INDIAN INSTITUTE OF TECHNOLOGY (IIT), KHARAGPUR

AMENDMENT NO. – III

Dated: 02.07.2019

Name of Project: Tender for Development of IT Infrastructure (HMIS, PACS, Server & Storage), Operation & Maintenance and Facility Management Services (3 years) for Super Specialty Block at IIT- Kharagpur Medical College & Hospital

Tender No. : HSCC/IIT-KGP/IT/2019 dated 14.06.2019

Pre Bid Queries raised by bidders during pre -bid meeting held on 21.06.2019 at HSCC's Corporate Office, Noida

S. No	Volume, Page, Clause	Tender Document Clause	Pre-bid Queries	Reply
1	Vol 01, Page No 2	Last date to fill/upload the tender through e-Tendering is 01/07/2019 upto 14:30 hrs. Opening at 15:00 hrs.	If possible please extend tender submission date at least by 2(two) weeks. As we have to compile lots of documents to submit it.	Please refer to Amendment II dated 28/06/2019
2	Vol01, Page 5, Point 1.3	Consortium/JV/Partnership firms are not allowed to participate in this tender.	This being a composite tender, please allow Consortium to enable a MoU with specialized agencies and System Integrators with well defined responsibility matrix to match Compliance and SoW of the Project. One Specialized Agency can have a MoU with only partner SI.	No Change, Tender Condition Prevails.
3	Vol 01, Page 5, S.NO 1.3	Consortium/JV/Partnership firms are not allowed to participate in this tender.	kindly allow consortium between SI and Specilized Agency	No Change, Tender Condition Prevails.
4	Vol 01, Page 6, S.NO 1.4	Three similar completed works costing not less than the amount equal to 40% of the estimated cost Or Two similar completed works costing not less than the amount equal to 60% of the estimated cost Or One similar completed work costing not less than the amount equal to 80% of the estimated cost	Agency should have at least three similar completed works costing not less than amount equal to Rs. 2 Cr. each or at least three similar completed works in hospital with minimum bed capacity of 300 beds in the last 7 years. Or Agency should have at least two similar completed works costing not less than amount equal to Rs. 3 Cr. each or at least two similar completed works in hospital with minimum bed capacity of 400 beds in the last 7 years. Or Agency should have at least one similar completed work costing not less than amount equal to Rs. 4 Cr. or at least one similar completed works in hospital with minimum bed capacity of 500 beds in the last 7 years.	No Change, Tender Condition Prevails.
5	Vol01, Page 6, Point 1.4	Similar Projects Experience: 1) Experience of having completed similar works during the last 7 years ending previous day of last date of submission of bids: Similar works means Project that covers supply, installation, testing, commissioning and operation & maintenance of IT components which covers the followings: - Hospital Management & Information System (HMIS) - Picture Archiving & Communication System (PACS) - Servers, Storage and related System Software & Hardware All the above IT components should be part of the Single work order to be submitted by the bidder.	All the above IT components should be part of the Single work order to be submitted by the bidder. Bidder who would be a SI would submit separate PQs of Server, Storage & other hardware while HMIS & PACS are software provided by Specialized Agencies and you have requested separate PQ of Agencies as per Form H and Form I. Please remove the clause Single work order for all HMIS, PACS & IT Hardware & Software.	No Change, Tender Condition Prevails.

6	Vol01, Page no. 6, 1.4 Eligibility Criteria for Interested bidders:	For this project estimated cost is Rs 5.55 Cr and average annual turn over criteria is minimum 50% of estimated value and Project value of similar project is 80% of estimated value.	Our average annual turnover of for last 3 financial year is Rs 2.25 Cr and project value of similar project is Rs 3.97 Cr so we request you to reduce turnover criteria and project value of similar project criteria and give us fair opportunity to bid for this tender.We have implemented same projects with requirement which are specified in tender document and having more than 18+ Years of experience in healthcare industry.	No Change, Tender Condition Prevails.
7	Vol01, Page 8, Point 1.13	Micro and small scale enterprises (MSEs) are exempted from Bid Document fee.	MSMEs are also relaxed from submission of EMD too. Please confirm the same.	Please refer to clause no. 2.9 point no. a) ii) a). In Vol 01, page no.14.
8	Vol01, Page 8, Point 1.13	Earnest Money in the form of Demand Draft or Bank Guarantee shall be scanned and uploaded to the e-Tendering website within the period of bid submission and original should be deposited in HSCC office at HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (UP), Pin- 201301.	Please share HSCC Bank Details which are mandatory for Issuance of Bank Guarantee to be made for submission of EMD.	A/c Name- HSCC (India) Limited A/c No. - 2726001800000011 Bank Name - Punjab National Bank Branch Name - Noida Sector 27 Branch IFSC Code - PUNB0272600
9	Vol01, Page 11, Point 1.30	The bidder should submit an affidavit on Rs100/- Non Judicial stamp paper duly notarized that they have not abandoned any work of Union Government/ State Governments/ PSU's etc. during the last 3 years. They should also submit an affidavit that they have not been blacklisted, debarred, penalised, declared non performer or expelled by Union Government/ State Governments/ PSU's/ judicial authority/arbitration body etc. During the last 3 years (Form F).	In Annexure Form F, you have mentioned Five Years instead of 3 years. We request you to kindly remove this point and ask for No Blacklisting certificate which is a standard requirement in all govt. / PSUs tenders.	Amended. Please refer to point no.1 at annexure 1
10	Vol01, Page 21, 2.21 Award of Contract: e) Sub Contracting	The Bidder shall not sub-contract the whole of the works. The bidder shall not subcontract any part of the work without notifying and getting prior approval from the HSCC/Client.	Will specialized Agencies services will be considered as sub-contracting.	specialized agencies can only be brought in as per specification in tender
11	Vol 01, Page 38, FORM-H POINT F	Agency/SI should have used the solution for not less than 10 years.	RFP asked PO from last 7 year ,kindly clearify	No Change, Tender Condition Prevails. POs may be for last 7 years, but s/w can exist for 10 years. No contradiction is there.
12	Vol-02, Page no. 27	Clause-38- Site Preparation: The bidder will be required to make provisions for the power/electricity/DG/UPS, internet etc.at the site during the implementation (installation, configuration & testing) period in case the same is not available the site.	Do we need to supply these device as well ?	No change, tender condition prevails. Bidder to make all such provisions.
13	Volume 03, Clause no. 29.1.2	Insurance of Works	Under SI Scope or work, Insurance of Goods shall be limited till delivery of the Goods at designated site warehouse only. Once it is handed over at customer site, SI should not be liable for any damage to those goods except damage caused specifically by SI.	Please refer to clause no. 29.1.3 point no. b. in Vol 03 Page 17
14	Vol 04, Page 22, S.No 6	Training	kindly provide no of users,no of days per training and no of Training sessions	Training will need to be provided for around 200 users in batches. Bidder will specify the duration and mode of training. Exact details of the training coverage and schedule etc. will be finalized by mutual consent between the selected bidder and IIT Kharagpur subject to satisfaction of IIT Kharagpur. Bidder will have to certify that training has been given to all users at the end of training.
15	Volume 04, Page 32 , section 3	Ability to create and/or import standard or Hospital configured protocols - please provide details on how this is implemented	Does standard implies here as Healthcare standards? Need clarification	Yes, standard here means healthcare standards.
16	Volume 04, Page 32 , section 4	Clinical Quality Measures: Ability to create and/or import quality measures for Clinical Assistance - please provide details on how this is implemented	Need more details on qulaity measures for clinical assistance purpose	The bidder should specify details of how the software can be configured/used to interpret different sets of clinical data in different combinations in a meaningful way to arrive at a conclusion regarding some particular clinical quality measure. One example of a clinical quality measure of interest and its use is pattern of medication use in patients attending emergency with acute chest pain and response thereof; so that this can be used as a guidance tool for new junior recruits in terms of 'best practices'. This is just one example for some guidance to the bidder, The exact set of clinical quality measures of interest can be varied and will be determined from time to time.

17	Volume 04, Page 302, section 59	System should have machine learning feature and all the concerned characteristics of artificial Intelligence.	Can you eleborate what is the exact scope of AI under System and its utilization under module?	The system should continuously learn from patient data that is being collected and suggest predictions based on this. An example is to suggest in a predictive manner to the doctor in a busy OPD schedule medicines and tests patients of similar age, gender and chief complaint usually receive. This is just one example for some guidance to the bidder, the exact set of predictions and/or other uses of the learning from data can be varied.
18	Volume 04, Page 303, section 67	The HMIS should be interfaced with: Digital Signature	Digital Signature clarify the scope? Do you mean inserting a scanned signature at the bottom of the document or is it like eMudhra Class-2, Class-3 or Digital Signer Certificate from emudhra? EMudhra certificates are normally directly issued to the end user on the basis of KYC documentation(Pan, Adhar etc) of the individual.	The term "Digital Signature " in this clause should be interpreted as "Digitally Scanned Signature"
19	Volume 04, Page 303, section 67	The HMIS should be interfaced with: Drug Database	Is there any specific requirement for Drug database?	No change, tender condition prevails.
20	Volume 04, Page 303, section 67	Integration with the other system like PACS, QMS, LMS (Library Management System), Guest House Management System, other HMIS, building management system (BMS), Drug Database, etc. shall be done as per the requirement of the IIT Kharagpur. No additional charges to be paid for integration from any of these or others like smart cards, wrist bands, digital pens or any other system required as per requirement of site and client.	Does API's are available for application like Buliding Management System (BMS)? Is the said application are existing in current operation? Or the bidder can propose this as part of Proposal document.	Amended. Please refer to point no.2 at annexure 1.
21	Vol-4, Page No. 303	No additional charges to be paid for integration from any of these or others like smart cards, wrist bands, digital pens or any other system required as per requirement of site and client.	Do we need to supply these device as well ?	No, the devices need not be supplied as part of this tender. However the quoted HMIS should support integration of these devices and integration with the quoted HMIS system should be provided as and when these devices are procured during the warranty period at no extra cost.
22	Volume 04, Page 304, section 68 and 69	HMIS should be integrated with existing HMIS or any other application of IIT Kharagpur for exchanging information/data as per the requirement of the hospital. HMIS should be integrated with other HMIS solutions in IIT Kharagpur if required without any extra cost.	Integration with existing/other HMIS, does that mean migration? Can you please clarify the scope?	The hospital may start (before the full implementation of the HMIS system to be procured under this tender) with a smaller off-the-shelf HMIS system (procured separately) given that the full implementation of the system to be procured under this tender will take some time. If the hospital starts with such a system, data from this smaller system will need to be migrated to the system procured under this tender after it is fully implemented.
23	Volume 04, Page 304, section 70	HMIS should also be integrated with any other application or portal launched by Govt. of India/West Bengal during its implementation & maintenance period without any extra charges.	Integration with govt applications current and upcoming– Scope is very ambiguous. There could be one govt application or many of them. The applications must be listed and the API must be made available by the government applications. Please clarify.	Amended. Please refer to point no.3 at annexure 1.
24	Vol-4, Page No. 313	The SI shall supply, install, configure and manage the antivirus solution hosted at DC meant for the client infrastructure including desktops and servers, outside the DC.	No. of Client/Device details required to size the centralize AV solution	Amended. Please refer to point no.4 at annexure 1.
25	Vol 04, Page 313, S.No 2	The SI shall supply, install, configure and manage the antivirus solution hosted at DC meant for the client infrastructure including desktops and servers, outside the DC.	kindly share specification of antivirus and no of Users	Amended. Please refer to point no.4 at annexure 1.
26	Vol 01, Page No 2	Completion period of work is 6 Calendar Months	Request to extend for 12 Month	No Change.Tender Conditions prevails.

27	Vol 04, Page 315, S.No 1	SECURITY and MANAGEMENT-Biometric access control system	kindly share specification	Amended. Please refer to point no.5 at annexure 1.
28	Vol 04, Page 315, S.No 2	SECURITY and MANAGEMENT-Water leakage detection system	kindly share specification	Amended. Please refer to point no.6 at annexure 1.
29	Vol 04, Page 315, S.No 3	SECURITY and MANAGEMENT-Rodent detection system	kindly share specification	Amended. Please refer to point no.7 at annexure 1.
30	Vol 04, Page 315, S.No 4	SECURITY and MANAGEMENT-Cooling	kindly share specification for PAC	Amended. Please refer to point no.8,9 and 10 at annexure 1.
31	Vol 04, Page 319, S.No 4 NAS	One hex Core Intel E5 V3 1.9 GHz or higher. Processor shall have minimum of 15MB L3 cache. Shall be further scalable to at-least one more additional hex core processor.	Please change this as below to incorporate changes in processor "Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor or higher. Shall be further scalable to at-least one more additional processor"	Amended. Please refer to point no. 11 at annexure 1
32	Vol-4, Page No. 323	Offered device shall be offered with Minimum of 24TB of raw space scalable to 48TB with just a license upgrade, without adding the disk drives	Please change as below "Offered device shall be offered with Minimum of 48TB of raw space"	Amended. Please refer to point no.12 at annexure 1
33	Vol-4, Page No. 339	RAID 1, 5, 6, and 10; Rapid Data Protection Technology (ADAPT) Controller	Please modify as below for better participation"RAID 1, 5, 6, and 10"	Amended. Please refer to point no.13 at annexure 1
34	Vol-4, Page No. 339	FC controller module: 4x 10G SFP/SFP+ MMF host ports with two built-in dual-port CNCs with Required Cables and connectors	Please modify as below for better participation"FC controller module: 4x 10G SFP/SFP+ MMF host ports with two built-in dual-port CNCs / **FC** with Required Cables and connectors"	Amended. Please refer to point no.14 at annexure 1
35	Vol 04, Page 339, S.No 10. VNA Storage (FC SAN),point no 5	32 GB per system (16 GB per controller module). Battery-free cache protection with flash memory and supercapacitors. Low latency cache mirroring protection for dual controller configurations.	Please change as below "64 GB per system (32 GB per controller module). cache protection with flash memory and supercapacitors or destaging to disc supported by battery. Low latency cache mirroring protection for dual controller configurations Cache shall be used only for Data and Control information. OS overhead shall not be done inside cache. Cache shall be completely dynamic for read and write operations and vendor shall not offer any additional card / module for write cache operations."	Amended. Please refer to point no.15 at annexure 1
36	Vol 04, Page 339, S.No 10. VNA Storage (FC SAN),point no 8	Intelligent Real-time Tiering for HDDs, Virtualized Storage Pools, Thin Provisioning, SSD Read Cache, Rapid RAID Rebuild, Snapshots (up to 128 targets), All Flash Array.	Please remove "All Flash Array" as rotational drives has been asked	Amended. Please refer to point no.16 at annexure 1
37	Vol 04, Page 339, S.No 10. VNA Storage (FC SAN),point no 10	Two redundant hot-swap 580 W AC power supplies	Please change this to " Two redundant hot-swap 240 W AC power supplies"	No change, tender condition prevails.
38	Vol 04, Page 339, S.No 10. VNA Storage (FC SAN),point no 6	Drive bays Up to 240 SFF drive bays per storage system 1.2 TB 10K RPM 12GBPS SAS 2.5" drives X 4 No's. 2 TB 7200 RPM NL SAS Drives 2.5" x 32 No's	Drive bays Up to 240 SFF drive bays per storage system 1.2 TB 10K RPM 12GBPS SAS 2.5" drives X 6 No's. 2 TB 7200 RPM NL SAS Drives 2.5" x 32 No's/ 4 TB 3.5" X 16 Nos NL SAS 7.2K RPM	No change, tender condition prevails.
39	Vol 04, Page 340, S.No 10. VNA Storage (FC SAN),point no 12	1 GbE port (UTP, RJ-45) and serial port (Mini-USB) on the controller modules. Web-based interface (WBI); Telnet, SSH, or Direct Connect USB CLI; SNMP and email notifications; optional Softwares.	Please change as below"1 GbE port (UTP, RJ-45) and serial port on the controller modules. Web-based interface (WBI); Telnet, SSH, or Direct Connect USB CLI; SNMP and email notifications; optional Softwares.	Amended. Please refer to point no.17 at annexure 1
40	Vol 04, Page 340, S.No 10. VNA Storage (FC SAN),point no 13	Secure Socket Layer (SSL), Secure Shell (SSH), Secure FTP (sFTP), Self-encrypting drives (SEDs).	Secure Socket Layer (SSL)/Secure Shell (SSH), Secure FTP (sFTP)/ FTPS, Self-encrypting drives (SEDs).	Amended. Please refer to point no.18 at annexure 1
41	Volume 5, Part-A, Item No. 1	Supply, Customization, Installation, Testing, Implementation, Integration, Training and Maintenance of Hospital Management and Information System as per the Scope of work, Deliverables of the project, Functional and Technical requirements, Terms and Conditions mentioned in the tender document and as per the requirement and complete in all respect and satisfaction of the engineer.(*The SI Vendor is required to provide detailed, item-wise Bill of Material with break-up of costs as an Appendix-P1 along with the Price Bid. * SI should also give the cost of the person month along with Price Bid. *)	It seems that in the tender document server sizing for all application is considered and documented as per Part-A, Item No-1. However, it is possible that the actual server sizing could be lower than the mentioned specifications. Hence is it mandatory to provide a quote based on your specification? or can the bidder provide a quote based on actual sizing it has calculated.	Mandatory to provide a quote based on specification given in the tender.

42	Vol 05, Page 5, S.No 13	Supply, Installation, Configuring, Testing & Commissioning of Speech/Voice Recognition Software License (minimum users) with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	Please share Specification/SOW	Amended. Please refer to point no.19 at annexure 1
43	Vol 04, Pg 311 of 351	Additional Specifications terms and conditions for EMS: 3. There shall be scope for customisation of the Software as per institute requirement.	Customization must be capped at any stage otherwise it would be never ended task. So we request to amend this as below: "Customizations mentioned under Initial AS-IS and TO-BE mapping document (GAP Analysis Documnet) Sign-off will be in Vendor's Scope, after than it would be routed through the change request process only which would be chargable on mutual agreement"	Amended. Please refer to point nos.20-25 at annexure 1
44	Vol 04, Pg 311 of 351	Additional Specifications terms and conditions for EMS: 4. The Vendor shall provide the complete Hardware including servers, storage etc. & Networking required for smooth running of the Software.	Assuming that the clause stands for Application Hosting Infrastructure and not for Clients (Users) Workstation. We would suggest if you will ask for Application Hosting on Cloud or Datacenter for …… Concurrent Users & .... mbps bandwidth. It would be cheaper than Hardware Procurement. Without knowing the concurreny and bandwidth requirement it would not be possible to estimate the Hosting Cost.	Amended. Please refer to point nos.20-25 at annexure 1
45	General	Education Management System	1. Functional requirment of EMS is not mentioned in detail. 2. An affective proposal cost can not be derived with one liner requirement. 3. User Strength is also required to estimate the EMS Project Cost and Hosting Infrastructure. 4. Page no. 311 of 351: 4. Only an Education Domain Expert OEM / SI can manage these huge requirements so we request to separate both of the RFPs. One for HMIS & PACS and other for Education Management System.	Amended. Please refer to point nos.20-25 at annexure 1
46	General		There should be a separate server provision for EMS.	Amended. Please refer to point nos.20-25 at annexure 1
47	General		Any bug/error arising in the HMIS, PACS & QMS applications should be resolved within 2 hours and any customization/change to be done in the application should be made within two days of its written requirement/demand raised by client. Bidder suggestion: - It Should be an SLA based on severity level.	No change, tender condition prevails.
48	General	Not Required any Certification in PQ	Request to add CMMI 3 certification in PQ	No change, tender condition prevails.

Please note that this Amendment no. – III, shall form part of the tender and all others terms & conditions of the tender shall remain unchanged.

Prospective bidders are advised to regularly scan through HSCC's e-tender portal http://www.tenderwizard.com/HSCC as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement/communication will not be made for this.

Senior Chief General Manager-I, HSCC (I) Ltd.
For & on Behalf of Director, IIT, Kharagpur

Annexure-I

<u>**Annexure-I**</u>

Indian Institute of Technology (IIT), Kharagpur **AMENDMENT NO. – III**
Name of Project: Tender for Development of IT Infrastructure (HMIS, PACS, Server & Storage), Operation & Maintenance and Facility Management Services (3 years) for Super Specialty Block at IIT- Kharagpur Medical College & Hospital.
S. No.	**Page, Clause**	**Tender Document Clause**	**Amended As**
1	Vol. 01, Page 11, Point 1.30	The bidder should submit an affidavit on Rs100/- Non Judicial stamp paper duly notarized that they have not abandoned any work of Union Government/ State Governments/ PSU's etc. during the last 3 years. They should also submit an affidavit that they have not been blacklisted, debarred, penalised, declared non performer or expelled by Union Government/ State Governments/ PSU's/ judicial authority/arbitration body etc. During the last 3 years (Form F).	The bidder should submit an affidavit on Rs100/- Non Judicial stamp paper duly notarized that they have not abandoned any work of Union Government/ State Governments/ PSU's etc. during the last **5** years. They should also submit an affidavit that they have not been blacklisted, debarred, penalised, declared non performer or expelled by Union Government/ State Governments/ PSU's/ judicial authority/arbitration body etc. During the last **5** years (Form F).

2	Volume 04, Page 303, section 67	Integration with the other system like PACS, QMS, LMS (Library Management System), Guest House Management System, other HMIS, building management system (BMS), Drug Database, etc. shall be done as per the requirement of the IIT Kharagpur. No additional charges to be paid for integration from any of these or others like smart cards, wrist bands, digital pens or any other system required as per requirement of site and client.	Integration with the other system like PACS, QMS, other HMIS, Drug Database, etc. shall be done as per the requirement of the IIT Kharagpur. No additional charges to be paid for integration from any of these or others like smart cards, wrist bands, digital pens or any other system required as per requirement of site and client.
3	Volume 04, Page 304, section 70	HMIS should also be integrated with any other application or portal launched by Govt. of India/West Bengal during its implementation & maintenance period without any extra charges.	Removed.
4	Vol-4, Page No. 313	The SI shall supply, install, configure and manage the antivirus solution hosted at DC meant for the client infrastructure including desktops and servers, outside the DC.	The SI shall supply, install, configure and manage the antivirus solution hosted at DC meant for the client infrastructure including desktops and servers, outside the DC. The antivirus solution should be an internationally well-known commercial solution that should support centralized management console, ability to capture Viruses, Trojans, Worms,Spyware and Malware,and adware from a single agent, automatic update of antivirus server from vendor site every hour or less (should be configurable), ability to schedule scan and update at the endpoints from the central server. The solution is to be provided initially for 200 endpoints with full subscription for the entire warranty period (3 years). The system should support

			scalability to 500 endpoints with the purchase of additional licenses only. Any necessary hardware for running the central AV server (sizing should be done for 500 endpoints) must be provided as part of the bid and included in the quoted price.
5	Vol 04, Page 315, S. No 1	SECURITY and MANAGEMENT-Biometric access control system	The biometric access control system must support both fingerprint based and card based access, with storage for minimum 200 users (fingerprint and card), and 10000 transactions. The recorded access data must be transferrable from the device both over the network and using USB. All necessary software and accessories for this must be quoted as part of the bid and included in the quoted price.
6	Vol 04, Page 315, S. No 2	SECURITY and MANAGEMENT-Water leakage detection system	The water leakage system of reputed make should be a leak detection sensor cable based system running under the raised floor. The cable material should be durable, non-deteriorating, and should not be adversely affected by dust/dirt buildup. The system should be able to detect any water leaks in the PAC iunits and all associated pipings, and provide an alarm (audible and/or in central control panel) on detection. All necessary accessories must be quoted as part of the bid and included in the quoted price.
7	Vol 04, Page 315, S. No 3	SECURITY and MANAGEMENT-Rodent detection system	Rodent detection and repellent system of reputed make using high frequency sound waves (above 20KHZ frequency) which are inaudible and harmless to humans but audible and painful to pests thus driving them away. The number of transducers should be enough to cover the entire server room area. All necessary software and accessories for this must be quoted as part of the bid and included in the quoted price.
8	Vol 04, Page 315, S. No 4	SECURITY and MANAGEMENT-Cooling	The PAC system should be of reputed make and designed to maintain a temperature of 18-20° C in the server room and a return air humidity of $50 \pm 5\%$ RH. All design should be based on a maximum ambient temperature of 47° C. The PAC system should have sufficient capacity to cool around 20 KW of server/storage/switch load in 4-6 racks (minimum total tonnage needed is 6 tonnes. Bidder may propose higher tonnage if required to maintain the desired cooling). The PAC units supplied should work in N+1 redundancy mode so that the failure of a single PAC unit should not have any effect on the desired server room cooling

			upto the maximum cooling capacity required and minimum tonnage required.
9	Vol. 04, Page 315, Electrical Work /UPS/AC Sl. No. 3	Electrical Work/UPS/AC: Fixing of Precision AC: 2 ton each x 4 nos.	PAC units in N+1 redundancy mode with minimum total working tonnage of 6 tons at all times.
10	Vol. 04, Page 315, SECURITY and MANAGEMENT Sl. No. 3	Temperature in the data centre should be maintained between 15°C to 20°C.	Temperature in the data centre should be maintained between **18**^{o}C to 20°C.
11	Vol. 04, Page 319, S.No. 4 NAS	One hex Core Intel E5 V3 1.9 GHz or higher. Processor shall have minimum of 15MB L3 cache. Shall be further scalable to at-least one more additional hex core processor.	One hex Core or higher Intel Xeon Silver/Gold series processor 2 GHz (base frequency) or higher. Should be further scalable to at-least one more additional processor of same specification.
12	Vol-4, Page No. 323	Offered device shall be offered with Minimum of 24TB of raw space scalable to 48TB with just a license upgrade, without adding the disk drives.	Offered device shall be offered with Minimum of 24TB of raw space. The device should be scalable to 48TB with addition of disk drives and licenses only.
13	Vol-4, Page No. 339	RAID 1, 5, 6, and 10; Rapid Data Protection Technology (ADAPT) Controller.	RAID 1, 5, 6, and 10.
14	Vol-4, Page No. 339	FC controller module: 4x 10G SFP/SFP+ MMF host ports with two built-in dual-port CNCs with Required	FC controller module: 4x 10G SFP/SFP+ MMF host ports with two built-in dual-port CNCs/FC with required cables and connectors.

15	Vol 04, Page 339, S. No 10. VNA Storage (FC SAN),point no 5	32 GB per system (16 GB per controller module). Battery-free cache protection with flash memory and supercapacitors. Low latency cache mirroring protection for dual controller configurations.	32 GB per system (16 GB per controller module). Cache protection with flash memory and battery/supercapacitors. Low latency cache mirroring protection for dual controller configurations.
16	Vol 04, Page 339, S. No 10. VNA Storage (FC SAN),point no 8	Intelligent Real-time Tiering for HDDs, Virtualized Storage Pools, Thin Provisioning, SSD Read Cache, Rapid RAID Rebuild, Snapshots (up to 128 targets), All Flash Array.	Intelligent Real-time Tiering for HDDs, Virtualized Storage Pools, Thin Provisioning, SSD Read Cache, Rapid RAID Rebuild, Snapshots (up to 128 targets).
17	Vol 04, Page 340, S. No 10. VNA Storage (FC SAN),point no 12	1 GbE port (UTP, RJ-45) and serial port (Mini-USB) on the controller modules. Web-based interface (WBI); Telnet, SSH, or Direct Connect USB CLI; SNMP and email notifications; optional Softwares.	1 GbE port (UTP, RJ-45) and serial/mini-USB port on the controller modules. Web-based interface (WBI); Telnet, SSH, or Direct Connect USB CLI; SNMP and email notifications; optional Softwares.
18	Vol 04, Page 340, S. No 10. VNA Storage (FC SAN),point no 13	Secure Socket Layer (SSL), Secure Shell (SSH), Secure FTP (sFTP), Self-encrypting drives (SEDs).	Secure Socket Layer (SSL)/Secure Shell (SSH), Secure FTP (sFTP)/FTPS, Self-encrypting drives (SEDs).
19	Vol 05, Page 5, S. No 13	Supply, Installation, Configuring, Testing & Commissioning of	**Specifications Added:**

		Speech/Voice Recognition Software License (minimum users) with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	**Speech Recognition System (With Dictation Mic):** A full range of dictation styles should be supported to accommodate individual preferences, with unequalled productivity and flexibility. It should have robust template support, a data-centric architecture and tight integrations which shall reduce errors and inconsistencies that impact compliance and reimbursement. It should have access to configurable data capture and extraction tools enabling information to be captured when it is needed most. Radiologists and their organizations should be able to achieve measurable efficiencies and improved clinical performance, positioning themselves as leaders embracing technology and innovation in pursuit of quality. I should have advancements in AutoText technology to accelerate report creation while ensuring thorough, compliant and accurate content. It should have relevancy algorithms to launch the right template based on report-specific criteria & should have AutoTexts embedded within referenced fields to facilitate report creation. It should have new organizing tools to improve AutoText accessibility and multi-site functionality. It should have multimedia report capability to enhance communication of radiology findings by correlating images with text reports to facilitate better understanding between referrers and patients. It should also have an improved overread process sends requests for additional report input to the appropriate specialist or section, with full support for resident/ attending and attestation workflows in multi-contributor environments. It should offer integrated knowledge with instant access to disease details, differential diagnoses, e-books, medical image searches, radiology search engines, annotated anatomical

			atlases and more.
			It should maximize diagnostic work-flow and reporting investment with a portfolio of integrated enhancements.
			It should improve follow-up recommendation consistency with evidence-based guidelines.
			It should check for errors, omissions, oversights, and potential critical findings — automatically.
			It should address compliance and save time by automating basic peer review processes.
			It should have auto-import data and map to custom fields to minimize redundant steps and streamline reporting.
			It should import, manage and normalize measurement, dose, DICOM-SR and other data to improve accuracy.
			It should edit, sign and distribute reports and search for radiology content on iOS and Android devices.
			It should optimize workload distribution and ensure the right study is read by the right resource at the right time.
			It should automate identification and proactively manage findings and follow-up compliance.
			It should simplify LCS program management, from patient eligibility through follow-up and reporting.
			It should communicate actionable findings to ordering clinicians, with automated documentation.
			It should streamline radiology workflow and enhance collaboration with a context-aware

communication platform.

It should receive and reply to actionable findings notifications on iOS and Android devices while on the go.

It should improve report quality and TAT with easy access at the point of care to imaging studies performed offsite.

It should expand specialty reach by enabling remote reads (images, orders, reports) from a single native worklist.

It should track and analyse business and clinical performance with data and insights that drive quality improvement.

It should improve the peer review process with tools that enable peer feedback and quality improvement.

Dictation Mic should be supplied in equal quantity as per the number of licenses.

20	Vol. 04, Page 3, Education Management System (EMS) page no. 305-311	Education Management System (EMS) and its modules.	Removed.
21	Vol. 04, Page 7, 2. Scope of Work, point no. 3	Supply, Customization, Integration, Installation, Implementation, Training with Three (3) years comprehensive operation & maintenance of integrated version of Education Management System (EMS).	Removed.

22	Vol. 01, Page 23, Scope of Work, point no. 3	Supply, Customization, Integration, Installation, Implementation, Training with Three (3) years comprehensive operation & maintenance of integrated version of Education Management System (EMS).	Removed.
23	Vol. 05, Summary sheet, item 5	Education Management System (EMS)	Removed.
24	Vol. 05, Page no. 3, item 15	Supply, Customization, Installation, Testing, Implementation, Integration, Training and Maintenance of Education Management System as per the Scope of work, Functional and Technical requirements, Terms and Conditions mentioned in the tender document and as per the requirement and complete in all respect and satisfaction of the engineer.(*The SI Vendor is required to provide detailed, item-wise Bill of Material with break-up of costs as an Appendix-P2 along with the Price Bid. * SI should also give the cost of the person month along with Price Bid. *)	Removed.
25	Vol. 05, Appendix-P2	Cost wise breakup for EMS (Item mentioned in Sr. No. 15 in BOQ)	Removed.

	Summary Sheet	
Summary Sheet for Bill of Quantity (BOQ) for development of IT Infrastructure (HMIS, PACS, Server & Storage) for new Super Specialty Block (SSB) at IIT Kharagpur Hospital & Medical College, Kharagpur, West Bengal		
	Name of Bidder M/s:-	
Sr. No.	**Item Description**	**Amount (In Rs.)**
	Part-A	
1	Hospital Management & Information System (HMIS)	0.00
2	Server Hardware (servers & storage) for HMIS & PACS	0.00
3	PACS with related Hardware & Software	0.00
4	Server room development	0.00
	Total part A	**0.00**
	Part-B	
5	Manpower - Part B	0.00
	Total Part B	**0.00**
	Total (Part A + Part B)	**0.00**

Part-A

Bill of Quantity (BOQ) for development of IT Infrastructure (HMIS, PACS, Server & Storage) for new Super Specialty Block (SSB) at IIT Kharagpur Hospital & Medical College, Kharagpur, West Bengal

Item No	Description Of Item	Total Qty	Unit	Rate in figure (Rs)	Rate in Figures	Amount
1	2	3	4	5	6	7.00
	Hospital Management and Information System(HMIS)					
1.00	Supply, Customization, Installation, Testing, Implementation, Integration, Training and Maintenance of **Hospital Management and Information System** as per the Scope of work, Deliverables of the project, Functional and Technical requirements, Terms and Conditions mentioned in the tender document and as per the requirement and complete in all respect and satisfaction of the engineer.(***The SI Vendor is required to provide detailed, item-wise Bill of Material with break-up of costs as an Appendix-P1 along with the Price Bid. * SI should also give the cost of the person month along with Price Bid. ***)	Lumpsum	-			
	Subtotal HMIS					
2	**Storage & Infra Components**					
2.1	Supply, Installation, Configuring, Testing & Commissioning of **Server Rack** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	3	Nos.			
2.2	Supply, Installation, Configuring, Testing & Commissioning of **IP KVM with 17" Rack Monitor** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	2	Nos.			
2.3	Supply, Installation, Configuring, Testing & Commissioning of **Infra Server** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	2	Nos.			
2.4	Supply, Installation, Configuring, Testing & Commissioning of **NAS Storage minimum 16TB usable and scalable up to 100TB** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	2	Nos.			
2.5	Supply, Installation, Configuring, Testing & Commissioning of **Backup Software with D2D Options** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	Nos.			
2.6	Supply, Installation, Configuring, Testing & Commissioning of **D2D Backup Storage with 24TB Storage** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	Nos.			
2.7	Supply, Installation, Configuring, Testing & Commissioning of **Commercial Virtualization Software - Enterprise Edition Virtualization per socket and One Centralized Management Tool with 3yrs support [Application Server – 8 CPU Sockets License, QMS Server – 2 CPU Sockets License, PACS Server – 4 CPU Socket License, Infra Servers – 2 CPU Socket License.]**with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	16	Nos.			

Part-A

Bill of Quantity (BOQ) for development of IT Infrastructure (HMIS, PACS, Server & Storage) for new Super Specialty Block (SSB) at IIT Kharagpur Hospital & Medical College, Kharagpur, West Bengal

Item No	Description Of Item	Total Qty	Unit	Rate in figure (Rs)	Rate in Figures	Amount
1	2	3	4	5	6	7.00
2.8	Supply, Installation, Configuring, Testing & Commissioning of **OS for Virtual and Physical Machine (Windows Server Standard Edition 2019) [QMS– 16 Core License, PACS – 16 Core License, Infra – 16 Core License, NMS – 8 Core License.**with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	56	Nos.			
2.9	Supply, Installation, Configuring, Testing & Commissioning of **OS for Virtual Machine (Redhat Enterprise Linux) with 3yrs or higher License (HIMS Application Servers – 4 Servers with 2 Sockets each)** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	4	Nos.			
3.0	**Application Server Components**					
3.1	Supply, Installation, Configuring, Testing & Commissioning of **Servers (HMIS,EHR,LIS, ERP, BI Applications)** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	4	Nos.			
	Subtotal (Server, Storage & Infra Components)					
	Radiology Information System and Picture Archival and Communication System (RIS-PACS)					
4.0	Supply, Customization, Installation, Testing, Implementation, Integration with HMIS (HL7 interface), Training and Maintenance of **RIS-PACS solution including 3D advance post processing workstation software** as per the Scope of work, Deliverables of the project, Functional and Technical requirements, Hardware and System requirements, Terms and Conditions mentioned in the tender document and as per the requirement and complete in all respect and satisfaction of the engineer (with 3 years onsite comprehensive operation & maintenance support)	As per the requirement	-			
	PACS Hardware Components					
5.0	Supply, Installation, Configuring, Testing & Commissioning of **RIS, PACS and VNA Server** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	2	No			
6.0	Supply, Installation, Configuring, Testing & Commissioning of **VNA Storage 64TB (FC SAN)** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
7.0	Supply, Installation, Configuring, Testing & Commissioning of **Workstations for Radiology & Ultrasound** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	3	No			
	Subtotal (PACS Hardware Components)					

Part-A

Bill of Quantity (BOQ) for development of IT Infrastructure (HMIS, PACS, Server & Storage) for new Super Specialty Block (SSB) at IIT Kharagpur Hospital & Medical College, Kharagpur, West Bengal

Item No	Description Of Item	Total Qty	Unit	Rate in figure (Rs)	Rate in Figures	Amount
1	2	3	4	5	6	7.00
	Radiology Workstations					
8	Supply, Installation, Configuring, Testing & Commissioning of **6MP Clinical Monitor for CT/MRI/X-Rays** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
9	Supply, Installation, Configuring, Testing & Commissioning of **4MP + 2MP clinical monitor for CT/MRI** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
10	Supply, Installation, Configuring, Testing & Commissioning of **2MP dual head clinical monitor for Ultrasound Workstation** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
	PACS Common Hardware Components					
11	Supply, Installation, Configuring, Testing & Commissioning of **Film Digitilizer** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
12	Supply, Installation, Configuring, Testing & Commissioning of **Robotic CD/DVD Publisher** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No			
13	Supply, Installation, Configuring, Testing & Commissioning of **Speech/Voice Recognition Software License (minimum users)** with all the accessories etc. as per the requirement & complete in all respect and satisfaction of the engineer and have 3 years OEM warranty.	1	No.			
	Subtotal (Radiology Workstations)					
	Total (PACS)					
14	Preparation of Server room as per the technical specificaton mentioned and as per the requirement & complete in all respect and as directed to the satisfaction of engineer.	Lumpsum	-			
	SUBTOTAL - Part-A					

Part-B

Bill of Quantity (BOQ) for deployment of Manpower for operation & maintenance of IT Infrastructure (HMIS, PACS, Server & Storage) for new Super Specialty Block (SSB) at IIT Kharagpur Hospital & Medical College, Kharagpur, West Bengal

Item No	Description Of Item	Total Qty	Unit	Rate in figure (Rs)	Rate in Figures	Amount
	Manpower Requirement (PM- Per Month)					
1	Man month charges for providing one no. Project Manager for providing maintenance support for IT infrastructure (HMIS, PACS, Servers & Storage, Network Infrastructure, Computer Hardware etc.). Engineer should have 1-5 years experience in the relevant area (BE/B-Tech/MCA or equivalent). (Total of 1 number)	36	PM			0.00
2	Man month charges for providing one no. Functional Support Specialist for implementation and maintenance of HMIS and PACS. Engineer should have 1-5 years experience in the relevant area. (BE/B-Tech/MCA or equivalent). (Total of 3 numbers)	108	PM			0.00
3	Man month charges for providing one no. Data Entry Operator for implementation and maintenance of HMIS and PACS. Engineer should have 1-5 years experience in the relevant area. (Graduate) (Total of 5 numbers)	180	PM			0.00
	Subtotal					**0.00**

Sr. no.	Item Description	Unit	Quantity	Rate in figure	Rate in words	Amount
	Cost wise breakup for HMIS (Item mentioned in Sr. No. 1 in BOQ)					**Appendix-P1**
1		m;lcjfgk10bvd				0.00
2						0.00
3						0.00
4						0.00
5						0.00
6						0.00
7						0.00
8						0.00
9						0.00
10						0.00
11						0.00
12						0.00
13						0.00
14						0.00
15						0.00
16						0.00
17						0.00
18						0.00
19						0.00
20						0.00
	Total Amount (In Rs.)					**0.00**

PART-C			
Bill of Quantity for Comprehensive Maintenance Support for 4th and 5th year ***The Quoted Rate in Part -C shall become a part of financial bid but shall not be considered for the purpose of evalution of the Financial bids of the bidders.**			
Sr. no.	Description	Rate in figures(Rs.)	Rate in words (Rs.)
Comprehensive Maintenance for the IT works for 4th and 5th years only-Comprehensive Maintenance for the IT works up to Three (3) years already covered in the existing scope of work under Part A & B. Comprehensive Maintenance for IT works is required for 4th and 5th years only. The comprehensive maintenance charges of IT Works includes spare parts & manpower, hardware, software, network equipments and cables, maintenance and onsite support for all application software i.e. HMIS, PACS and other application etc.The employer reserves the right for placement of order for this maintenance work. However the quoted rate by the bidder shall remain binding on the bidder. The BOQ item shall be read in conjunction with technical specification, GCC, SCC and their quoted rate shall deemed to include all works/requirement in the technical specificatin, SCC, GCC etc. and Scope of work for maintenance including minimum manpower requirement mentioned in Volume-IV and the quoted amout in this part (comprehensive maintenance for IT work for 4th and 5th year only) should not include the amount, liabilities, povision already covered in Part B of the IT works.- After 3 year maintenence support.			
1	Operation and Comprehensive Maintenance for the IT works during 4th year		
2	Operation and Comprehensive Maintenance for the IT works during 5th year		
Total		0.00	