

Department of Metallurgy and Materials Engineering
Indian Institute of Engineering Science & Technology, Shibpur
Howrah - 711 103

Ref.: Tender Advt. No. SE/D(AA)/16/47, Dated 20/09/2016, published in “Bartaman”, “Statesman” and “Sanmarg”, only Kolkata edition, on 21/09/2016

Notice Inviting Quotations

Sealed quotations are invited from the Bonafide suppliers for the supply of the following items as per the given technical specifications for different laboratories in the department. Each item will be treated as individual item. The quotations should reach to the Office of the Head, Department of Metallurgy and Materials Engineering latest by October 5, 2016, within 16.00 hours.

Item 1. Computer Server:

Quantity: One

Specification:

Item	Description of Requirement
Chassis	2U Rack Mountable
CPU	One numbers of latest generation Intel 8 Core E5-2640v3 processor, Upgrade Up to Two
CPU L3 CACHE Memory	MIN 20 MB L3 cache depending upon processor model
Motherboard	Intel® C610 Series Chipset
Memory	48 GB DIMMS scalable to at least up to 768GB, using DDR4 Load Reduced DIMM (LRDIMM) memory modules. Should be capable of identifying and reporting whether genuine OEM memory is installed.
Memory Protection	Advanced ECC with multi-bit error protection and memory online spare mode
HDD Bays	Up to 10 SFF/4 LFF max, HDD/SSD. The drive carrier should have intuitive icon based display along with "DO NOT REMOVE" caution indicator that gets activated automatically in order to avoid data loss/downtime due to wrong drive removal.
Hard disk drive	4 x 1 TB 7.2K SAS HDD

Controller	<p>Server should support one of below RAID controller without consuming PCIe slot</p> <p>Embedded 6Gb/s SATA controller RAID controller with RAID 0/1/10/5 or</p> <p>PCIe 3.0 based 12Gb/s SAS Raid Controller with RAID 0/1/1+0/5/50/6/60/1 Advanced Data Mirroring/10 Advanced Data Mirroring with 2GB battery backed write cache (onboard or in a PCI Express slot)</p>
Networking features	<p>Server should support networking cards with below features:</p> <ol style="list-style-type: none"> 1. 1Gb 4-port network adaptor supporting advanced features such as Large Send offload capability, TCP checksum and segmentation, VLAN tagging, MSI-X, Jumbo frames, IEEE 1588, and virtualization features such as VMware Net Queue and Microsoft VMQ. 2. 10Gb 2-port Ethernet adaptor supporting enterprise class features such as VLAN tagging, adaptive interrupt coalescing, MSI-X, NIC teaming (bonding), Receive Side Scaling (RSS), jumbo frames, PXE boot and virtualization features such as VMware Net Queue and Microsoft VMQ. 3. 10Gb 2-port Adapter providing Ethernet and iSCSI or Fibre Channel Over Ethernet (FCoE) connectivity using Converged Enhanced Ethernet (CEE) standards. This adaptor should support Hardware acceleration and offloads for stateless TCP/IP, TCP Offload Engine (TOE), Fibre Channel over Ethernet (FCoE), Jumbo frames and iSCSI. 4. 10Gb 2-port provide up to 40Gb bi-directional bandwidth, Converges FCoE or RoCE with LAN traffic on a single 10 GbE wire, Tunnel Offload support for VXLAN and NVGRE, RDMA over Converged Ethernet (RoCE)
Interfaces	<p>Serial - 1</p> <p>Micro SD Internal Secure - 1</p> <p>USB 3.0 support With Up to 5 total: 2 rear, 1 front, 2 internal</p>
Bus Slots	Three PCI-Express 3.0 slots, at least two x16 slots
Power Supply	Redundant platinum Power Supplies
Fans	Redundant hot-plug system fans
Graphics	<p>Integrated Matrox G200 video standard</p> <p>1280 x 1024 (32 bpp)</p> <p>1920 x 1200 (16 bpp)</p>
Industry Standard Compliance	<p>ACPI 2.0b Compliant</p> <p>PCIe 3.0 Compliant</p> <p>PXE Support</p> <p>WOL Support</p> <p>Microsoft® Logo certifications</p> <p>USB 3.0 Support</p> <p>Energy Star</p> <p>ASHRAE A3/A4</p>

<p>Embedded system management</p>	<p>Should support monitoring ongoing management, service alerting, reporting and remote management with embedded Gigabit out of band management port Server should support configuring and booting securely with industry standard Unified Extensible Firmware System should support RESTful API integration System management should support provisioning servers by discovering and deploying 1 to few servers with Intelligent Provisioning System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support</p>
<p>Security</p>	<p>Power-on password Serial interface control Administrator's password URFA Should support upto 12 customizable user accounts on out of band management port and SSL encryption Should also supports directory services integration TPM 1.2</p>
<p>Operating Systems and Virtualization Software Support</p>	<p>Microsoft Windows Server Canonical Ubuntu Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware Citrix XenServer</p>
<p>Secure encryption</p>	<p>System should support Encryption of the data on both the internal storage and cache module of the array controllers using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment.</p>
<p>Warranty</p>	<p>Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.</p>
<p>Provisioning</p>	<p>Essential tools, drivers, agents to setup, deploy and maintain the server should be embedded inside the server. There should be a built-in Update manager that can update firmware of system by connecting online.</p>

Remote Management	<p>1. System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication.</p> <p>2. Server should have dedicated 1Gbps remote management port. Remote management port should have 4GB NAND flash with 1GB available for user access. NAND flash should be used for keeping system logs and downloading firmware from HP website or internal repository</p> <p>3. Server should support agentless management using the out-of-band remote management port.</p> <p>4. The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur.</p> <p>5. Applications to access the server remotely using popular handheld devices based on Android or Apple IOS should be available.</p> <p>6. Remote console sharing up to 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality. Should provide support for Java free graphical remote console.</p> <p>7. Should support managing multiple servers as one via</p> <ul style="list-style-type: none"> Group Power Control Group Power Capping Group Firmware Update Group Configuration Group Virtual Media Group License Activation
Server Management	The Systems Management software should provide Role-based security
	Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD. Should support automatic event handling that allows configuring policies to notify failures via e-mail, pager, or SMS gateway or automatic execution of scripts.
	Should provide an online portal that can be accessible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contract and status. The Portal should also provide a Personalised dashboard to monitor device health, hardware events, contract and warranty status. Should provide a visual status of

	individual devices and device groups. The Portal should be accessible on premise (at customer location - console based) or off premise (using internet).
	Should support scheduled execution of OS commands, batch files, scripts, and command line apps on remote nodes
	Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Should support the reports to be saved in HTML, CSV or XML format.
	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.
	The Server Management Software should be of the same brand as of the server supplier.
	Infra Platform /Infra Software to support a variety of different hypervisors, such as VMware, Microsoft Hyper-V, Red Hat KVM, and HP Integrity VM
	Solution available to Deploy a fast and easy installation via software appliance delivery mode. With its own OS and Database to provide infra and lifecycle management
	Management software should support integration with popular virtualization platform management software like vCenter, SCVMM and RedHat RHEV
Authorization	Tender Specific Authorization from OEM should submit with the Tender.

Item 2: Desktop Computer

Quantity: Fifteen

Specification:

Processor	Intel core i7-4790 Processor (3.4 GHz, 4 cores) or equivalent
Mother Board	OEM Motherboard Chipset Intel® Q85 or equivalent
Memory	Min. 8GB DDR3-1600 SDRAM Expandable to 32GB, 4 DIMM slots
Graphics Subsystem	Integrated Intel HD Graphics
Hard Disk Drive	1 TB (7200 rpm) SATA
Optical Drive	Internal DVD Writer
Audio	Integrated Audio with Internal Speakers
Keyboard	OEM USB Keyboard
Mouse	OEM USB Optical Scroll Wheel Mouse
Expansion slots	(1) PCI Express x16 graphics connectors, (1) PCI Express x1 accessory connectors
External Ports	(1) RS-232 serial port, (1) VGA video port, (2) Display Port with multi-stream video ports
USB Ports	(4) USB 3.0 ports; (2) USB 2.0 ports,
Network Interface	Integrated 10/100/1000 Mbps Ethernet with RJ-45 connect or equivalent
Monitor	21.5" led display monitor or equivalent
Operating System	Linux/Ubuntu
Compliances & Certifications	ISO 9001:2000, Energy Star (5.0 or higher), Green Peace certification (3.0 or higher), OS Certification, EPEAT® Gold Certification
Warranty	On-site warranty 3 years (3-3-3)

Item 3. Online UPS system

Quantity: One

Specification:

1	UPS Capacity	10 kVA UPS System
2	Topology	True On-line Double Conversion UPS
3	Output power capacity	9000 W
4	Input	
4.1	Voltage Range	190 - 478 VAC based on the load percentage
4.2	Frequency	50 Hz
	Frequency Range	46 to 54 Hz
4.3	Power Factor	≥ 0.99 at full load and nominal input Voltage And $>.95$ above 25% load
4.4	Current THD	$< 5\%$ (with full Load)
4.5	Isolation Transformer	Only Inbuilt. To be connected at the input side of the UPS
5	Output	
5.1	Voltage	230 VAC
5.2	Voltage Regulation	+ / - 1%
5.3	Frequency (Free Running Mode)	50 Hz \pm 0.1 Hz
5.4	Frequency (Synchronisation Mode)	45 to 55 Hz
5.5	Harmonic Distortion (THD)	$\leq 2\%$ (linear load)
		$\leq 5\%$ (non-linear load)
5.6	Output Waveform	Sine wave
5.7	Crest Factor	3:1
5.8	Inverter Efficiency	$\geq 90\%$
5.9	Power Factor	0.9 Lagging
5.10	Overload	101% - 109% for 5 minutes
		110% - 129% for 1 minute
		130%-150% for 10 Sec
5.11	System DC Voltage	≥ 288 VDC
6.0	Battery	
6.1	Battery Type	12 V Sealed Lead Acid Maintenance Free
6.2	Battery make	Amararaja Quanta? Exide
6.3	Back up time	30 Mins Backup
6.4	Charger	Built-in solid state three stage recharge (Constant Current,
6.5		Constant Voltage with float charge) and with

		temperature compensation.
6.6	VAH Required	≥ 12096
7	Efficiency	
	AC/AC (overall efficiency)	$\geq 94\%$ (at full Load)
8	Features	
8.1	Eco mode	Should be available
8.2	Overload capacity	Should be available
8.3	Converter mode	Should be available
8.4	Bypass parameters configurable	Should be available
8.5	Display	LCD Display
8.6	Bypass	Static Bypass should be provided
8.7	Cold Start	UPS shall start up On DC Supply without mains input
8.8	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown
8.9	Self Diagnosis	UPS should be capable to carry out self test of Rectifier / Charger / Battery & Inverter sections during start-up
9	Mechanical	
	Ingress protection	IP 20
10	General	
10.1	Operating Temperature	0 to 45 Deg. C only for UPS
10.2	Noise level	< 55 dB @ 1 meter
10.3	LCD Display & Indication	Input Voltage
		Output Voltage
		Input Frequency
		Output Frequency
		Battery Charging / Discharging Level
		Load Level
		Input High / Normal / Low / Fail
		Output Overload
		Output Short Circuit
		Output Fault
10.4	LED Display & Indication	Normal Mode
		Load on Battery
		Load on Bypass

		system fault
10.5	Audible Alarm	Mains Failure alarm
		Low Battery Alarm
		Overload
		Fault
		Bypass Mode
		UPS Warning
10.6	Bypass	Static Bypass
10.7	Maintenance Bypass	Available
10.8	DSP Based technology	Required
11	Communication Interface	
11.1	Serial Communication RS232 and USB Port (selectable)	RS232 Port and optional USB port
11.2	Interface to NMS (Network Management System)	SNMP Card for connecting the UPS to LAN
12	Certification	
12.1	ISO 9001 : 2008	Required
12.2	OHSAS 18001 : 2007	Required
12.3	ISO 14001 : 2004	Required
12.4	Performance	IEC 62040-3

General terms and conditions:

1. The original tender document with technical specifications is available at www.iiests.ac.in.
2. Quotations are to be submitted in sealed cover, mentioning Advt. No. and serial no. of the item on the top of the envelope along with vendor's name, address, phone no. etc. in the office of the HOD, Metallurgy and materials Engineering, IEST Shibpur.
3. Quotations are to be submitted in original after accepting the terms and conditions.
4. Vendor's self attested photo copy of PAN Card, Professional Tax certificate, Trade license & certificate of VAT are to be attached with the quotations.
5. Copy of similar type of order received from any other similar Educational Institute, during the last one year, can be submitted for credential.
6. In a bid, for any item, a single product from a particular OEM has to be quoted. That is, not more than one product can be quoted against any particular item.
7. Vendor should ensure compliance against each technical specification along with proper evidence.
8. Submission of quotations closes at 4:00 pm, 05-10-2016. The tender opening schedule is 05-10- 2016 at 4:30 PM.
9. Equipment and other items, to be supplied, should be as per the specification and approved by the appropriate authority.
10. The quoted price shall include additional charges, if any, for all comprehensive warranty extended up to the period mentioned.
11. Price should be quoted item-wise in Indian currency and inclusive of all taxes, duties and levies as applicable with 3 years warranty. Type and amount of these taxes, duties and levies are to be mentioned clearly.
12. Equipment/items are to be delivered within 4 to 6 weeks from the date of issue of the purchase order.
13. The supplier is responsible for any breakage, damage or defect in equipment/items, detected subsequently, prior to final commissioning.
14. Bills and challans in duplicate should be presented for payment within 15 days of supply of equipment or completion of work. All bills are to be accompanied by copy of orders and receipt or challan. Order number no. with date, VAT no. and PAN no. are to be mentioned on both Challan and Bills.
15. Payment will be made by a/c payee cheque or by Account transfer after submission of proper bills and challans. No cash payment will be made under any circumstances. No advance payment can be made.

16. All payments are subjected to statutory deductions as and when applicable.

17. Documents to be submitted with the quotations are listed below:

- a) Put tick marks, in the list of items, against the items quoted.
- b) Terms and conditions (given below), in original, duly signed by the authorized personnel, on behalf of the vendor, as a token of acceptance of terms and conditions of the Tender.
- c) Copy of the PAN card, Professional Tax clearance certificate along with VAT No & Trade License.
- d) Price quoted in a sealed envelope in separate page(s) and duly signed.
- e) Valid authorization certificates of distributorship from Principal Manufacturer whenever applicable.
- f) Tender Specific authorization from OEM/Manufacturer for the quoted item.

18. Terms and Conditions

- a) All the Equipment/Items shall carry a guarantee for a minimum period of 3 years from the date of successful installation (if any item or parts of it is not covered under the warranty or related clause then it must be clearly indicated in the bid / offer/quotation).
- b) Supply of Equipment includes installation, erection, commissioning, demonstration & training whenever applicable.
- c) Indian Institute of Engineering, Science and Technology, Shibpur, Howrah, reserves the right to reduce or enhance the quantity of item(s) to be procured as mentioned in the tender document. One or more item(s) may be canceled too.
- d) Indian Institute of Engineering, Science and Technology, Shibpur, Howrah, reserves the right to accept/reject all or any of the tender items without assigning any reason whatsoever.

I/we accept the above terms and conditions.

Signature of the appropriate authority of the Vendor with Seal