Tender Document

DU/CHEM/PB/EMR/2016/006619

Supply and Installation of
Compute Nodes for HPC cluster

DST-SERB Sponsored Project (EMR/2016/006619)

DEPARTMENT OF CHEMISTRY
UNVERSITY OF DELHI
DELHI-110007

E-procurement Tender Notice

Ref. No.: DU/CHEM/PB/EMR/2016/006619   **Dated: 31/01/2018**

Online tender in two bid format (Technical and Financial bid) is invited from the original equipment manufacturers (OEMs)/authorized dealers/distributers to supply and install compute nodes for a High Performance Computer (HPC) cluster.

S. No.	Description of Item	Qty.
1.	Compute node and its installation for existing High Performance Computer (HPC) cluster. The BOM of existing HPC cluster is shared in this tender document. Minimum two Processers per node and minimum 14 cores per processer.	2

Important Information:

(i) All the information about the tender related documents is available on the University website www.du.ac.in and CPP portal: https://eprocure.gov.in/eprocure/app.

Tender type	Open
Product Category	Goods
Tender Fee	NIL
EMD amount	Rs. 65000/- (Exempted for MSEs)
PBG amount	8% of the total value of the Purchase Order
Bid validity Duration	Minimum 90 days
Completion Period (Including Delivery and Installation)	Maximum 45 Days (Forty five Days) from the date of issue of Purchase Order
Tender document download start date	02-02-2018, 10:00 AM
Bid submission Start date	02-02-2018, 10:00 AM
Bid submission End date	23-02-2018, 05:00 PM
Technical bid opening date and time	26-02-2018, 11:00 AM
Financial bid opening date and time	To be intimated later

(ii) Conditional tenders shall not be accepted.
(iii) For submission of e-bid, bidders are required to register with
      https://eprocure.gov.in/eprocure/app
(iv) The bidders may be called for clarification and presentation of their products on short
      notice.
(v) Any Clarification/Queries can be addressed to Prof. Parbati Biswas, PI, Department of
      Chemistry, University of Delhi, via phone no. +91-9953763273, +91-7838226239 and
      email: chemhpctender@gmail.com

Parbati Biswas

<div align="center">

INFORMATION AND INSTRUCTIONS FOR BIDDERS

</div>

Note: **These two compute nodes will be a part of existing HPC cluster (consist of one head node and two compute nodes). There should not be compatibility, performance or any other issue between the new nodes and existing HPC cluster.**

1.0   Introduction:

The bidders are required to submit soft copies of their bids electronically on the CPP Portal: https://eprocure.gov.in/eprocure/app using valid Digital Signature Certificates. Before that bidders are required to register on this CPP Portal.

1.1 REGISTRATION

1.1.1 The bidders are required to enroll on the e-Procurement module of the CPP Portal: https://eprocure.gov.in/eprocure/app by clicking on the link "Online bidder Enrolment".

1.1.2 The bidders are required to choose a username and password for their accounts.

1.1.3 The bidders are advised to register their valid email id and mobile numbers as part of registration process. These would be used for any communication from the CPP Portal.

1.1.4 Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (DSC) issued by any Certifying Authority recognized by CCA India (e.g. Sify/nCode/eMudhra etc.), with their profile.

1.1.5 Only one valid DSC should be registered by a bidder.

2.0   Bid Submission:

2.1. The bidder should note that each and every letter of all the Bid Documents should be clear.

2.2. Technical bid should be complete in all respects and should contain all relevant information required for evaluation of the bid. However, technical bid should not contain any information on the financial aspect of the bid; otherwise the technical bid would be disqualified on this ground only. The Technical bid should include components as follows:

> ➢ Index
> ➢ Letter of Transmittal as per Annexure A.
> ➢ The Company profile as per Annexure B.
> ➢ Details of major orders executed by the bidder/OEM in last 5 years to supply and install HPC cluster as per Annexure C.
> ➢ Warranty compliance statement as per Annexure D.
> ➢ Technical Offer with Specifications according to the information given in

Annexure E.
> Technical Documentation (Product Brochures, leaflets, manuals etc.)

2.3. Financial bid shall comprise of the price bid only of the items mentioned in Annexure E. The financial bid must be complete in all respects, without any errors, erasures or alterations. The financial bid must not contradict the technical bid in any way.

2.4. The bidder shall quote rates both in words and figures in Indian Rupees (INR). In case of difference between the rate of items written in figures and in words, the rate of items written in words shall be taken as correct. No increase in rates shall be allowed under any circumstances. The rates quoted should be inclusive of installation charges, all taxes, duties, levies, transportation charges etc.

2.5. Each page of the Technical and Financial bid must be signed by the authorized signatory of the bidder with seal.

2.6. Duly signed tender document along with all corrigendum, addendum issued, if any, should also be enclosed as a part of technical bid.

2.7. Conditional tenders shall not be accepted.

2.8. The bidders shall furnish, as part of their tender offer, documents establishing their eligibility to participate in the tender and to perform the contract. The documentary evidence should establish to the complete satisfaction of the University that the bidder is eligible as per the Eligibility Criteria.

3.0   Eligibility Criteria:

3.1. The bidder should be either Original Equipment Manufacturer (OEM)/authorized dealer/distributor specifically authorized by the OEM for at least last three financial years.

3.2. The bidder should have an active ISO quality certification or higher Information Security certification as on date of submission of bid.

3.3. The bidder should be registered with the revenue authorities (copies of PAN Card, GST registration etc. should be enclosed as per Annexure B).

3.4. The bidder/OEM should have successfully supplied and installed the HPC cluster to the Central Government/State Government (s)/Public Sector Undertaking (s)/University (s)/reputed organization (s) since last five years. Copies of purchase order(s) should be included as a proof and its details are required to be furnished in Annexure C.

3.5. The bidder should quote for supply and installation of the compute nodes for HPC cluster which meets the minimum technical specifications as prescribed in Annexure E.

3.6. The bidder would be required to submit the audited balance sheet of last 3 financial years. A solvency certificate issued by a Scheduled Bank should also be provided.

3.7. The bidder must submit an undertaking on its letter head that they have not been blacklisted by any State Government/Central Government/Public Sector Undertaking/University/other public institutions in last 5 years.

3.8. Tender shall not tamper/modify in any manner, otherwise it will be completely rejected.

3.9. The OEM submitting the proposals should have at least 20 entries in the TOP 500 (www.top500.org) list continuously for last 3 years. They should have 3 or more clusters installed in India over past 5 years.

3.10. The OEM should have direct service support in India. The after sales service including installation are to be provided by the OEM only. A certification from the OEM would be required for this effect.

4.0 Opening of bids and evaluation:

4.1. In the first stage, technical bids will be opened. After the technical evaluation of the bids, the University will open the financial bids of technically qualified bidders at notified date and time.

4.2. The University shall examine the bids to determine as to whether they are complete in all respects as per terms and conditions of the tender document.

4.3. The University may, at its sole discretion, waive any minor infirmity/non-conformity in a bid which does not constitute a material deviation of the terms and conditions of the tender document.

4.4. Prior to the detailed evaluation, the University will determine the substantial responsiveness of each bid to the tender document.

4.5. If a bid is not substantially responsive, it will be rejected by the University and may not subsequently be made responsive by the bidder through correction of the non-conformity.

4.6. The bidder is expected to examine all instructions, forms, terms and specifications in the tender document. Failure to furnish complete information required in the tender document or to submit a bid not substantially responsive to the tender document in every respects will be at the bidder's risk and may result in the rejection of bid.

5.0 Earnest Money Deposit

5.1. The scanned copy of the Earnest Money Deposit (EMD) of Rs. 65,000/- must be uploaded while submitting the tender and the hard copy of the EMD must reach to **Prof. Parbati Biswas, Block-B, Department of Chemistry, University of Delhi, Delhi-110007 on or before 24th February, 2018 upto 5:00 pm**. The Earnest Money Deposit shall be accepted with a minimum validity of 6 months in the following forms and shall be in favor of "**Registrar, University of Delhi**", payable at Delhi:-

   ➢ Fixed Deposit Receipt (FDR)
   ➢ Bank Guarantee (BG)

5.2. Tenders with no Earnest Money Deposit will be summarily rejected.

5.3. EMD is exempted for the Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department (Bidders must attach certificate for the same).

5.4. In case of unsuccessful bidders, the Earnest Money Deposit will be refunded in due course of time without any interest.

5.5. In case of successful bidder, the Earnest Money Deposit will be returned after submission of Performance Bank Guarantee (PBG). The Earnest Money Deposit and PBG of successful bidder will be forfeited, without any notice, if the supply is not completed within the period specified in the purchase order.

6.0 General Conditions:

6.1. The bid document should be legibly written. The bidder should sign each page of the bid.

6.2. The University reserves the right to physically inspect the HPC cluster installed by the bidder at any location.

6.3. To assist in the scrutiny, evaluation and comparison of offers, University of Delhi may, at its discretion, ask some or all bidders for clarification of their offer.

6.4. The bidder may be required to give presentation of the system offered in the form of a live demo to ascertain the functional aspect of the product if asked by the University.

6.5. Exempted EMD bidders must provide a certificate issued by Department of Micro, small and Medium Enterprises (MSME) or Central Purchase Organization or the concerned Ministry or Department.

6.6. The bidder will be required to provide a certificate which clearly states that the make and model of the products along with their parts quoted in the bid shall be identical to the one to be supplied in case the bidder is successful in this bid process.

6.7. The University reserves the right to verify any or all statements made by the bidder in the tender document and to inspect the bidder's facilities, if necessary, to establish to its satisfaction about the bidder's capacity to perform the job.

6.8. The University of Delhi reserves the right to carry out a technical inspection and performance evaluation of the offers made by short listed bidders.

6.9. The University of Delhi shall be under no obligation to accept the lowest or any other offer received in response to this tender notice and shall be entitled to reject any or all offers including those received later or incomplete without assigning any reason thereof.

6.10. Taxes, as may be applicable, shall be deducted at source at the rate that will be in force from time to time.

6.11. The bidder would be required to supply and install the compute nodes within the time specified by the University.

6.12. The rates quoted by the bidder shall remain valid for a period of 90 days from the last date of submission of tender document and there will be no change in the price structure during the currency of the contract.

6.13. The University reserves the right, without being liable for any damages or obligation to inform the bidder to amend the scope and value of contract under reference.

6.14. The successful bidder would be required to ensure the supply within the stipulated period specified in the tender document, failing which a penalty of 0.5% per week, subject to a maximum of 5%, will be recovered for the period of delay on total cost of purchase.

6.15. This is an item rate contract. The number of items mentioned in Annexure E may be increased or decreased as per requirement.

6.16. The bidders must mention the price of each item like compute nodes, infiniband Switch, RHEL etc. in the financial bid as per the format given in Annexure F.

6.17. The University reserves the right to cancel purchase of one or more of the items listed in Annexure E at its sole discretion, at any point of time during the purchase process.

6.18. The successful bidder will be required to provide training to the end users, as per requirement.

6.19. The compute nodes, IB switch etc. must be mountable on HP 642 1200MM shock intelligent rack (P/N BW908A).

6.20. The existing HPC cluster is in healthy and working condition. If after connecting new compute nodes any issue related to either hardware or software arises, then bidder/OEM have to solve it without any extra cost.

7.0   Final decision making authority

7.1. The University reserves the right to accept or reject any bid or all bids and annul the process at any time, without assigning any reason or incurring any liability thereof. No claim, whatsoever, shall be entertained by the University to this effect.

8.0   Amendment to the tender document

8.1. Before the deadline for submission of tender, the University may modify the tender document by issuing corrigendum on the website of the University: www.du.ac.in and CPP portal: http://eprocure.gov.in/eprocure/app. Prospective bidders must visit the website before submission of tender for such information.

9.0   Performance Bank Guarantee:

9.1. The Performance Bank Guarantee of 8% of the total value of the Purchase Order will be deposited by the successful bidder within 10 days from the date of issue of the Purchase Order to **Prof. Parbati Biswas, Block-B, Department of Chemistry, University of Delhi, Delhi-110007**. The Performance Bank Guarantee shall be accepted in the following form and shall be in favor of "**Registrar, University of Delhi**", payable at Delhi with a validity of 42 months from the date of issue of purchase order as under:-

  ➢ Fixed deposit receipt (FDR) of a nationalized bank
  ➢ Performance Bank Guarantee

9.2. The Performance Bank Guarantee will be refunded without any interest after the successful completion of warranty period as specified in the purchase order.

9.3. In case of non-submission of Performance Bank Guarantee within specified time, the Earnest Money Deposit will be forfeited and the University may consider to black list the bidder.

10.0   Payment Terms

10.1. Payment will be made to the successful bidder only after completion of contract.

10.2. No advance payment will be made under any circumstances.

11.0   Completion of the Contract

11.1. The contract will be deemed as incomplete until the installation along with user acceptance test is fully done. The warranty period will also not commence until the contract is completed. The warranty period commences only on satisfactory installation report from the Principal Investigator of DST-SERB project (EMR/2016/006619).

12.0   Warranty

12.1. The bidder shall quote the 3 year Warranty (comprehensive and on site) on all items from the date of completion of the contract in the financial bid.

12.2. The bidder shall be responsible for any defects or loss of functionality in the compute nodes. The successful bidder shall also replace any defective part of the product supplied and other accessories, without any exception and recourse, free of cost.

12.3. The OEMs/bidders must provide the post warranty support (comprehensive and onsite) on payment basis for repair and maintenance of all items purchased under this contract upto 3 years after completion of the warranty period.

13.0 Cancellation of order

13.1. The University reserves the right to cancel the order in the event of one or more of the following circumstances:

- ➢ In the event of delay in supply
- ➢ Serious discrepancy in the work being performed or installation being done or items/accessories found defective during inspection by the University.
- ➢ Breach by the bidder of any of the terms and conditions of the tender.
- ➢ Any action by the bidder, which is in breach of law or accepted practices in the commercial transactions.
- ➢ If the bidder goes into liquidation voluntarily or otherwise.

14.0   Resolution of Disputes

14.1. The University and the bidder shall make every effort to resolve amicably, by direct informal negotiations, any disagreement or dispute arising between them under or in connection with the contract. If after thirty days from the commencement of such informal negotiations, the University of Delhi and the bidder are unable to resolve a contract dispute amicably; either party may require that the dispute be referred for resolution by formal arbitration. The Vice Chancellor, University of Delhi, shall appoint

a sole arbitrator who is not related to the contract under reference and whose decision shall be final and binding on both the parties.

15.0 Jurisdiction
15.1. The Jurisdiction of the courts shall be at Delhi.

BOM of Existing HPC Cluster

Description	Qty
HP 9000 Series Ballast Option Kit	1
RHEL 5 Media Only SW	1
HP 3M 4X DDR/QDR QSFP IB Cu Cable	3
QLogic IB QDR 36 Port Switch	1
HP Integrity USB External DVD-RW Drive	2
HP TFT7600 KVM Console Intl Kit	1
RHEL HPC Compute Node 2Skt 1yr Lic E-LTU	2
HP Insight CMU Media	1
RHEL HPC HN 2Sckt 1 Gst 3yr 9x5 E-LTU	1
HP 642 1200mm Shock Intelligent Rack	1
HP 42U 1200mm Side Panel Kit	1
HP Air Flow Optimization Kit	1
HP 600mm Rack Stabilizer Kit	1
HP Ethernet 7ft CAT5e RJ45 M/M Cable	14
HP 7.3kVA 230V 30out INTL bPDU	1
HP X410 1U Univ 4-post Rack Mnt Kit	1
HP Aruba 2920-24G Switch	1
HP Insight CMU 1yr 24x7Flex E-LTU	3
HP s6500 W/O Fans 4U Chassis	1
Asia Pacific-English Localization	1
HP 2.5M 16A C13-IS1293 India Pwr Cord	4
Factory integrated	4
HP 1500W Ht Plg Pwr Supply Kit	4
Factory integrated	4
HP s6500 Redundant Fan Kit	8
Factory integrated	8
HP s6500 Chassis Handles Kit	1
Factory integrated	1
HP s6500 Half Width Node Left Blank Kit	2
Factory integrated	2
HP s6500 Half Width Node Right Blank Kit	4
Factory integrated	4
HP SL230s Gen8 Lft Half Tray Node svr	2
Factory integrated	2
HP SL2x0s Gen8 E5-2670v2 FIO Kit	2
HP SL2x0s Gen8 E5-2670v2 Kit	2
Factory integrated	2
HP 16GB 2Rx4 PC3-14900R-13 Kit	8
Factory integrated	8
QLogic 4X QDR IB PCl-e G2 HCA	2

Factory integrated	2
HP 500GB 6G SATA 7.2k 3.5In QR MDL HDD	2
Factory integrated	2
HP SL230 LFF QR HDD Cage Kit	2
Factory integrated	2
HP 36pin Suv Dongle Cord Kit	2
Factory integrated	2
HP ILO Adv incl 3yr TS U 1-Svr Lic	2
HP s6500 4U Rail Kit	1
HP DL380p Gen8 25-SFF CTO Server	1
Asia Pacific-English Localization	1
HP DL380p Gen8 E5-2670v2 FIO Kit	1
HP DL380p Gen8 E5-2670v2 Kit	1
Factory integrated	1
HP 16GB 2Rx4 PC3-14900R-13 Kit	4
Factory integrated	4
HP 1.2TB 6G SAS 10K 2.5In DP ENT SC HDC	5
Factory integrated	5
HP 2.5M 16A C13-IS1293 India Pwr Cord	2
Factory integrated	2
HP Ethernet 1GbE 4P 331FLR FIO Adptr	1
HP 512MB FBWC for P-Series Smart Array	1
Factory integrated	1
HP 2U SFF BB Gen7 Rail Kit	1
Factory integrated	1
QLogic 4X QDR IB PCI-e G2 HCA	1
Factory integrated	1
HP 460W CS Plat PL Ht Plg Pwr Supply Kit	2
Factory integrated	2
HP ILO Adv incl 3yr TS U 1-Svr Lic	1
Intel Cluster Studio for Linux OS-Single Academic for 3 years (ESD)	1
Open source job scheduler	1
All existing nodes have RHEL 6.5 (Santiago) Operating System.	

INFORMATION REGARDING TECHNICAL ELIGIBILITY
(Annexure A to F)

<u>Annexure – A</u>

LETTER OF TRANSMITTAL

(Letter to be submitted by the bidder on its letterhead to the University of Delhi)

To,
    Prof. Parbati Biswas
    Principal Investigator
    DST-SERB Project (EMR/2016/006619)
    Department of Chemistry
    University of Delhi
    Delhi-110007

    Sub: Tender to supply and install the compute nodes for High Performance Computer
        (HPC) cluster for DST-SERB sponsored project (EMR/2016/006619)

Madam,

       With reference to above tender, having examined and understood the terms & conditions forming part of the tender and as detailed in tender document for the above work, I/we hereby submit my/our bid and declare as under.

1. I/we hereby certify that all the statements made and information supplied in the enclosed annexures/forms accompanying statement is true, complete and correct. In case any discrepancy is observed in the information provided, the University will be free to cancel the bid and take such other action as may be necessary and incidental thereto.

2. I/we have furnished complete information and details necessary for eligibility and have no further pertinent information to supply.

3. I/we have not been blacklisted by any State Government/Central Government/Public Sector Undertaking/University/other public institutions in India in last 5 years.

<div align="right">Yours faithfully,</div>

Date:

<div align="right">Signature(s) of Bidder(s) with seal
(Name and Designation)</div>

Place:

Annexure B

ORGANISATION PROFILE

Details filled in this form must be accompanied by sufficient documentary evidence, in order to verify the correctness of the information.

S. No.	Particulars	Details
1.	Name of Bidder	
2.	Mailing address	
3.	Telephone Fax Number Website E-mail	
4.	Date of Registration of Bidder	
5.	Year of Commencement of Business	
6.	Name and designation of the person authorized to make commitments to the University	
7.	GST registration number	
8.	Permanent Account Number (PAN)	
9.	Service tax registration number	
10.	Brief description of after installation service facilities available with the bidder along with documentary proof.	

Date:

Place:

Signature(s) of Bidder(s) with seal
(Name and Designation)

Annexure C

Details of the major orders executed by the bidder/OEM for supply and installation of HPC cluster since last five years. (Copies of the purchase orders are required to be enclosed).

Name of the Bidder/OEM_____

SI. No.	Name of Client	Details of the work carried out	Clients contact details (including name, phone, e-mail, fax no. and address)	Remarks
1.				
2.				
3.				
4.				
5.				

(If more than 5, attach extra sheets using this format)

Date:

Place:

Signature(s) of Bidder(s) with seal
(Name and Designation)

Annexure D

To,

Prof. Parbati Biswas
Principal Investigator
DST-SERB Project (EMR/2016/006619)
Department of Chemistry
University of Delhi
Delhi-110007

Sub: Tender to supply and install the compute nodes for High Performance Computer
(HPC) cluster for DST-SERB sponsored project (EMR/2016/006619)

Madam,

We warrant that every part and accessories of the compute nodes to be supplied by us shall be brand new, free from any defect or fault in material. The workmanship and manufacturing shall be of the highest grade and quality and consistent with the established standards for materials specification, drawings or samples if any, and shall operate properly. We shall be fully responsible for its efficient operation.

We would provide onsite free comprehensive maintenance of the installed compute nodes for a period of 3 years, as specified in the purchase order as per terms & conditions of the tender document. We will also provide the post warranty support (comprehensive and onsite) on payment basis for repair and maintenance of all items purchased under this contract upto 3 years after completion of the warranty period.

Yours faithfully

Date: Signature(s) of Bidder(s) with seal
                                                                                (Name and Designation)

Place:

Annexure E

Technical Specification for the Compute Nodes

A	HPC Compute Nodes		2 Nos.
SI. No.	Description	Technical Specification	Compliance
A1	Servers		
1	Bidder should offer same OEM make servers in the chassis, each server should be of 1U half-width form factor.		
2	Each server should support 16 memory DIMM Slots		
3	Server should support 2 I/O slots to choose among following networking and clustering options: 1Gb, 10Gb, 100Gb Ethernet, FDR/EDR InfiniBand, 100Gb/s Omni-Path, FibreChannel		
4	Servers should be rack mountable		
A2	Processors		
1	Processor Type	2xIntel Xeon Gold 5120 2.2GHz 14C 19.25MB L3 Cache 105 W or higher Processor	
2	Cache	Minimum of 19.25MB L3 Cache required	
3	Cores	Minimum of 14 cores/Processor	
A3	RAM		
1	Memory Scalability	Scalable to minimum of 768 GB DDR4 ECC 2400 MHz or higher.	
2	Memory Size	8x(16 GB) DDR4 ECC Memory 2400 MHz or higher.	
A4	HDD		
1	Internal Storage	Single 1TB or higher SATA 7.2K RPM Drive	
A5	Chassis		
1	Bidder should provide servers in 2U chassis form factor		
2	Four server slots should be offered in the chassis		
3	Chassis should be able to offer 24 SFF drive capacity and should support hot-pluggable SAS/SATA HDD/SSD		
A6	Operating System		
1	64 bit licensed Red Hat Enterprise Linux (RHEL)		
A7	Warranty		

1	Should provide for 3 years onsite comprehensive warranty	

	HPC Software	
A8	**Clustering Software Suite**	**As per req.**
Sl.No.	**Technical Specification**	**Compliance**
1	All quoted softwares must be licensed, certified and fully supported versions.	
2	HPC Cluster Configuration software must have GUI as well as Web based UI access.	
3	HPC Cluster Management software must have a proven clustering capability of at least 1024 compute servers and should be listed in the current edition of www.top500.org or India Top Supercomputers listings to demonstrate the above-said scalability.	
4	HPC Cluster Management suite must have extensive cluster monitoring capability to drill down to a node-level performance parameters using intuitive GUI and with well-designed graphical reports.	
5	HPC Cluster Management suite must permit only secure shell (ssh) based access and a robust parallel-execution shell (pdsh) implementation. It should be configured to disallow access to compute server to other users whose jobs are not currently being executed on those servers.	
6	Software for Red Hat Enterprise, HPC Cluster Configuration, Deployment, Resource Management and Monitoring, Remote Server Management, and Job scheduling must be quoted.	
7	Compilers: Fortran, C/C++ compilers (PGI or Intel Compilers) and MPI software, licensed and supported.	
8	All the quoted software's license must be perpetual.	
9	The compilers and development environment must be licensed for 1 user concurrent users in a floating-license mode.	
10	Open Source job scheduler with complete support and integration (if required since already installed)	
A9	**IB Switch and Cluster Interconnect Network**	
Sl.No.	**Technical Specification**	**Compliance**
1	Infiniband switch	Total ports should be 20% extra after connecting new nodes and existing nodes Minimum 40 Gbps IB switch with auto sensing of link speed on all ports	
2	Infiniband FDR/EDR speed Interconnect Fabric. Fully 100% non-blocking	
3	Compatible with the latest OFED drivers and OpenMPI libraries.	
4	Between any two nodes full bandwidth needs to be realized (Ratio 1:1).	

Annexure F

Financial Bid

Financial offer for comprehensive and onsite warranty of 03 years

SI. No.	Description	Technical Specification	Qty.	Rate per Unit (Net) Inclusive of all taxes (Rs.)		Total Amount (RS)
1	HPC Compute Node		2			
2	Infiniband Switch		1			
3	Softwares (RHEL etc.)					
4	Installation Charges					

(Use this format)

The cost of each item/equipment should be as per technical specifications and inclusive of all taxes.

Date: Signature(s) of Bidder(s) with seal
                                                                      (Name and Designation)

Place: