



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE

(Engineering College)

(Established in 1960)

VIDISHA (M.P.) - 464 001

सम्राट अशोक अभियांत्रिकीय संस्थान

(इन्जीनियरिंग महाविद्यालय)

(1960 में स्थापित)

विदिशा (म.प्र.) - 464 001

A grant-in-aid, autonomous Institution under the Govt. of M. P.

(Approved by All India Council for Technical Education and affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal)

GRAM : SATIENGG

PBX : 250296, 250297

FAX : (07592) 250124

Steno to Director : 250121

e mail : sati@satiengg.org

ग्राम : SATIENGG

पी बी.एक्स. : 250296, 250297

फैक्स : (07592)250124

संचालक स्टेनो : 250121

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INVITATION FOR QUOTATION

TEQIP-II/2016/MP1G02/Shopping/131/Q/ 857

20-Jun-2016

To,

Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	10g Module	20	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
2	1g switches (8 Port)	5	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
3	32U/36U rack	1	30	Samrat Ashok	

	fully loaded			Technological Institute, Engg. College, Vidisha (M.P.)464001	
4	6U rack fully loaded	6	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
5	Cat-6 Cable Box	16	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
6	Fiber Optics Cable (OFC)	1	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
7	Fiber patch cord	5	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
8	I/O Box with face plates 1g	125	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
9	Installation Chagres	1	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
10	Patch cord (1 meter)	100	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	

11	Patch cord (3 meter)	100	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
12	Patch Panel 1g(24 Port)	5	30	Samrat Ashok Technological Institute, Engg. College, Vidisha (M.P.)464001	
13	Splicing Fiber	25	30	Samrat Ashok Technological Institute, Engg. College Vidisha (M.P.)-464001	
14	switches 10g (24 Port)	6	30	Samrat Ashok Technological Institute, Engg. College Vidisha (M.P.)-464001	

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase II** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. Quotation,

3.1 The contract shall be for the full quantity as described above.

3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.

3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

3.4 Applicable taxes shall be quoted separately for all items.

3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation. **Quotation must be submitted in format given at the end of this letter.**

5. Quotation shall remain valid for a period not less than **45** days after the last date of quotation submission.

6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

6.1 are properly signed ; and

6.2 confirm to the terms and conditions, and specifications.

7. The Quotations would be evaluated for all items together.

8. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

9. Payment shall be made in Indian Rupees as follows:

Delivery and Installation & Satisfactory Acceptance - 100% of total cost

Satisfactory Acceptance - 0% of total cost

10. All supplied items are under warranty of **12 months** from the date of successful acceptance of items.

11. You are requested to provide your offer latest by **15:00** hours on **05-Jul-2016**.

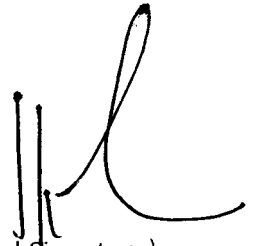
12. Please mention following at the sealed envelope containing the proposal:

Package Name: Smart_Class_LAN_2016

Package Number: TEQIP-II/MP/MP1G02/201

DO NOT OPEN BEFORE 15:00 Hrs of 5-July-2016.

13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any) **yes**
15. Testing/Installation Clause (if any) **yes**
16. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
17. Sealed quotation to be submitted/ delivered at the address mentioned below,
**Director, Samrat Ashok Technological Institute (Engg. College), Civil Lines, Vidisha (M.P.) 464001
India**
18. We look forward to receiving your quotation and thank you for your interest in this project.



(Authorized Signatory)

**Dr. J.S. Chauhan
(Director)**



Annexure I

Sr. No	Item Name	Specifications
1	10g Module	<p>10G SFP+ Single mode Transceivers It should support IEEE-802.3ae 10GBASE-SR Form factor type should be SFP+ Fibre Channel FC-PI Standard 1200-SM-LL-L Fiber Media Support Single-Mode with distance capacity of 10 km Hot Pluggable MSA Compliant RoHS Compliant Speed 10 Gbps Connector Duplex LC Connector Wavelength 1310 nm Output Optical Power Max.: 0.5 dBm/Min.: -8.5 dBm Input Optical Power (RX Optical Power): Max.: 0.5 dBm/Min.: -8.5 dBm Cable Type Single-mode 9/125 um fiber SFP Transceiver should be CE, FCC, UL & VCCI certified</p>
2	1g switches (8 Port)	<p>Architecture L2 Stackable Managed Switch which has 24 Ethernet 10/100/1000 Ports + 2 Gigabit SFP ports & 2 x 10G Ports for future expansion Switch should have Min. 256 MB RAM & 32 MB Flash Memory Performance The Switch should have Non-blocking wire speed switch fabric The Switch should have Min. 92 Gbps Back plane or more The Switch should have Min. 68 Mbps or more The switch support 1.5MB or more packet buffer memory for Non-blocking architecture The Switch should support Min. 16K Mac address or more The Switch should support Min. 4K VLANs The Switch should support physical stacking via 2 10G ports and stack up to 6 or more physical units The Switch Should support Jumbo Frame (up to 10K) Layer 2 Features The Switch should have IGMP Snooping v1,v2 & Per VLAN IGMP snooping The Switch should have Spanning tree 802.1d,802.1w,802.1s The Switch should have 802.3ad Link Aggregation Up to 30 groups per device The Switch should have Port Mirroring One to one/Many to One & Mirroring for Tx/Rx/Both. The Switch should have the intelligence to detect the loop occurring from the unmanaged network segment It should support LLDP and LLDP-MED L3 Features It should support IP interfaces and static routes, default routes It should support IPv6 Neighbour Discovery VLAN The LAN switch should have IEEE 802.1Q VLAN encapsulation. Up to 4k VLANs groups per switch and up to 4000 VLAN IDs. It should have Automatic Negotiation for port configuration, to help minimize the configuration & errors. It should have centralized VLAN Management. VLANs created on the Core Switches</p>

should be propagated to all the others switches automatically, thus reducing the overhead of creating/modifying/deleting VLANs in all the switches in turn eliminating the configuration errors & troubleshooting. Quality of Service It should support 802.1p Priority Queues (8 Queues) Queue Handling mode: WRR & Strict Mode Granular Rate Limiting functions on per port & flow based to guarantee bandwidth in increments should be as low as 64 Kilobits per Second for ingress and egress Class of service should be based on Switch port, DSCP, Vlan ID, TCP/UDP port, Protocol type, 802.1p queues, IPv4/v6 address, IPv6 flow label. Access Control List The LAN Switch should have the capability to support access list based on IPv4/v6 address, MAC address Ethernet Type, IPv4 address, ICMP, IGMP, TCP/UDP port number, 802.1p, DSCP The Switch should support up to 200 Access Control Entries minimum Network Security The LAN switch should support IEEE 802.1x to allow dynamic, port-based, Host based security, providing user authentication. It should support for SSHv2, SNMPv3; SNMP over IPv6 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions. It should support ; Local database ; RADIUS authentication ; TACACS; TACACS+ It should support DHCP snooping and to allow administrators to ensure consistent mapping of IP to MAC addresses. It should support DHCP relay option 82 It should support port security to secure the access to an access or trunk port based on MAC address. After a specific timeframe, the aging feature should remove the MAC address from the switch to allow another device to connect to the same port. It should have MAC-IP-Port binding up to 500 Entries per device It should have CPU Filtering to protect the CPU from Broadcast / Multicast / Unicast flooding & protocol control packets attacks Management The LAN switch should have CLI support to provide a common user interface using telnet, SSH using IPv4 and IPv6, Switch also support WEB GUI configuration using IPv4 and IPv6 It should have RMON software agent to support four RMON groups for enhanced traffic management, monitoring and analysis. It should support TFTP to reduce the cost of administering software upgrades by downloading from a centralized location. It should support Network Timing Protocol (NTP/SNTP) to provide an accurate and consistent timestamp to all intranet switches. It should provide management functions for network segments (access links and individual circuits), monitors individual links. It should support configuration rollback to replace current configuration

		with any saved configuration file. Switch should consume less power through auto-detection of link status and cable length. Switch support TFTP over IPv6, SNMP over IPv6, SNTP over IPv6, SSL over IPv6, Radius over IPv6. Physical & Environment It should support the operating temperature up to 0-50°C and can be operated in 10% -90 % RH Certification FCC Class A, CE Class A, ICES-003, VCCI Class A, C-Tick, cUL, LVD
3	32U/36U rack fully loaded	32U/36U rack fully loaded
4	6U rack fully loaded	6U rack fully loaded
5	Cat-6 Cable Box	<p>Category 6 UTP, 4 Pair Characteristic Min. Required Specification Features</p> <p>Category 6 Unshielded Twisted Pair 4 pair 100? cable shall be compliant with ANSI/TIA/EIA-568-C.2 Additional Transmission Performance Specifications for 4-pair 100? Category 6 Cabling.</p> <p>Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP. The 4 pair Unshielded Twisted Pair cable shall be UL? Listed All Category 6 cables shall meet or exceed the following characteristics: Mechanical Characteristics Construction: 4 twisted pairs separated by internal X shaped, 4 channel, polymer spine / full separator. Half shall not be accepted. Conductor Solid bare Copper</p> <p>Conductor Diameter 0.56±0.005mm (23 AWG) Insulation: High Density Polyethylene Jacket FR PVC Outer Diameter 6.1 mm nominal Temperature Range -20° to +70°C</p>
6	Fiber Optics Cable (OFC)	<p>Optical Fiber Cable- Single mode (SM) Fiber, Standard properties Characteristic Min. Required Specification GENERAL: The fiber type is a Matched Cladding Single Mode Fiber dual coated with acrylate coating. The fiber is optimized for operation at 1310 nm and at 1550 nm. Should fulfill the requirements of: • IEC 793-2: 1992, • EN 188101 • ITU-T Recommendation G.652 Testing methods are in accordance with the following standards: • ITU-T G.652.D • IEC 793-1 • EN 188 000 GEOMETRICAL PROPERTIES: Nominal mode field diameter 9.2 µm Mode field diameter</p>

	<p>tolerance $\pm 4\%$ Cladding diameter $125 \mu\text{m}$ Cladding diameter tolerance $\pm 1 \mu\text{m}$ Mode field concentricity error $< 1 \mu\text{m}$ Cladding non-circularity $< 2\%$ MATERIALS CORE</p> <p>Germanium doped core with no phosphorus i.e. reduced tendency for hydrogen degradation. COATING UV-curable dual layer acrylate coating, which ensures excellent micro bending and abrasion resistance. Stripping force after conditioning at $23 \pm 5^\circ\text{C}$ at 40 - 60 % RH for 24 h. Min. 1.0 N Max. 3.5 N Stripping force after ageing in water at $70 \pm 5^\circ\text{C}$ for 168 h. Min. 1.0 N Max. 3.5 N</p> <p>OPTICAL PROPERTIES Attenuation (of cable with fibers): At 1310 nm ≤ 0.36 dB/km In the range 1285-1330 nm ≤ 0.40 dB/km At 1550 nm ≤ 0.22 dB/km Cut-off wavelength λ_c: High limit 1330 nm Low limit 1180 nm Cut-off wavelength λ_{cc} High limit 1260 nm Loss increase at 1550 nm for 100 turns of fiber loosely wound with a 37.5 mm radius: Max. 0.1 dB Loss due to hydrogen: Maximum induced permanent loss after 1000 h at 1 bar H₂ at 70°C and out gassing for 72 h at 70°C (valid both at 1310 nm and at 1550 nm) 0.2 dB/km Dispersion: Zero dispersion wavelength 1310 nm Tolerance of zero dispersion Wavelength $-10/+12$ nm Zero-dispersion slope: Max. $0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$ Chromatic dispersion coefficient: In 1285 nm - 1330 nm interval: Max. $3.5 \text{ ps}/\text{km} \cdot \text{nm}$ In 1270 nm - 1340 nm interval Max. $6 \text{ ps}/\text{km} \cdot \text{nm}$ At 1550 nm Max. $18 \text{ ps}/\text{km} \cdot \text{nm}$ Polarisation Mode Dispersion (PMD): Max. $\leq 0.2 \text{ ps}/\text{km}$ In homogeneity of OTDR trace for any two 1000 meter fiber lengths Max. 0.1 dB/km Proof test level 1%</p>
7	<p>Fiber patch cord</p> <p>Optical Fiber Equipment Cords (minimum 3 meter LC-LC) Characteristic Min. Required Specification Features All optical fiber patch leads shall comprise of Single mode 9/125μm fiber with SC/LC/FC, fiber connectors terminated at each end. The optical fiber patch leads shall comply with the following specifications: Optical Fiber – Corning Single Mode Connector: Zirconia ceramic ferrule Pre-radiused and pre-polished ferrule Simplex / Duplex Color-coded Yellow for SM Loss - < 0.2 db Cable: 9/125, SM Repeatability - < 0.2 db Durability –</p>

		1000 mating cycle Working Temp : -40 deg C.to + 85 deg. C Standard : G652D, G 657A & G 657B Length : 1,2,3,5 & on request
8	I/O Box with face plates 1g	Characteristic Min. Required Specification Features Single & DUAL square plate, Quad in Rectangular shape Write on labels in transparent plastic window – supplied with plate Screw hole covers – to be supplied with plate Face Plate with shutter Should be able to support variety of jacks – UTP, STP, Fiber, Coax etc.
9	Installation Chagres	Installation Chagres must be inclusive of desired size, casing, caping, duct, casing caping joint , flexible pipe, ravel plug,screw, brenghi and any other items needed for installation and LAN fitting. Institute will not bear cost of any items used in installation and fitting.
10	Patch cord (1 meter)	Characteristic Min. Required Specification Features Category 6 Equipment cords The work area equipment cords shall, at a minimum comply with proposed ANSI/TIA/EIA-568-C.2 Commercial Building Cabling Standards Transmission Performance Specifications for 4 pair 100? Category 6 Cabling. Equipped with modular 8-position modular plugs on both ends, wired straight through with standards compliant wiring. Should have 50 micro inches of gold plating over nickel contacts. Should be covered by ETL verification program for compliance with TIA 568.C.2 Mechanical – Cable Conductor size: 24 AWG stranded bare copper Max O.D.: 5.6mm (.22”) Jacket: PVC UL-94V-0 Temperature range: -10oC to +80oC Mechanical Characteristics – Plug Operating life: Minimum 750 ion cycles Contact blade: Phosphor bronze Contact plating: 50µ” Gold Plug dimensions & tolerances compliant with FCC Part 68.500 and IEC 60603-7 Approvals: UL 444 for copper conductor Electrical Characteristics – Plug Dielectric with standing voltage :500 V AC Insulation resistance : 35 M Ohm (Max) Operating temperature: -10oC to 80oC
11	Patch cord (3 meter)	Characteristic Min. Required Specification Features Category 6 Equipment cords The work area equipment cords shall, at a minimum comply with proposed ANSI/TIA/EIA-568-C.2 Commercial Building Cabling Standards Transmission Performance Specifications for 4 pair 100? Category 6 Cabling. Equipped with modular 8-position modular plugs on both ends, wired straight through with standards compliant wiring. Should have 50 micro inches of gold plating over nickel contacts.

		<p>Should be covered by ETL verification program for compliance with TIA 568.C.2 Mechanical – Cable Conductor size: 24 AWG stranded bare copper Max O.D.: 5.6mm (.22”) Jacket: PVC UL-94V-0 Temperature range: -10oC to +80oC Mechanical Characteristics – Plug Operating life: Minimum 750 ion cycles Contact blade: Phosphor bronze Contact plating: 50μ” Gold Plug dimensions & tolerances compliant with FCC Part 68.500 and IEC 60603-7 Approvals: UL 444 for copper conductor Electrical Characteristics – Plug Dielectric with standing voltage :500 V AC Insulation resistance : 35 M Ohm (Max) Operating temperature: -10oC to 80oC</p>
12	Patch Panel 1g(24 Port)	<p>Characteristic Min. Required Specification Features Be made of powder coated steel, in 24 port configurations. Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limit. Have port identification numbers on the front of the panel. Should have self adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons. IDC: Suitable for 22-26 AWG stranded and solid wire compatible with both 110 & Krone punch down tools Each port / jack on the panel should be individually removable on field from the panel. Improved cable management with optional cable management bar The Cat-6 transmission performance is in compliance with the ANSI/TIA/EIA 568C.2 standard Mechanical Characteristics Jack Connector Plastic Housing: ABS , UL94V-0 rated Operating Life: Minimum 750 ion cycles Contact Material: Copper Alloy Contact Plating: 50μ” Gold plated on plug contact area Contact Force: 20N max (IEC 60603-7-4) Plug Retention Force: 15 lb. IDC Connector Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent IDC cap : ABS, UL 94V -0 Contact Material: Copper Alloy IDC Contact Plating: Phosphor bronze with tin plated ion Force: 20N max (IEC 60603-7-4) Wire Accommodation: 22-26 AWG solid</p>
13	Splicing Fiber	Splicing Fiber
14	switches 10g (24 Port)	<p>Characteristic Min. Required Specification Features Be made of powder coated steel, in 24 port configurations. Allow for a minimum of 200 re-terminations without signal degradation below standards</p>

		<p>compliance limit. Have port identification numbers on the front of the panel. Should have self adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons. IDC: Suitable for 22-26 AWG stranded and solid wire compatible with both 110 & Krone punch down tools Each port / jack on the panel should be individually removable on field from the panel. Improved cable management with optional cable management bar The Cat-6 transmission performance is in compliance with the ANSI/TIA/EIA 568C.2 standard Mechanical Characteristics Jack Connector Plastic Housing: ABS , UL94V-0 rated Operating Life: Minimum 750 ion cycles Contact Material: Copper Alloy Contact Plating: 50μ" Gold plated on plug contact area Contact Force: 20N max (IEC 60603-7-4) Plug Retention Force: 15 lb. IDC Connector Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent IDC cap : ABS, UL 94V -0 Contact Material: Copper Alloy IDC Contact Plating: Phosphor bronze with tin plated ion Force: 20N max (IEC 60603-7-4) Wire Accommodation: 22-26 AWG solid</p>
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FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To: _____

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ----- months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: _____

Address: _____

Contact No: _____