Department of Physics,
University of Mumbai,
(UDPMU),

Department of Physics, Tilak Bhavan,3rd floor ,University of Mumbai, Vidyanagari,
Santacruz (E), Mumbai 400 098, India.
Tel: (022) 2652 6250, Fax (022) 2652 8835 Email: kothari@physics.mu.ac.in

Tender Document for

Networking with GIGA switches, access points, Servers, Network Printers, Ups,

No: UDPMU/Tender/02/2013-2014

Date: 18th July, 2013

Part A - Terms and Conditions

Part B – Specifications

Price: Rs. 1000/- (non refundable)

Important Dates:

Period of Sale of Tender Document	18th July, 2013to 1st August, 2013 between 11:00 am to 4:00 pm
Last Date of Receiving sealed Bids/Tenders:	1st August, 2013.at 4.00 pm

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Part A - Terms and Conditions

Tender Notice

Department of Physics, Tilak Bhavan,
3rd floor, University of Mumbai,
Vidyanagari, Santacruz (E),
Mumbai 400 098, India.
Tel: (022) 2652 6250,
 Fax (022) 2652 8835

UDPMU/02/ of 2013
Date: 18th July, 2013

Sealed Tenders bids for the purchase of **Networking with GIGA switches, access points, Servers, Network Printers, Ups, including accessories, wiring, Setup, Transportation Installation** for Department of Physics, University of Mumbai are invited for and on behalf of University of Mumbai by the Head, UDPMU.

Tender Document containing terms and conditions and technical specifications of the equipment are available in the Office of The Head, Department of Physics University of Mumbai, Vidyanagari, Santacruz (E), Mumbai 400 098, on all working days between 11.00 a.m. to 4.00 p.m. from 18th July, 2013to 1st August, 2013 by paying Rs.1000/-(Rs. One hundred only) in cash /Demand Draft from any Scheduled Bank/Nationalized bank, drawn in favour of **"Finance and Accounts officer, University of Mumbai".** Terms & conditions and technical specifications can also be downloaded. In case, the tender document is downloaded from the website, the Tender Document fee of Rs. 1000/- should be enclosed in the Technical Bid Envelope, in the form of a Demand Draft from any nationalized bank, drawn in favour of **"Finance and Accounts officer, University of Mumbai".** The tenders bids duly complete in all respects, along with the necessary documents and EMD of Rs 60,000/-(Rs. Sixty thousand only) should be submitted to **The Head, Department of Physics University of Mumbai, Vidyanagari, Santacruz (E), Mumbai 400 098 on** 1st August, 2013.at 4.00 pm**..**

The tenders bids so received shall be opened on a schedule and venue to be arranged later in the presence of the representatives of the suppliers. The names of shortlisted tenderness shall be announced on the website after scrutinizing the Technical bids and evaluating their suitability to meet the University requirements.

Right to reject any or all tenders without assigning any reason there for is reserved by the University of Mumbai.

Sd/-

The Head,
Department of Physics
University of Mumbai,

Terms and Conditions of Supply:

The tender document along with terms & conditions are available for sale from 18th July, 2013 to 1st August, 2013 in the office of the The Head, Department of Physics University of Mumbai, Vidyanagari, Santacruz (E), Mumbai 400 098 Vidyanagari, Santacruz-(E), Mumbai during office hours from 11.00.am To 4.00.pm by paying tender fee of Rs 1000/- in cash or a Demand Draft by any Scheduled Bank / Nationalized bank drawn in favour of **"Finance and Accounts officer, University of Mumbai". The tender fee is not refundable.** The completed sealed Tender/Bid in all respect will be accepted up to 1st August, 2013.at 4.00 pm in the office of The Head, Department of Physics, Tilak Bhavan,3rd floor ,University of Mumbai, Vidyanagari, Santacruz (E), Mumbai 400 098, India

1. Tenderer /Bidders shall submit the following documents along with their tender and **be placed in the Technical Bid Envelope i.e . Envelope No. 1)**.

   (a) Income-Tax clearance certificate from the Income-Tax Officer concerned, certifying that the tenderer has cleared all the Income-Tax dues.
   (b) Tenderers should be either manufacturer or authorized dealer of the said equipment and should submit the proof for the same. Also, the Tenderers should state whether they are a Proprietary Firm, Partnership Firm or a Private/Public Limited Company and furnish the proof of the same. If the tenderer is a partnership firm, the necessary partnership deed, disclosing the names of all partners and their interest in the firm shall be enclosed.
   (c) Tenderer should enclose the list of names of the organizations and laboratories to which similar equipment have supplied and a certificate to the effect that the performance of the supplied equipment was satisfactory.
   (d) The tender document must be accompanied by Earnest Money Deposit shall be EMD of Rs 60,000/-(Rs. Sixty thousand only). Earnest Money Deposit in the form of a Demand Draft drawn in favour of **"Finance and Accounts officer, University of Mumbai"** on any Scheduled/ Nationalized Bank, payable at Mumbai.
   (e) In case, the tender document is downloaded from the website, the Tender Document fee of Rs. 1000/-(Rs One thousand) should be enclosed in the form of a Demand Draft from any Scheduled / Nationalized Bank drawn in favour of **"Finance and Accounts officer, University of Mumbai"**
   (f) VAT Registration No.

   (g) Technical specifications offered by the Supplier.

   (h)Technical compliance table

   (i) Proprietary certificate

   (j)The authority to sign to tender document shall be submitted invariably by the

   tenderer.

2. The rates should be mentioned in the **Schedule** attached with the Tender Document. Each page of the tender shall be signed in full and stamped with the seal by the Tenderer. The Tenderer must clearly state in what capacity he or she is signing the ender

   (Which should be placed in the Financial Bid Envelope i.e. Envelope No.2)

3. The Tenderer shall submit the tender in two envelopes. The first envelope (Technical Bid) shall contain all the documents referred to in **para One above** and sealed. The second envelope (Commercial Bid) shall contain the **Schedule,** in which the Tenderer shall register the rates of equipment. The second envelope shall also, likewise, be sealed. Both the envelope then should be put together, and shall be sealed in an envelope, and shall prescribe time and date. The Technical Bid shall be opened first to ensure that Tenderer have submitted all the requisite documents. If the Technical Bids are found not in order or are deficient in some respect, the commercial bids in respect of such tenders shall not be opened. The date and time of opening the financial bids shall be announced immediately after opening all the Technical bids.

4. Tender bids not accompanied by the requisite amount of Earnest Money Deposit are liable to be rejected.

5. The Earnest Money Deposit paid by the supplier shall be forfeited, if the supplier fails to pay the necessary security deposit in the event of his tender being accepted.

6 . Bidder should read carefully all the instructions and terms and conditions, etc before registering rates in the prescribed schedule of the tender. Price registering in the schedule of price to tender should be inclusive of all taxes and duties. The rate /price quoted shall be C.I.P/C.I.F Mumbai and to reach to the office of UDPMU or as directed in the order.

7. The offers made by the Tenderers shall be valid for 120 days after the last date of submission of tender.

8. **The Technical Documents shall be opened** on a schedule and venue to be arranged later**,** for those bids for which minimum three Bidders have participated. The tenderers or their authorized representatives shall be allowed to be present at the time of opening of the tenders. Financial bids of only qualified tenderers shall be opened. The date and time of opening the financial bids shall be announced after opening and evaluating all the Technical bids.

9. In case of imported items/equipments, the rates should be quoted in the light of exemptions enjoyed by educational institutions. University is exempted from the payment of Octroi and the necessary certificate/form can be issued by the University.

10. Technical specifications of the instruments/equipments/articles are given in **Annexure** to these papers i.e. Part B.

11. The delivery, installation & operational training of the instruments/equipment should be completed within 3 months from placing of the order, in case of the imported equipment and within 15 days if the instrument/equipment is made in India. No extension shall be granted to the contractors/suppliers for the period of delivery, under any circumstances.

12. If the supplier fails to deliver the article as per the delivery schedule, the University of Mumbai shall be free to procure the balance/undelivered supply, at the risk and cost of the supplier, from other such suppliers

13. The goods, articles, materials equipment supplied by the supplier shall be accepted after inspection by an officer authorized by the competent authority. No articles/materials which do not conform to the specifications laid down in the terms and conditions or damaged in transit accepted.

14. The bills of the suppliers shall be paid by the University after all the materials /articles/equipments have been received inspected and found in good condition as mentioned above.

15. Vendor must submit Compliance statement in tabular form comparing each specification of the quoted item with that given in the Tender Document part B. The Vendor also must supply a soft copy of the Table only Microsoft in word format.

16. As the suppliers shall be responsible for the supply and installation (wherever necessary) of equipment at Mumbai, the cost towards insurance until destination in the University, shall be borne by suppliers.

17. In the event of any breach of the terms and conditions of the supply, the University of Mumbai may terminate the contract placed with the supplier, forfeit the security deposit of the supplier and make alternative arrangements for procurement of supplies at the risk and cost of supplier.

18. **Proprietary certificate**, if any, should be included in the Technical bid.

19. The Conditional offers are liable to be summarily rejected.

20. Right to reject any or all tenders without assigning any reason there for are reserved by the University of Mumbai.

21. The payment shall be made after successful installation within a reasonable period as per the University of Mumbai rules and procedures.

22. Manufacturer authorization letter is mandatory.

(Financial/Price Bid)

SCHEDULE TO TENDER

Note:
1. Tenderers are advised to read carefully the Terms and Conditions of supply and the Instructions to the Tenderers" before recording the rates in this schedule.
2. No erasures or overwriting shall be allowed, unless they are authenticated under the full signature and the seal of the tenderer.
3. The Rates shall be FOR/CIF, at destinations/godowns/places indicated in the supply order.

Item no	Description of goods with details of specifications	Number/ quantity	Price/ Rate per Unit	Taxes	Duties	etc	Total

Total price …………………………………………

In words ………………………………………….only

Date

Place

Signature of the Tenderer
Name of the signatory on tender

Seal of the Firm/Co

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Part B – Specifications

Specifications

A. Bill of Quantity

Sr.No	Item Oescription	Qty
1	Network Printer	04
2	Educational Video Sever (QuickTime Broadcaster, QuickTime Streaming Server, and QuickTime)	01
3	Educational Video Sever	01
4	Wi-Fi Access Point (with secured lock)	30
5	GIGA Switch	10
6	Additional Point *(1/0)*	100
7	Dragon NaturallySpeaking Premium Edition	01
8	On Line UPS 5 KVA ,230V AC	06

B   Specifications

1. <u>Network Printer</u>

   - Print Speed1 Up to 33 ppm (A4)

   - First Page Out2 Black: As fast as 8 sec

   - Print Resolution Up to 1200 x 1200 dpi, FastRes 1200

   - Processor 800 MHz

   - Memory 128 MB 256 MB

   - Recommended Monthly Page Volume2 750 to 3,000 pages

   - Duty Cycle (monthly, A4)3 Up to 50,000 pages

   Paper
   Input : 300-sheet input tray
   Output : 150-sheet output bin
   Duplex Printing :   Automatic (standard) Manual (driver support provided) Automatic (standard)
   Sizes :   Tray 1: A4, A5, A6, B5 (JIS), envelopes, 16K, 76 x 127 to 216 x 356 mm;
           Tray 2: A4, A5, A6, B5 (JIS), 8.5 x 13 in, 105 x 148 to 216 x 356 mm;
           Tray 3: A4, A5, A6, B5 (JIS), 8.5 x 13 in, 105 x 148 to 216 x 356 mm (optional 500-sheet feeder/tray)
   Weights :Tray 1: 60 to 163 g/m² (straight through paper path for special media); Tray 2: 60 to 120 g/m²; Tray 3: 60 to 120 g/m² (optional 500-sheet feeder/tray)

Types : Paper (plain, Green mode (thin 60 g/m²), light 60 – 75 g/m², heavy 90 – 105 g/m², bond, card stock 105 – 76 g/m², colour, letterhead, preprinted, prepunched, recycled, rough); envelopes; labels; transparencies

Connectivity
Interfaces Hi-Speed USB 2.0 Hi-Speed USB 2.0;
10/100/1000 Gigabit Networking
Hi-Speed USB 2.0; Host USB;
10/100/1000 Gigabit Networking;
Wireless 802.11b/g/n4

Compatible Operating Systems Full software installs supported on: Microsoft® Windows® 7 32-bit and 64-bit, Windows Vista® 32-bit and 64-bit, Windows® XP 32-bit (SP2 or higher); Driver only installs supported on: Microsoft® Windows® Server 2008 32-bit and 64-bit, Windows® Server 2003 32-bit (SP3 or higher); Mac OS X v10.5, v10.6, v10.7; Linpus Linux: 9.4, 9.5; Red Hat Enterprise Linux: 5.0, 6.0; OpenSuSE: 11.3, 11.4; Fedora: 14, 15; Ubuntu: 10.04, 10.10, 11.04; Debian: 5.0, 6.0 and HPUX11i

Minimum System Requirements Microsoft® Windows® 7 (32-bit/64-bit), Windows Vista® (32-bit/64-bit): 1 GHz 32-bit (x86) or 64-bit (x64) processor, 1 GB RAM (32-bit) or 2 GB RAM (64-bit), 400 MB hard disk space, CD-ROM/DVD-ROM or Internet, USB or Network port; Windows® XP32 SP2 (32-bit): Pentium® 233 MHz processor, 512 MB RAM, 400 MB hard disk space, CD-ROM/DVD-ROM or Internet, USB or Network port

Network Protocols – Via built-in networking solution: TCP/IP, IPv4, IPv6; print: TCP-IP port 9100 Direct Mode, LPD (raw queue support only), Web Services Printing, IPP 2.0, Apple AirPrint™, HP ePrint, FTP Print;
DISCOVERY: SLP, Bonjour, Web Services Discovery; IP CONFIG: IPv4 (BootP, DHCP, AutoIP, Manual, TFTP Config, ARP-Ping), IPv6 (Stateless Link-Local and via Router, Statefull via DHCPv6);
Management: SNMPv2/v3, HTTP/HTTPs, Telnet, TFTP Config, FTP FW Download, Syslog;
Security: SNMPv3, SSL Cert Management, Firewall, ACL, 802.1x, WPA1/2 Personal and Enterprise4

Security – Password-protected network embedded Web server; enable/disable Network protocols;
SNMPv2 community password change; SNMPv3; 802.1x; SSL cert management; Firewall; Access Control List, Wireless WPA/WPA2 Personal4, WPA2 Enterprise, WEP

Dimensions (w x d x h) 364.6 x 368 x 267.5 mm 364.6 x 368 x 271 mm

Weight (without print cartridge) 10.7 kg 10.1 kg 11 kg

Warranty One-year warranty, return to Authorised Service Provider5

Environmental Ranges
Operating Temperature 17.5 to 25° C
Storage Temperature –20 to 40˚ C
Operating Humidity 30 to 70% RH

Storage Humidity 10 to 90% RH

Acoustics
Sound Power 6.4 B(A)
Sound Pressure (Bystander) Active: 51 dB(A)

Power Specifications
Power Requirements Input voltage: 220 to 240 VAC (+/– 10%),
50/60 Hz (+/– 2 Hz)
Input voltage: 110 to 127 VAC (+/– 10%), 50/60 Hz (+/– 2 Hz); 220 to 240 VAC (+/– 10%),
50/60 Hz (+/– 2 Hz)
Power Consumption6 Printing: 570 watts; Ready: 7.3 watts; Sleep: 6.2 watts; Off: 0.1 watts
Typical Electricity Consumption (TEC) 2.08 kWh/week

Certifications
Safety IEC 60950-1:2005/EN 60950-1:2006+A11; IEC 60825-1:2007/EN 60825-1:2007 (Class 1 Laser/LED Product); IEC 62479:2010/
EN 62479:2010; GB4943-2001
EMC CISPR22:2005 +A1/EN 55022:2006 +A1- Class B; EN 61000-3-2:2006 +A1 +A2; EN 61000-3-3:2008; EN 55024:1998 +A1 +A2;
FCC Title 47 CFR, Part 15 Class B/ICES-003, Issue 4; GB9254-2008, GB17625.1-2003

2. <u>QuickTime Streaming Server Software</u> – latest version to be quoted

3. <u>Video Server Hardware</u> (minimum specification given below. Bidder should quote for suitable hardware to meet the requirement)
    - Mac OS X v10.4.10 or later or Mac OS X Server v10.4.10 or later
    - 400 Mhz G3 processor or faster (Power PC G5 or Intel processor recommended for H.264 broadcasting) and FireWire ports
    - At least 256 MB of RAM

4. <u>Wi-Fi Access Point</u> (with secured lock)
    - Standards support - IEEE 802.11n, 802.11g, 802.11b, 802.3af, 802.3u, 802.1X (security authentication), 802.1Q (VLAN), 802.1D (Spanning Tree), 802.11i (WPA2 security), 802.11e (wireless QoS), IPv4 (RFC 791), IPv6 (RFC 2460)
    - Ports - LAN Fast Ethernet auto sensing, DC jack, 10BASE-T/100BASE-TX Ethernet, 12V DC power with support for 802.3af PoE
    - Cabling type - Category 5e or better
    - Antennas - Internal antennas optimized for wall, ceiling, or desktop placement
    - Power supply - External 12V 0.5A DC power jack (Energy Star 2.0 compliant with Efficiency Level 5) and 802.3af PoE, Peak PoE power- 6W
    - Lock slot - Slot for Kensington lock
    - Network Capabilities - VLAN support, Number of VLANs (1 management VLAN plus 4 VLANs for Service Set ID (SSID))
    - Multiple SSIDs – 4 Nos, 802.1X supplicant, SSID to VLAN mapping, Auto channel selection, Spanning tree, Load balancing, IPV6 support IPv6 host support
    - IPv6 RADIUS, syslog, Network Time Protocol (NTP), etc.

- 802.1Q-based VLANS

Security
- WPA/WPA2/WEP including Enterprise authentication, management access control list (ACL) plus MAC ACL, HTTPS, Wi-Fi Protected Setup (soft WPS)
- SSID broadcast
- Rogue access point detection

Qos
- Wi-Fi Multimedia & Traffic Specification (WMM TSPEC)

Performance
- Wireless throughput- Up to 300 Mbps data rate (real-world throughput will vary)
- Up to 16 connected users, or 10 active users.

- Web user interface
- Simple Network Management Protocol (SNMP) v3
- Remote management
- Local, remote syslog, email alerts
- Logging and packet capture
- Firmware upgradable through web browser, imported/exported configuration file
- DHCP client
- IPv6 host

- Wireless
- Single-band 2.4 GHz
- Single radio, orthogonal frequency division multiplexing (OFDM)
- 802.11n
- Wireless isolation between clients
- 2 dBi each antenna
- Wireless Distribution System (WDS)
- WMM, with unscheduled automatic power save and voice profile
- Access Point mode, WDS bridging, Workgroup Bridge mode

5. GIGA Switch
   - 28-port Gigabit Managed Switch, Supports 802.3az on all copper ports
   - Switching capacity - more than 50 Gbps
   - forwarding rate – more than 40 million packets per sec
   - All switches are wire-speed and non-blocking
   - Standard 802.1d Spanning Tree support
   - Fast convergence using 802.1w (Rapid Spanning Tree [RSTP]), enabled by default
   - 8 instances are supported
   - Multiple Spanning Tree instances using 802.1s (MSTP)
   - Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP)
   - Up to 8 groups, Up to 8 ports per group with 16 candidate ports for each (dynamic) 802.3ad link aggregation

- Support for up to 4096 VLANs simultaneously
- Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS.
- Auto voice capabilities deliver network-wide zero touch deployment of voice endpoints and call control devices.
- Multicast TV VLAN
- Q-in-Q VLAN
- Generic VLAN Registration Protocol (GVRP)/Generic Attribute Registration Protocol (GARP
- Dynamic Host Configuration Protocol (DHCP) Relay at Layer 2
- Internet Group Management Protocol (IGMP) versions 1, 2, and 3 snooping
- Head-of-line (HOL) blocking
- Jumbo Frames- Up to 9K (9216) bytes

Layer 3
- IPv4 routing
- Classless Inter-Domain Routing (CIDR)
- DHCP relay at Layer 3
- User Datagram Protocol (UDP) relay
- DHCP Server

Security
- Secure Shell (SSH) Protocol
- Secure Sockets Layer (SSL)
- IEEE 802.1x (Authenticator role)
- STP Bridge Protocol Data Unit (BPDU) Guard
- STP Root Guard
- DHCP snooping
- IP Source Guard (IPSG)
- Dynamic ARP Inspection (DAI)
- IP/Mac/Port Binding (IPMB)
- Secure Core Technology (SCT)
- Secure Sensitive Data (SSD)
- Layer 2 isolation Private VLAN Edge (PVE) with community VLAN
- RADIUS/TACACS+
- RADIUS accounting
- DoS prevention
- Congestion avoidance
- ACL - Support for up to 512 rules

Quality of Service
- 4 hardware queues
- Strict priority and weighted round-robin (WRR)
- Queue assignment based on DSCP and class of service (802.1p/CoS)

- Port based; 802.1p VLAN priority based; IPv4/v6 IP precedence/type of service (ToS)/DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS.
- Ingress policer; egress shaping and rate control; per VLAN, per port, and flow based.

IPv6
- IPv6 host mode
- IPv6 over Ethernet
- Dual IPv6/IPv4 stack
- IPv6 neighbor and router discovery (ND)
- IPv6 stateless address auto-configuration
- Path maximum transmission unit (MTU) discovery
- Duplicate address detection (DAD)
- ICMP version 6
- IPv6 over IPv4 network with Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) support
- USGv6 and IPv6 Gold Logo certified
  - IPv6 QoS
  - IPv6 ACL
  - Multicast Listener Discovery (MLD v1/2) snooping

  - Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
  - IPv4 and IPv6 dual stack
- Web browser upgrade (HTTP/HTTPS) and TFTP and upgrade over SCP running over SSH, Should support upgrade through console port, Dual images for resilient firmware upgrades
- Port mirroring
- VLAN mirroring
- Time-based port operation

6. <u>Additional Point</u> (1/0)- Network cabling for additional 100 points to be quoted.

7. <u>Dragon NaturallySpeaking Premium Edition</u> Version 12
   - Dictate documents, spreadsheets and presentations
   - Search the Web, post to Face book and Twitter, navigate and control your PC & applications – all by voice
   - Use with Gmail™ and Hotmail® — two of the most popular web-based email applications
   - Capture notes using a digital voice recorder or a compatible iOS device for later transcription
   - Remote Mic app support
   - Wideband Bluetooth support
   - Smart Format Rules for how words, phrases or numbers are formatted
   - Compatible with most Windows operating systems

8. <u>On Line UPS 5 KVA ,230V AC with 30 Minute backup</u>

Input features
Voltage (VAC) - 165~275
Frequency (Hz) - 50 or 60 ± 5%
Phase - Single phase three lines

Battery voltage (VDC) – 192 Volts (168 V or 180 V configurable)

Output features
Voltage (VAC) - 220/230 ± 2% or 110/120 ± 2% isolated output transformer
Frequency (Hz) - 50 or 60 ± 0.5% (Battery mode)
Wave form - Sine wave THD <3%
Overload capacity - 125% loads for 60s, 150% load for 1 second
Efficiency – more than 90%
Power factor - 0.9

Charger Capacity – 2A – 10A configurable

Operating temperature – 0- 45 degree C

Relative humidity – 0- 95% (non condensing)

Interface options - RS485/RS232 data and relay dry connection, Supporting power manager software and SNMP adapter. LCD display indicates input voltage, output voltage, Load level, Battery voltage, etc;

Panel Display – LED indicates running status

Certification - CE, UL, EN 50091-1, EN 50091-2