz or more processor speed, 1 TB or more SSD/HDD. High resolution (1024 x 1024 or more) antiglare flat panel square LED monitor of minimum 17" size. It should also have CD and DVD combo drive with writer facility
iii.	Image acquisition and data display should be from 64 x 64 matrix up to 256 x 1024 matrix.
iv.	The acquisition computer shall have the capability of acquiring and processing SPECT and SPECT/CT studies within the same workflow and with the same look and feel.
v.	The processing workstation shall be capable of supporting dual monitor display

vi.	The system shall be easily configurable for the user (acquisition, processing and display) and/or offer an automated workflow for routine procedures.
vii.	The system shall support user-defined SPECT and SPECT/CT acquisition and processing protocols.
viii.	The user should be able to create, change, modify and combine acquisition and processing protocols easily and quickly.
ix.	The system offers suggestions to guide the user for consistent results.
x.	The system shall support automated data transfer for viewing and automated archiving.
xi.	System must offer an iterative reconstruction technique, or ½ time imaging solution for all Planar as well as SPECT imaging including cardiac
xii.	Start and stop acquisition control from gantry, hand control Computer or Persistence Scope must be possible
xiii.	Access to viewing and interacting with the patient positioning monitor from the acquisition workplace must be possible
xiv.	The system allows the user to combine acquisition of both SPECT and CT in one protocol and allows the user to modify these protocols by adding additional SPECT and CT acquisitions on the fly without needing to exit out of the acquisition being performed.
xv.	ECG shall be integrated into the table to avoid excess wires in the workspace during the exam with 8-32 frames rate capability and R-to-R Histogram display during acquisition.
xvi.	The system shall provide cardiac gating and be capable of retrospective gating for cardiac exams
xvii.	Whole body SPECT scan length shall be at least 200 cm. Whole body scan speed: minimum of 1.5 in/min (3.8 cm/min) or less, maximum of 230 in/min (584 cm/min) or greater
xviii.	Acquisitions must be in the form of static, dynamic, Composite, Whole-Body, gated, SPECT, dynamic SPECT, WB SPECT.
xix.	System shall provide absolute reproducible quantification based on a NIST traceable source to 5% accuracy for Tc99m and Lu177 as a routine part of a clinical acquisition
xx.	Fully integrated CT system capable of acquiring X-ray transmission data along with nuclear emission data. SPECT &CT data acquisition should be on the same console.
xxi.	Pre-defined acquisition protocols as well as facility for user to configure customized protocols.
xxii.	Acquisition termination by preset time, preset count with ability to manually pause, resume and stop all types of acquisitions
xxiii.	On line live display of acquired data and imaging parameters during acquisition
xxiv.	Cinematic display of dynamic, MUGA &all multi frame studies

xxv.	Acquisition software should include camera quality control activities including Center of rotation (COR) correction, Uniformity correction maps, Energy, Sensitivity and Linearity maps, Daily /Weekly QC including Gantry calibration, Energy spectrum histogram (PHA) display, QC for Whole body acquisition, QC for balancing sensitivity of both detector heads.
xxvi.	Real time reconstruction and immediate display of images in 1024 x 1024 matrix parallel to acquisition in spiral mode to be provided.
xxvii.	Acquisition console should allow universal networking via DICOM ready to both local and wide area networks.
8.	**Processing work station**
i	Two High performance workstations of latest specifications with multi tasking operating system with full DICOM readiness for image transfer print etc., compatible mother board and integrated graphic card.
ii	It should have a minimum of 8 GB RAM, 2.8 GHz or more processor speed, 2TB or more hard drive logically divided into 3-4 partitions.
iii	The graphical user inter-face (GUI) should be identical to that of the acquisition unit. Antiglare high resolution (1024 x 1024 or more) flat panel square LED dual monitor of minimum 19" size. Both monitors should be capable to process, display and compare two studies individually. It should also have CD and DVD combo drive with writer facility.
iv	Predefined and user configurable protocols for standard studies for rapid recall
v	One 20 TB server for data storage, archiving and retrieval. It should be connected through DICOM with the main console.
vi	Broad band/ Wi-fi enabled remote diagnostic facility to be provided and maintained
vii	The system must be DICOM compatible for RIS / HIS and PACS connectivity.
viii	Any upgrade related to processing/workstation/clinical/acquisition, should be provided free of cost under the warranty as well as CMC period.
9.	**Clinical application software**
i	Specific software should be provided to apply CT based attenuation correction on cardiac study and other nuclear medicine study.
ii	Transmission attenuation correction software to generate attenuation map complete access to the existing compiler and editor in which the software is provided in order to modify any part of the existing program as and when needed.
iii	NEMA NU 1 – 2012 or latest display software QC test program.
iv	Filtered back projection & Iterative reconstruction, Wide beam and 3D-OSEM reconstruction algorithm software for SPECT studies
v	Packages should include Display Analysis software, 3-D volume rendering display with maximum intensity projection (MIP), cine review capability, Image manipulation tools and curve generation and manipulation tools.

vi	The image reconstruction algorithm based on ordered subset conjugated gradient to improve the clinical image quality by reduction of noise
vii	The image profile curve should be possible in all the acquired images with a possibility to draw FWHM of the profile curve.
viii	Profile cuts, horizontal, vertical, oblique.
ix	Image subtraction & addition software should be available for all types of images
x	Complete statistical evaluation software for axial & 3-D images. Blood flow quantification packages for perfusion studies.
xi	Image output format should include JPEG, TIFF, AVI and multimedia reporting tool with self-executable CD creation software.
xii	Annotation, labeling, online measurements, ROI analysis etc.
xiii	Dynamic evaluation of contrast enhancement in organs and tissue, calculation of time density curves, peak enhancement images, time to peak images, image subtraction etc.
xiv	2-D image zoom, pan, manipulate, averaging reversal of grey scale values, mirroring, image filter functions, advanced imaging algorithms.
xv	Attenuation and scatter correction program, both for planar and SPECT studies
xvi	Motion correction, Transmission attenuation correction and Scatter correction software, both for planar and SPECT studies
xvii	Image subtraction & addition software should be available for all types of images, Time activity Curves, Histogram analysis and ROI Statistical analysis.
xviii	Latest resolution recovery reconstruction software compatible to the provided system
xix	SPECT-CT Image reconstruction, attenuation correction, film documentation and other Nuclear Medicine protocols for organ specific quantitation
xx	All standard SPECT, Whole body imaging and Planar such as general static, dynamic clinical applications packages including Display Analysis software, 3-D volume rendering display with Maximum intensity projection (MIP), Cine review capability, curve generation, and image manipulation tools.
xxi	Whole body SPECT, Whole body imaging and Planar such as general static, dynamic clinical applications software packages.
xxii	Anatomical and functional data co-registration software for exact image localization (SPECT/CT fusion software).
xxiii	Apart from inbuilt SPECT-CT fusion software, separate software, for fusion of imported CT and MRI data with SPECT data, is also to be provided.
xxiv	Thyroid Uptake and Thyroid Volume
xxv	Technetium - Thallium / MIBI subtraction for Parathyroid Scintigraphy
xxvi	Condensed dynamic image program for esophageal transit studies and gastric emptying software
xxvii	Lung Perfusion & Ventilation, Left to Right Lung Ratio
xxviii	Bone Static, Three Phase and SPECT including 3-D bone reconstruction and Display

xxix	Complete Renal processing software including Transplant Evaluation, Diuretic Renography, Package for GFR, ERPF, Renal Extraction Fraction, Deconvolution analysis and Renal Output Efficiency etc.
xxx	Complete Cardiac package including First Pass EF and Cardiac Shunt quantification studies, Gated equilibrium, MUGA SPECT, Myocardial Perfusion (Planar and SPECT including Bulls eye) and gated SPECT tomography.
xxxi	Dedicated licensed cardiac software – 4 DM complete package OR QGS/QPS/QBS OR Emory Cardiac Tool Box (Latest and complete in all aspects including options available for all studies in the software - 3.05 suite) for Gated cardiac SPECT quantification. Companion tool for phase analysis should also be included.
xxxii	Brain, both planar and SPECT with attenuation correction & segmentation and choice of different filters.
xxxiii	Advanced licensed Neuro software for quantification and calculation of rCBF
xxxiv	Advanced neuro program for evaluation / quantification of brain tumors Latest collimator-detector response – Resolution recovery algorithm (software and hardware) option that allows half dose and half acquisition time in SPECT including cardiac SPECT, BONE SPECT and planar images should be offered as a standard feature.
xxxv	Transmission attenuation correction software to generate attenuation map. Flexibility to manually adjust the transmission attenuation map as per requirements
xxxvi	Multi modality Fusion Software required. Anatomical and functional data co-registration software (SPECT/CT/MRI fusion software). It should also work for the imported anatomic imaging data.
xxxvii	Quantitative volumetric analysis for SUV calculation: Automated organ definition & segmentation on SPECT & CT combined images i.e., CT ROI should be transferable to SPECT and vice versa and ROI analysis should be possible. The Quantification (SPECT SUV) should be based on patient demographics tracer information.

	Accessories and QC utility
1.	System compatible indigenous online digital UPS of appropriate capacity with maintenance free batteries for whole system with 30 min back up time. The TM system should also be connected to UPS.
2.	One High resolution network A4 **Laser Color Paper printer** compatible with the processing workstation (MS Windows or compatible with OS). **Ten set of Cartridges** or Ink compatible with printer should be supplied.
3.	Latest specifications desktop PC with licensed windows, MS office software and laser printer
4.	Two Dry bath incubator
5.	One vital sign monitor (Schiller or other standard make)
6.	Two single syringe infusion pump (Schiller/ASCOR/AITECS) with 50 syringes
7.	One Defibrillator with changing as well as battery operated (Schiller or other standard make)

8.	One dose calibrator (Capintec-CRC 15R) with **two** standard calibration source of at least one mCi strength with competent moly-canister.
9.	Co-57 flood source of at least 10 mCi strength at the time of delivery for rectangular field of the size adequate for the camera. Six more flood sources to be supplied, one each at 18 months interval during the next 10 years along with return of the old spent source without any extra cost to the Institute. Quote the price separately for freezing the rates.
10.	NEMA phantom for scatter and attenuation correction
11.	CT Quality Assurance Phantom
12.	CT dose measurement phantom
13.	Five stainless steel syringe carriers having lead lining of minimum 4 mm thickness
14.	CT quality assurance phantom for contrast resolution, radiation safety and image uniformity
15.	QC software (CT) for verifying alignment of the table position between SPECT and CT acquisition
16.	SPECT phantoms, Four Quadrant BAR phantom for rectangular detector size (specific for supplied detector size)
17.	Integrated PC based TMT with Bruce protocol (GE or Schiller) with Bluetooth/Wireless connection to ECG leads, LaserJet printer and all other necessary softwares.
18.	Lead Glass 6x3 ft.
19.	One stainless steel side trolley in the gamma camera room
20	One crash cart trolley in the cardiac stress lab
21.	One patient couch with mattress, without wheels, in the cardiac stress room
22.	Two multipara vital sign monitors (standard make).
23.	Two Automatic digital BP measuring instruments
24.	Two single syringe pumps (ASCOR / AITECS / Graseby / B Braun), with delivery rate form 0.1 ml/h to over I 00 ml/h in 0.1 ml increments & capable of using 10 ml, 20ml and 50ml syringes commonly available in local market.
25	Two Wipe test counter with touch screen display attached ink-jet printer and 100 wipes
26	One Equipment for paper chromatography/TLC scanner
27	Two shielded fume hood with HEPA + Charcoal filter
28	Two Contamination cum survey meter
29	Two Fixed digital area zone monitor
30	Four syringe shields with viewing glass EACH for 99mTc and 131I
31	Four vial shields EACH for 99mTc and 131I
32	One L Bench with lead equivalent glass with 50 Interlocking lead bricks and 20 lead interlocking corners bricks
33	Two sets of Niptongs, each 12” and 36”
34	Four long handle tong and forceps each

35	**Thyroid uptake probe** with vertical and horizontal moving probe with compatible well counter, neck phantom, reclining chair for counting, two standard sources for QA/QC, compatible inkjet printer attached and licenses key
36	ECG gating device compatible with the system, with two sets of ECG leads
37	Neck Shield, Gonad Shield, one each
38	One Dehumidifier for scanning room with dry vacuum cleaner, temperature and humidity monitor, rat repellent must be installed
39	Customized table along with a comfortable chair must be provided with an Acquisition terminal and Workstation.
	Others
1.	Equipment is to be installed as per AERB requirements. Qualified personnel from the company should install and commission the camera.
2.	Warranty of the equipment should be for five years after the satisfactory commissioning and handing over of the system.
3.	Comprehensive maintenance contract (CMC): Quote comprehensive maintenance contract rates for five years, to be effective after the expiry of warranty, with uptime as per the tender terms.
4.	**Warranty**: The complete system should have a warranty including the radioactive reference source required fur calibration of the scanner, crystals, detectors and CT X-Ray tubes replacement for a period of five years after the satisfactory commissioning and handing over of the equipment. Warranty will include all accessories and third party items. Pro-rata warranty is not acceptable.
5	After expiry of warranty period CAMC that includes both labor and spare parts inclusive of CT tube should be quoted year wise in INR by manufacturers
6	The peripherals / accessories, electronic / electrical consumables (batteries etc), phantom source and calibration sources will also form part of the warranty and CMC Service, repair and maintenance of all third party items will be the sole responsibility of the primary vendor. Replacement / Replenishment of the coolant for gantry will also form the part of warranty as well as CMC
7	The price quoted for the equipment, turnkey works, warranty and CAMC should include all expenses including the customs duty, customs clearances, insurance, freight, clearance charges, and also all expenses towards the maintenance and repairs of the entire SPECT-CT unit including spare-parts, electrical and electronic items, computer systems, air- conditioning, cooling systems, networking, etc.
8	GGSMCH/ BFUHS will not be held responsible for payment under any head other than CAMC payment during this 5 year period and necessary document required from time to time.
9	Maintenance contract from the local agents is also not acceptable.
10	At least 95 % uptime should be maintained during warranty as well as CMC period.

11	During warranty period and CAMC period, the vendor shall give in the form of Bank guarantee, an uptime guarantee of 95 %. A penalty of Rs.20, 000/per day will be charged after the expiry of 95 % uptime warranty. If the machine lies non-functional for a period of more than one week continuously, the same penalty (at the rate of Rs.20, 000/- per day) will be imposed even if 95 % uptime clause is met with.
12	Any bid without agreeing to this uptime warranty and penalty clauses will be summarily rejected.
13	Availability of adequate spares and accessories for the next 10 years should be ensured the vendor.
14	Onsite training by trained engineers and application specialists should be available.
15	The contractor shall provide complete and specific details of maintenance operations performed under service contracts.
16	After sale service to be available locally with availability of onsite engineer.
17	Warranty and service are considered as part of the bid specification.
18	Replacement of Batteries of UPS during warranty and CMC period will be done free of cost.
19	Periodic CT QA and NEMA testing must be done by vender on its own for next 10years and all necessary phantoms and dose of activity required for that must be arrange by the vender itself.

3. SITE MODIFICATION/ CIVIL WORK for SPECT/CT

	SITE MODIFICATION/ CIVIL WORK
1	The scope of work for site modification for SPECT/CT machine room and SPECT/CT UPS Room. ***(if, required additional to existing facility)***
2	Renovation of the room for installation of the equipment as per AERB requirement including planning, designing and execution of all the works pertaining to Civil, Electrical, and Air Conditioning etc. While designing the area, the existing rooms should be retained wherever possible and only unavoidable changes should be made as per AERB norms. Acquisition terminal will require cordoning off with appropriately sized lead glass.
3	Supplier shall ensure that the equipment model quoted commissioned within the designated area with the area constructed by the Hospital as per AERB approved layout plan. All minor Structural changes which are part of turnkey including any brick work or concrete work should be carried as per AERB approved drawing
4	Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.
5	Provisions should be made for placing the various accessories in console room,

	work-station and printer locations.
6	It should also include lead-lined doors with lead glass peeping windows, radiation warning indicators and signage, aluminum false ceiling, GVT floor tiles, and full-height wall tiles. ***(if, required additional to existing facility)***
7	All site modification works should comply with specified standards of the hospital/AERB.
8	Check and evaluate the structural stability of SPECT/CT and UPS Rooms under modification.
9	Double earthing with copper plate for the main equipment with use of earth leakage circuit breaker, as per ISI specifications.
10	The existing main power cable from the electric substation up to the distribution panel to be checked for size & capacity and be supplied and changed, if required
11	Any other minor work as per requirements also to be carried out.
12	All the dismantled material/ malba to be cleared and taken away by the vendor.
13	After sale service to be made available locally in Faridkot. Service through Third party is not allowed.
14	The acceptance of the installation shall be subject to satisfactory handing over of the System to the department and certificate to this effect will be issued by the institute. Warranty of equipment will start from the date of receiving the License from AERB.
15	Onsite training by trained engineer and application specialist for at least 4 weeks period and whenever required should be provided.
16	Painting of the entire section in ACC. The walls should be finished with acrylic / plastic emulsion.
17	Patient addressing system with mike, speakers and bell system for SPECT/CT connected to console room.
18	Warning Red light outside each scanning room compatible with machines.

Warranty for 05 years
05 years CMC after expire of warranty

When quoting the price, the company can inspect the site wherever turnkey is involved.

Certificate (s) regarding **standard** in quality must be uploaded.

GUARANTEE / WARRANTEE SHOULD BE CLEARLY MENTIONED

NOTE: -

- All accessories like UPS / Stablizer or any other which are required for machine should be supplied by the L1 bidder.
- **Price of above accessories should be quoted too separately in price bid. The specific accessories and their quantity will be decided on the basis of actual requirement.**
- Compliance report to be submitted in a tabulated and point-wise manner (as per technical specifications), clearly mentioning the page/ para number with authenticated catalogue / manual, without which it will not be considered. Points not covered in the brochure must be specifically addressed in a separate certificate.
    - User list from Govt sector and good repute private hospitals should be provided.
    - Certificate (s) regarding standard in quality must be uploaded.
    - Expected delivery & Installation time: Within 45 days after issue of supply order.

TERMS AND CONDTIONS

FOR SUPPLY AND INSTALLATION of *PET-CT & SPECT-CT MACHINE WITH CIVIL WORKS INCLUDING TURNKEY PARTS* REQUIRED AT GGS MEDICAL COLLEGE & HOSPITAL, FARIDKOT.

ELIGIBILITY

- The sole manufacturers of equipments or their authorized agents/distributors may quote their rates.
- In case of Authorized Supplier/Agency/Distributor, the Authorization Certificate as per the Format given at **Annexure-'III**' should be uploaded.
- In case the Tenderer is authorized dealer/supplier an undertaking/certificate issued by their Principle Manufacturer/Supplier that in case dealership/distributorship is withdrawn after supply then the Principle Manufacturer/Supplier will be responsible for Guarantee/Warranty/AMC/CMC. (**Annexure – 'IV'**).

1. This institution reserves the right to reject tenders without assigning any reason and increase or decrease the quantity of the articles tendered.

2. ***If the supply and installation*** is not made within the stipulated period then late delivery charges **@2%** will be imposed on the total amount of Supply Order up to delay of **30 days** and thereafter @ **4%** for another **30 days** after which Supply Order will be deemed cancelled & security/earnest money will be forfeited and company will be black-listed for future.

3. Payment Terms: 80% Payment will be released after satisfactory Installation of the Equipment and balance 20% will be made after 60 days of the Installation and satisfactory working of the equipment.

4. In-complete or conditional offers incorporating price variation will not be entertained.

5. The firm should have been in existence for at- least **three years** and it should have turnover of **Rs.50,00,00,000/- per year.**

6. The successful bidder shall deposit performance security @ 10% of the basic cost of the equipment/s in the shape of **Demand Draft only** and will be returned after receipt of CAMC security.

7. **Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the competent authority as per the GFRs-2017 rules clause 144 sub rule (X1).**

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Annexure-I

TECHNICAL BID COMPLIANCE STATEMENT

Name and Address of the applicant / firm_____

Specify whether Manufacturer/Dealer/Distributor: _____

Sr. No.	Particulars	Remarks
1.	Tender Fee of **Rs.2360/-** through Online Mode only on or before due date.	Yes/No
2.	Tender Processing fee charged by Punjab Govt. as per their norms. (Non-refundable).	Yes/No
3.	Earnest Money as per scope in favor of Registrar Baba Farid University of Health Sciences, Faridkot through online mode only.	Yes/No
4.	Technical Bid Compliance Proforma uploaded **(Annexure-I)**.	Yes/No
5.	Whether an affidavit regarding Non-Black listing as per proforma given at **Annexure-II** duly attested by an Executive Magistrate or a Notary Public uploaded.	Yes/No
6.	In case the bidder is Authorized Supplier/Agency, the Authorization Certificate as per the Format given at **Annexure-'III'** uploaded**.**	Yes/No
7.	In case the Tenderer is Authorized Supplier/Agency, an undertaking/certificate issued by their Principle Manufacturer/Supplier that in case dealership/distributorship is withdrawn after supply then the Principle Manufacturer/Supplier will be responsible for Guarantee/Warranty/AMC/CMC **(Annexure – 'IV')** uploaded.	Yes/No
8.	Details of Bank Account for refund of EMD **(Annexure – V)** uploaded.	Yes/No
9.	Price Bid in the prescribed format in Excel Sheet **(Annex – VI** uploaded.	Yes/No
10.	Copy of Certificate of Registration for service Tax/TIN/TAN/PAN uploaded.	Yes/No
11.	A certificate from C.A. regarding Annual Turnover with Balance Sheet for the last 3 (three) financial years i.e. 2019-20, 2020-21 & 2021-22 uploaded.	Yes/No
12.	Copy of the IT Returns for three financial i.e. 2019-20, 2020-21 & 2021-22 uploaded	Yes/No
13.	Certificate regarding standard in quality **as per required in specifications**	Yes/No
14.	Compliance sheet, point wise, as per specifications uploaded	Yes/No
15.	E-mail ID	
16.	Make	
17.	Model	

Signature & seal of bidder

Place:
Date :

Note: Please upload Catalogue/Brochure/Pamphlets with complete specifications of quoted model only.

Annexure-II

(To be furnished on non-judicial stamp paper worth Rs.100/- duly attested by Executive Magistrate or Notary Public).

AFFIDAVIT

I/We _____

partner/sole proprietor (Strike out which is not applicable) of (Name & Address of Firm) _____ do hereby declare and solemnly affirm:-

a) That the individual/firm/ companies are **not debarred or black- listed** by any department of Union/ State Government or any autonomous institute.

b) That no partner or shareholder, directly or indirectly connected with the applicant who has been debarred or blacklisted by any department of Union Govt./State Govt./Autonomous Institute.

c) And that the terms and conditions for supply and Installation of Equipments at GGSMCH, Faridkot, are acceptable to me/us. I/We shall abide by them in letter and spirit.

Date:

Place:

DEPONENT

VERIFICATION

I/We do hereby solemnly declare and affirm that the above declarations are true and correct to the best of my/our knowledge and beliefs. No part of it is false and nothing has been concealed therein.

Date:

Place:

DEPONENT

Annexure- III

MANUFACTURER'S/PRINCIPAL AUTHORIZATION FORM

TO

The Registrar
Baba Farid University of Health Sciences,
Faridkot -151203

Ref. No…….. **Dated:**

Sub: Authorization Certificate in favour of M/s…… for supply of ..... (Name of equipment)

We, M/s…….., who are established and reputable manufacturers of …….(name of equipment) having factory(ies) at …… and ……., hereby authorize M/s……..(name and address) to bid, negotiate and conclude the Tender formalities with you against Tender No……. for the above equipment(s) manufactured by us.

No company or firm or individual other than M/s…….. are authorized to bid, negotiate and conclude the tender formalities in regard to this business against this specific tender.

We, hereby extend our full guarantee and warranty as per the conditions of tender for the goods offered for supply against this tender by the above firm.

Yours faithfully,

(Name)
For and on behalf of M/s_____
(name of manufacturer/Principal)

Note: This letter should be signed by a person competent and having authority to sign on behalf of manufacturer, and should be on manufacturer Letter Head and same will be uploaded with Technical Bid.

Annexure - IV

UNDERTAKING BY MANUFACTURER/PRINCIPAL SUPPLIER

TO

The Registrar
Baba Farid University of Health Sciences,
Faridkot -151203

Ref. No…….. **Dated:**

Sub: Undertaking for after sales service

We, M/s…….., who are established and reputable manufacturers of …….(name of equipment) have authorized M/s……..(name and address) to bid, negotiate and conclude the Tender formalities with you against Tender No……. for the above equipment(s).

Further, we undertake that in case dealership/distributorship is withdrawn after supply of equipment then we shall be responsible for after sales service till the date of guarantee/warranty of the equipment and afterwards for a period of 10 years.

Yours faithfully,

(Name)
For and on behalf of M/s_____
(name of manufacturer/Principal)

Annexure- V

Details of Bank Account of the firm who has deposited EMD

Name of the firm: _____

Sr. No.	Particulars	Detail
1.	Account No.	
2.	Name of Bank	
3.	Branch Name	
4.	IFSC Code of Bank	
5.	Name of Operator	

ANNEXURE - VI

PRICE BID

TO BE UPLOADED in Printed/Computerized format in Excel Sheet Attached for all Equipments.