

SPICES BOARD

(Ministry of Commerce & Industry, Govt. of India)
Palarivattom.P.O. N H By Pass Kochi –682025
Phone: 0484-2333603

Quotation for Network Revamping at Head Office, Kochi

EDP-NET/0001/2015-E D P

24th August, 2015

Spices Board of India invites sealed quotations for the Network revamping at Head Office, Kochi. The specifications alongwith terms and conditions are given in Annexure 1.

The sealed cover enclosing the quotation should be super-scribed as **“Quotation for Network Revamping at Head Office, Kochi due on 8th September 2016”**. The quotationer should The quotation, addressed to the Deputy Director (EDP), Spices Board, Sugandha Bhavan, N.H. By Pass, Palarivattom, Cochin-25 should reach the EDP Section of the board on or before **8th September, 5.30 pm.**

Late/incomplete quotations will not be entertained. The sealed quotations will be opened on 9th September 2015 at 11 a.m.

Dy.Director (EDP)

Encl: as above.

Annexure-I**Technical Specification**

Sl. No.	Particulars	Appox. Req.	Per	Rate / unit
Materials List				
1	Distribution Switches - 24 port SFP/ SFP+	1	Nos	
2	Fibre Module	4	Nos	
3	24 Port Switch 10/100/1000	2	Nos	
4	12 Port Rack Mount LIU	2	Nos	
5	Multimode Pigtile	24	Nos	
6	Multimode SC-LC Patch code 1 Mtr	4	Nos	
7	6 Core Multimode OFC Cable	100	Mtr	
8	Cat 6 24 patch panel	2	nos	
9	Cat 6 1mtr patch code	45	Nos	
10	Cat 6 2mt patch code	43	Nos	
11	Cat 6 UTP Cable	1075	Mtr	
12	Cat 6 information Outlet	43	Nos	
13	single Face plate	43	Nos	
14	Back Box	43	Nos	
15	9 U Rack with Accessories	2	Nos	
16	1.5 Inch Cassing Capping	150	Mtr	
17	1 Inch Cassing Capping	40	Mtr	
18	1/2 Inch Cassing Capping			
19	3/4 Inch Cassing Capping			
INSTALLATION CHARGES				
18	Cat 6 UTP Cable laying through with PVC Conduits with fittings, IO termination, Box & face plate fixing , Patch code connecting ,patch panel termination ,Rack fixing & dressing ,Switch fixing , Network testing & checking	1000	Mtr	
19	Scanning & documentation	43	Node	

20	Splicing Charge	24	nos	
21	OFC Cabling Laying	100	Mtr	
22	LIU Fixing	2	Nos	
23	AMC cost per year			

1. **The OEM should be ISO 9001:2008, ISO/TS : 16949:2009 and ISO 14001:2004 Certified**
2. **NO Second Line Product of Any OEM's Brand Should be quoted**
3. **The Vendor should quote the OEM's first level of product**
4. **UTP CABLING Solution should be ETL Verified for CAT 6 Component Compliance Certified and Zero Bit Error Compliant**
5. **. Indoor Optical Fibre Cable should be UL Tested with Single mode and Multimode application**
6. **OEM Should have direct presence in India for 7 - 10 Years**
7. **Five Years Product availability support from OEM**
8. **All Products should have ROHS Compliant**

Sl.No.1 Distribution Switches - 24 port SFP/ SFP+

Specification	Compliance (Y/N)	Remarks
Distribution Switches - 24 port SFP/ SFP+ with scalability upto 40 SFP/SFP+ with all the required hardware and software mentioned below on day one		
The Switch should be a Fixed Configuration switch		
The Switch should support atleast 16 Non blocking Ten Gigabit Ethernet uplinks from day one with two Expansion slot (for future) scalable upto 40 Ports		
The Switch Should support atleast 240Gbps of switching capacity		
The Switch Should support throughput of atleast 250 Mpps for IPv4		
The Switch Should support throughput of atleast 125 Mpps for IPv6		
The Switch should have Atleast ten of its Port populated with 10 Gigabit Multimode SFP+ Transceivers		
The Switch should have Atleast 6 of its Ports populated with 1 Gigabit copper SFP (100/1000BaseT) Transceiver		
The Switch Should support IPv6 support in hardware (Unicast and Multicast)		
The Switch Should support Dynamic hardware forwarding-table allocations		
The Switch Should support 240,000 IPv4 Routing Entries		
The Switch Should support 120,000 IPv6 Routing Entries		
The Switch Should support atleast 10,000 Multicast Routes		
The Switch Should support atleast 32,000 MAC addresses		
The Switch Should support atleast 4,000 Active VLANs		
The Switch Should support atleast 32,000 ARP Entries		
The Switch Should support atleast 10,000 Spanning Tree Protocol Instances		
The Switch Should support atleast 4,000 L3 interfaces		
The Switch Should support atleast 8 bi-dir (ingress and egress) Mirroring sessions		
The Switch Should support atleast 128,000 Security and QoS Hardware Entries		

The Switch Should support atleast 12,000 DHCP Snooping Entries		
The Switch should support 4 GB Dynamic RAM (SDRAM) and 2G Flash		
The Switch should support External USB for flexible storage options		
The Switch should support SD card for flexible storage options		
The Switch should support SFP and SFP+ optics for 10G connectivity		
The Switch should support 1 dedicated 10/100/1000 management port		
The Switch should support RJ-45 console port		
The switch should support Optimized application performance through deep visibility for Layer 2/3/4 information (MAC, VLAN, TCP flags)		
The Switch Should support more than 120K Flow entries in hardware		
The Switch Should support comprehensive flow visibility for Layer 2 (MAC, VLAN) traffic		
The Switch Should support comprehensive flow visibility for Layer 4 (TCP, UDP flags, and so on) traffic		
The Switch Should support Nonstop Forwarding		
The Switch Should support configuration rollback		
The Switch Should support operating system that can take advantage of the multicore CPU architecture		
The Switch Should support MLD Snooping for IPv6 in hardware		
The Switch Should support Unicast Reverse Path Forwardign for IPv6 in hardware		
The Switch Should support Ethernet: IEEE 802.3		
The Switch Should support 10 Gigabit Ethernet: IEEE 802.3ae		
The Switch Should support IEEE 802.1D Spanning Tree Protocol		
The Switch Should support IEEE 802.1w Rapid Reconfiguration of Spanning Tree		
The Switch Should support IEEE 802.1s Multiple VLAN Instances of Spanning Tree		
The Switch Should support IEEE 802.3ad LACP		
The Switch Should support IEEE 802.1p CoS Prioritization		
The Switch Should support IEEE 802.1Q VLAN		
The Switch Should support IEEE 802.1X User Authentication		
The Switch Should support RMON I and II standards		
The Switch Should support redundant power supplies		
The Switch Should support redundant fans		
The Switch Should support Operating temperature: 32 to 104°F (0 to 40°C)		
The Switch Should support Storage temperature: -40 to 167°F (-40 to 70°C)		
The Switch Should support discovery of neighbors transparently		
The Switch Should support Internet Group Management Protocol (IGMP) Snooping		
The Switch Should support IPv6 Multicast Listen Discovery (MLD)		
The Switch Should support Multicast Listen Discovery snooping		
The Switch Should support Link Aggregation Control Protocol		
The Switch Should support IEEE 802.1AB LLDP. Link Layer Discovery Protocol (LLDP)		
The Switch Should support IEEE 802.1s Multiple Spanning Tree (MST)		
The Switch Should support Classification and marking for QoS		
The Switch Should support Ingress and egress policing, including per-port per-VLAN policing		
The Switch Should support Class-based shaping		
The Switch Should support UniDirectional Link Detection (UDLD) protocol for fiber-optic or copper Ethernet cables		
The Switch Should support automatic router backup for IP hosts configured with a single default gateway on a LAN		

The Switch Should support Hot Standby Router Protocol (HSRP) or Virtual Router Redundancy Protocol (VRRP)		
The Switch Should support OSPF on day one		
The Switch Should support RIP on day one		
The Switch Should support Policy-Based Routing with an optional software lic upgrade		
The Switch Should support Unicast Reverse Path Forwarding (Unicast RPF)		
The Switch Should support multiple routing instances		
The Switch Should support e-mail-based and web-based notification of critical system events		
The Switch Should support measure, report, and reduce energy consumption across your entire infrastructure		
The Switch Should support analyze IP service levels for IP applications and services by using active traffic monitoring		
The Switch Should support distributed and customized approach to event detection and recovery		
The Switch Should support monitor events and take informational, corrective, or an action when the monitored events occur or when a threshold is reached		
The Switch Should support Dynamic Host Control Protocol server		
The Switch Should support Dynamic Host Control Protocol autoconfiguration		
The Switch Should support MAC address notification to monitor the MAC addresses that are learned by, aged out or removed from the switch		
The Switch Should support Secure Shell (SSH)		
The Switch Should support SNMP v2C and V3		
The Switch Should support Multiple Privilege Levels to allow different sets of users to have access to specified commands		
The Switch Should support NTP for IPv4 & IPv6		
Should have scripting capabilities to trigger actions in response to network events		
The Switch Should support 802.1X with VLAN assignment		
The Switch Should support 802.1X RADIUS accounting		
The Switch Should support 802.1X authentication for Guest VLANs to use VLAN assignment to limit network access for certain users.		
The Switch Should support 802.1X with MAC Authentication Bypass for agentless devices without 802.1X supplicant capabilities		
The Switch Should support 802.1X with Inaccessible Authentication Bypass when AAA server is unreachable or nonresponsive		
The Switch Should support 802.1X with Port Security to manage the number of MAC addresses allowed on that port		
The Switch Should support 802.1X Authentication with ACL Assignment to download per-host policies such as ACLs and redirect URLs		
The Switch Should support 802.1X Authentication with Per-User ACL		
The Switch Should support 802.1X with Voice VLAN for devices like phones with 802.1X supplicant support.		
The Switch Should support 802.1x to allow both a data device and a voice device to authenticate on the same switch port		
The Switch Should support interception all ARP requests, replies on untrusted ports, and verifies each intercepted packet for valid IP to MAC binding		
The Switch Should support Snooping of Dynamic Host Configuration Protocol (DHCP) packets		

The Switch Should support disabling of the flooding of unicast and multicast packets on a per-port basis		
The Switch Should support limiting the rate of CPU bound control plane traffic in hardware		
The Switch Should support restriction of client IP traffic only to clients with assigned DHCP IP addresses		
The Switch Should support Local Authentication		
The Switch Should support Remote Authentication Dial-In User Service (RADIUS)		
The Switch Should support Terminal Access Controller Access Control System Plus (TACACS+) authentication		
The Switch Should support User Based Rate Limiting		
The switch should provide HW based per-flow rate-limiting to protect the CPU against DOS attacks		
The switch should support Dedicated Hardware for Flows with no impact to packet forwarding performance, should track all flows, detect security anomalies, support multiple collectors and export bandwidth consumption		
The Switch Should support display of environmental alarms for the system.		
The Switch Should support display of power and power supply fan sensor information		
The switch should support Generic Online Diagnostic		
The switch should support Digital Optical Monitoring		
Ensure network readiness for HD video using built in traffic simulator		
Monitor & troubleshoot video calls using Media Tracing Capabilities		
The switch should support packet analyzer program based on a free and open-source packet analyzer program		
The packet analyzer program should support dumping packets to a file using a well-known format called .pcap		
The packet analyzer program should support Filters to identify and limit the subset of traffic to be captured		
The Switch Should support IPV6 Router Advertisement (RA) Guard		
The Switch Should support IPv6 Routing: OSPF for IPv6 (OSPFv3)		
The Switch Should support IPv6 Routing: RIP for IPv6 (RIPng)		
The Switch Should support IPv6 Routing: Route Redistribution		
The Switch Should support IPv6 Routing: Static Routing from day one		
The Switch Should support IPv6 Security: Secure Shell SSH support over IPv6		
The Switch Should support IPv6 Services: AAAA DNS Lookups over an IPv4 Transport		
The Switch Should support IPv6 Services: DNS Lookups over an IPv6 Transport		
The Switch Should support IPv6 Services: Extended Access Control Lists		
The Switch Should support IPv6 Services: Standard Access Control Lists		
The Switch Should support IPv6 Stateless Auto-configuration		
The Switch Should support IPv6 Switching: Automatic IPv4-compatible Tunnels		
The Switch Should support IPv6 Switching: Configured IPv6 over IPv4 Tunnels		
The Switch Should support IPv6 Switching: Switched ISATAP Tunnels		
The Switch Should support IPv6 Tunneling: Automatic 6to4 Tunnels		
The Switch Should support IPv6 Tunneling: Automatic IPv4-compatible Tunnels		
The Switch Should support IPv6 Tunneling: IPv6 over IPv4 GRE Tunnels		
The Switch Should support IPv6 Tunneling: ISATAP Tunnel Support		
The Switch Should support IPv6 Tunneling: Manually Configured IPv6 over IPv4		

Tunnels		
The Switch Should support IPv6 Anycast Address		
The Switch Should support IPv6 ICMPv6 Redirect		
The Switch Should support IPv6 OSPFv3 NSF/SSO		
The Switch Should support IPv6 OSPFv3 Fast Convergence		
The Switch Should support IPv6 Neighbor Discovery Duplicate Address Detection		
Warranty and Support		
Warranty: 3 year warranty. The Warranty should be offered directly from the switch manufacturer and the faulty device should be replaced by the next business day		

Sl.No.3 24 Port Switch 10/100/1000

Access Switches - 24 port 10/100/1000 + 2 x SFP/SFP+	Compliance (Y/N)	Remarks
Specification		
Access Switch - Hardware & Performance : All features from Day One		
The switch should support a minimum of 24 nos. 10/100/1000 Ethernet Ports with 2 SFP/ SFP+ Uplinks.		
The switch should support a total of 26 Ports from day one		
The Switch should support DRAM : 512MB and Flash : 128 MB		
The switch should support Forwarding bandwidth of full-duplex of 136 gbps		
The switch should support 64-Byte Packet Forwarding Rate of 95 Mpps		
The switch should support an external Power Redundancy(RPS) . RPS is not a day one requirement however the switch should have a provision to connect to an external RPS		
The switch should support Stacking or equivalent feature which should enable the access switches to function as a single unit		
The switch should support Stacking upto 4 or more switches and should use a dedicated stacking ports and bandwidth of 60 gbps or more Per Switch. Uplink ports should not be used for stacking		
The switch should support multi Core CPU		
The Switch should support for RJ45 , USB based Console Access and USB based storage as well		
Layer 2 Features		
The switch should support Min of 1000 Active Vlan , Vlan IDs and Jumbo frame (9K) support as well		
The switch should support Spanning-Tree such as IEEE 802.1D STP, 802.1s MSTP and Link Aggregation Control Protocol 802.3ad		
The switch should multicasting features such as IGMPv1,2,3 from day one		
The Switch should support Voice VLAN to simplify IP telephony installations by keeping voice traffic on a separate VLAN		
The Switch should support Auto-negotiation on all ports to automatically selects half- or full-duplex transmission mode to optimize bandwidth		

The Switch should support Automatic media-dependent interface crossover (MDIX) to automatically adjust transmit and receive pairs if an incorrect cable type (crossover or straight-through) is installed.		
The Switch should support for Fiber Link Detection Protocol for unidirectional links caused by incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic interfaces.		
The switch should support Multicast Vlan Registration		
Routing - IPV4 and IPV6		
The switch should support inter-vlan-routing, IPv4 unicast Static Routing and IPv6 unicast static routing from day one		
The switch should support IPv6 Host support (IPv6 support: Addressing; IPv6: Option processing, Fragmentation, ICMPv6, TCP/UDP over IPv6; Applications: Ping/Traceroute/VTY/SSH/TFTP, SNMP for IPv6 objects)		
Energy Management		
Configuration Management		
The switch should have a provision of configuration of the Software image and switch configuration without user intervention		
The switch should support automatic configuration of Vlan, Security etc as devices connect to the switch port such as PC, IP Camera, Wireless Access Point, Printer, IP Phone, Video End point etc		
Quality of Service (QoS) & Control		
The switch should support to restrict the port level quality of service as low as 8kbps bandwidth per port with Rate limit option based on Source & destination IP address, source & destination MAC Address and TCP, UDP information as well		
The switch should support voice vlan and automatic configuration of QoS that allows switch to manage QoS policies based on traffic types		
The switch should support scheduling techniques for QoS		
The switch should support Weighted tail drop (WTD) to provide congestion avoidance		
The switch should support Standard 802.1p CoS field classification and Differentiated services code point (DSCP) field classification		
The switch should support Control- and Data-plane QoS ACLs		
The Switch should support Quality of Service from Day one in the dedicated Stack Link or dedicated Virtual link		
Security		
The switch should support Per port enabling/disabling of unknown unicast, multicast and broadcast flooding to prevent faulty end stations from degrading the overall system performance		
The Switch should support security Features such as IEEE 802.1x, port security, Dynamic Host Configuration Protocol (DHCP) Snooping and Guard, Dynamic ARP Inspection		
The switch should support TACACS+ and Radius based centralized authentication support to restrict unauthorized access		
The Switch should support at least 1000 Access Control entries from day one		
The switch should support rate-limiting technique based on the source, destination MAC, IP address, TCP/UDP based Port types or combination of these as well		
The switch should support to identify unidirectional links caused by incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic		

interfaces.		
The switch should support Multi domain Authentication which allows an IP phone and a PC to authenticate on the same switch port while placing them on appropriate voice and data VLAN.		
The switch should support USB and Ethernet management interfaces and Multilevel security on console access to prevents unauthorized users from altering the switch configuration		
The switch should support IPv6 First-Hop Security, DHCPv6 Protection and DHCP based Auto Config (Auto Install) and Image download		
Ease of Administration and Troubleshooting		
The switch should support to automatically attempts to reactivate a link that is disabled because of a network error.		
The switch should support Layer 2 traceroute to ease troubleshooting by identifying the physical path that a packet takes from source to destination		
The switch should support Online Diagnostics and System health Check Management		
The Access switch should have a provision to automatically send an alert related to hardware inventory, hardware & software failures, Environmental, Syslog and Diagnostics information to the Switch manufactures Technical Operational Center and take an corrective action accordingly. The communication should be secured method like https or equivalent. Any additional Software, hardware required to achieve this requirement has to be quoted as an Optional however, the distribution switch should have the provision from day one.		
Certifications		
The should support IPv6 Ready Logo phase II - Host		
The Switch should support Reduction of Hazardous Substances (RoHS)		
The Switch support comply with Safety certifications such as UL 60950-1 & IEC 60950-1		
The Switch should comply EMC IEC 61000-3-2 "Electromagnetic compatibility (EMC)		
Network Management		
The switch should Support for NTP, SSHv2, SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions		
The switch should have a provision to software-defined networking (SDN) open flow 1.3		
The switch should support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis		
The switch should support tftp and Telnet based operations from day one		
The Switch Should support Netflow sampling of the traffic, and exports flow data in the NetFlow Version 9 format for analysis		
Energy Management		
The switch should have a provision to support solutions that monitors and conserves energy with customized policies		
The switch should Support reduction of greenhouse gas (GhG) emissions		
The switch should Support measuring and Control of energy between itself and endpoints		
The switch should support hibernation mode / non-operation mode in situations such as nights or weekends which helps to reduce the power utilization .This feature has to be available from day one.		
The Switch should support IEEE 802.3az EEE Energy Efficient Ethernet		

RFC compliance		
The switch should be RFC 768 - UDP		
The switch should support RFC 783 - TFTP		
The switch should support RFC 791 - IP		
The switch should support RFC 792 - ICMP		
The switch should support RFC 793 - TCP		
The switch should support RFC 826 - ARP		
The switch should support RFC 854 - Telnet		
The switch should support RFC 951 - Bootstrap Protocol (BOOTP)		
The switch should support RFC 959 - FTP		
The switch should support RFC 1112 - IP Multicast and IGMP		
The switch should support RFC 1157 - SNMP v1		
The switch should support RFC 1166 - IP Addresses		
The switch should support RFC 1256 - Internet Control Message Protocol (ICMP) Router Discovery		
The switch should support RFC 1305 - NTP for accurate and consistent timestamp		
The switch should support RFC 1492 - TACACS+		
The switch should support RFC 1493 - Bridge MIB		
The switch should support RFC 1542 - BOOTP extensions		
The switch should support RFC 1643 - Ethernet Interface MIB		
The switch should support RFC 1757 - RMON (history, statistics, alarms, and events)		
The switch should support RFC 1901 - SNMP v2C		
The switch should support RFC 1902-1907 - SNMP v2		
The switch should support RFC 1981 - Maximum Transmission Unit (MTU) Path Discovery IPv6		
The switch should support RFC 2068 - HTTP		
The switch should support RFC 2131 - DHCP		
The switch should support RFC 2138 - RADIUS		
The switch should support RFC 2233 - IF MIB v3		
The switch should support RFC 2373 - IPv6 Aggregatable Addrs		
The switch should support RFC 2460 - IPv6		
The switch should support RFC 2461 - IPv6 Neighbor Discovery		
The switch should support RFC 2462 - IPv6 Auto configuration		
The switch should support RFC 2463 - ICMP IPv6		
The switch should support RFC 2474 - Differentiated Services (DiffServ) Precedence		
The switch should support RFC 2597 - Assured Forwarding		
The switch should support RFC 2598 - Expedited Forwarding		
The switch should support RFC 2571 - SNMP Management		
The switch should support RFC 3046 - DHCP Relay Agent Information Option		
The switch should support RFC 3376 - IGMP v3		
The switch should support RFC 3580 - 802.1X RADIUS		
Warranty and Support		
Warranty: 3 year warranty. The Warranty should be offered directly from the switch manufacturer and the faulty device should be replaced by the next business day		

Sl.No.4 Fiber Panels (LIU) Rack Mount

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
Metal Box:			
• 19" Rack Mountable Cabinet			
• Cold Rolled Steel Construction			
• Material: Powder Coated Steel Body.			
• Accommodation : 24 port for SC and 48 Port for LC Interface			
• Fusion Splice/Mechanical Splice			
• 6 Rubber Grommets are provided at cable entry points for tight sealing			
• Dimensions : 45mm H x 485mm W x 255mm D			
• LIU Should be provided with Lock & Key			
• ROHS Compliant			

Sl.No 5 SC Type M.M Pigtailes

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification -Yes/No</u>	<u>Remarks</u>
• Cable - 900Micron Tight Buffered			
• Length - 1.5Mtrs			
• Polishing - 100% Factory Tested and • Guaranteed Performance			
• Connector End: 1 X SC Connector M.M			
• Operating Temperature -10 Degrees to + 60 ° C			
• Sheath : LSZH			
• Min Bend radius : 30mm			
• Retention Strength : 100N			
• Insertion loss : 0.35dB Max			

• Buffer Diameter : 900µm tight Buffer			
• Outside Diameter : 900µm			
• at 1310 nm ≤ 0.36 dB/KM • at 1550nm ≤ 0.22 dB/KM			
• Operating Temperature : -10°C to +60°C			
• ROHS Complaint			

Sl.No 6 Fiber Optic MM Patch Cord

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification -Yes/No</u>	<u>Remarks</u>
• 100% Factory Tested – Guaranteed performance			
• LSOH Jacket Standard – Reduces toxic/corrosive			
• Sheath : LSZH			
• ROHS Compliant			
<u>Standards</u>			
• ISO/IEC 11801, ANSI/TIA/EIA 568.C.3-2000, ANSI/TIA/ • EIA-492, TELECORDIA GR-409, ICEA-596			
<u>Mechanical Characteristics</u>			
• Cordage O.D.: 2.0mm +/- 0.1mm x 4.1 • +/- 0.2mm			
• Buffer Diameter: 900Um			
• Primary Coating : 245um			
• Strength Member: Aramid Yarn			
• Jacket Material: LSOH IEC 61034-1 & 2, • IEC-60332-1, IEC-60754- 1 & 2			
• Minimum Bend Radius: Install: 3.0cm. Long Term : 2.0cm			
• Operating Temperature: -30°C to +70°C			
• Cladding - OD (um) : 125+/_ 1			
• Mode Field Dia : 9.0um +/- 0.4um @1310nm			

• Max. Attenuation @ 850nm : 3.5 dB/Km			
• Max. Attenuation @ 1300nm : 1.5 dB/Km			

Sl.No 7 Multi-Mode Outdoor Fiber Optic Cable

<u>Make & Part Code:</u>			
<u>Specifications Item-wise</u>	<u>Spec of Item Offered</u>	<u>Compliance to Spec - Yes/No</u>	<u>Remarks</u>
6/12 Core - 50/125 Micron Single Mode Outdoor Fibre Cable			
<u>Specification of Optical Fiber Cable</u>			
• Type of Cable : OM2 Single mode			
• Optical Properties			
• Attenuation			
• at 850 nm : 3.2 dB/KM			
• at 1310nm : 0.9 dB/KM			
• Maximum Tensile Strength Short term : 1000N			
• Maximum Crush resistance Short term : 2000N/10CM			
• Operating Temperature : -10° C to + 70°C			
• Sheath : UV Stabilized HDPE			
• Over all Cable Diameter : 9.5 mm- 10 mm			
• Fibre Tube Identification : Single Tube			
• No. Of Elements : 5			
• Fibre Protection(Tubes) : Polybutylene terephthalate (PBT)			
• Peripheral Strength Member : Two Steel Wires			
• Mass(Nominal) : 95 Kg/Km			
• Core Wrapping : Polyethylene Terephthalate			
• Inner Sheath : Polyethylene			
• Armouring : Copolymer Steel tape Armor			
• Sheath : HD Polyethylene (UV Stabilized)			
• Water Blocking : Thixotropic Gel			
• ROHS Complaint			
• ISO/IEC 11801 : 2002 -2 nd Edition, Type OM2			

<ul style="list-style-type: none"> AS/ACIF S008; AS/NZS 3080 			
Max. Bending Radius (during installation) : 20D Max. Bending Radius (during full load) : 10D			
Life of Cable: The minimum expected life of the cable is not less than 25 years.			

Sl.No 8 24 Port UTP Patch Panel

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
<ul style="list-style-type: none"> Standards : ETL Verified and CAT 6 Component Compliance. 			
<ul style="list-style-type: none"> Rear Cable Manager : Metal Rear Cable Manager with Perforations should be supplied along with the panel 			
<ul style="list-style-type: none"> Material : Cold rolled steel 			
<ul style="list-style-type: none"> Coating : Powder Coating 			
<ul style="list-style-type: none"> Dust Cover on the I.O: To avoid dust contaminants. Spring Loaded Shutter Patented 			
<ul style="list-style-type: none"> Wire Accommodation : 22-24 AWG 			
<ul style="list-style-type: none"> Plastic Housing : Polycarbonate,UL 94V-0 rated 			
<ul style="list-style-type: none"> Compatibility: Individually removable RJ 45 Port and compatible with STP,Fibre & Coax. 			
<ul style="list-style-type: none"> Jack Contact Plating : 50 Micron 			

Gold/100 Micron Gold			
• RJ 11 & RJ 12 Compatible			
• UL Listed			
• ROHS Compliant			
• 10 Years Warranty			

Sl.No 9&10 CAT 6 Patch Cord

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
• Standards: Should meet or exceed TIA/EIA 568B, ISO Category 6 Performance Requirements.			
• Jacket : Low Smoke Zero Halogen Sheath (LSZH), Its should have star separator			
• Boots : Transparent Boot			
• 4 Pair 24 AWG stranded copper wire with star separator			
• Bend radius : 4 X O.D			
• Operating Temperature : -20 ° C to 60° C			
• Compatible for 568 A & 568 B wiring			
• Fire Propagation test : CSA FT1,IEC 60332-1,IEC61034			
• Operating Life : 750 Mating Cycles			
• Length : 1 Mtr/2 Mtr/3 Mtr/5 Mtr/10 Mtr/20 Mtr			

• UL Listed & ETL Verified			
• Standards : CAT 6- TIA-568-C.2,ISO/IEC 11801:2002			
• ROHS Compliant			
• 25 Years Warranty			

Sl.No 11 Cat 6 UTP Copper cable

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
• 23 AWG Annealed bare solid copper, CAT-6 UTP Cable		YES	
• PAIRS Color code: Blue / White-Blue, Orange / White-Orange Green / White-Green, Brown / White - Brown		YES	
• Type Of Conductors: 4 pair 23 AWG Conductors and star separator.		YES	
• Cable Pull Tension Thread & FR Grade PVC		YES	
• Jacket : Fire Retardant PVC		YES	
• Frequency : Characterized to 600 MHz		YES	
• Standard length: 305 Mtrs (1000 ft.)		YES	
• Standards: UL Listed,ETL Tested & Verified		YES	
• Gigabit Requirements': Should meet or exceed Gigabit Ethernet requirements at 100 Mtrs.		YES	
• Insulation : Polyethylene		YES	
• Jacket : Flame Retardant PVC		YES	

• Performance Characteristics- Category 6 EIA/TIA 568.C.2		YES	
• ETL Verified up to 400 MHz		YES	
• ROHS Complaint		YES	
• 25 years Warranty		YES	

Sl.No 12 CAT 6 RJ45 Information Outlet

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
• Contact Material : Copper Alloy			
• Contact Plating : 50 Micron Gold/100 micron Nickel			
• Dust Cover :To avoid dust contaminants and to prevent incompletely plugged patch cord, Spring Loaded Shutter inside the information outlet patented. • IDV V shaped is patented			
• Plastic Housing :Polycarbonate UL94V-0 Rated			
• Termination Cap : Has to be provided at rear of the Information Outlet.			
• Compatibility : Should be compatible with 24 port patch panel,RJ 11 & RJ 12			
• Operating Cycle : Minimum 750 Insertion Cycles			
• Standards : ETL Verified for CAT 6 Compliance			
• ISO 11801 Class E Compliant			
• EIA/TIA 568.C.2-Componnet			

Complaint			
• RJ 11 & RJ 12 Compatible			
• Wire Accommodation : 22-24 AWG			
• UL Listed			
• ROHS complaint			
• 10 Years Warranty			

Sl.No 13 Face Plate

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
• Type : British Style Standard Face Plate			
• Dimensions : 86 mm X 86 mm			
• Material : VE10ABS			
• Compatible For UTP & STP			
• Labeling Facility(Data voice, Fax, Video)			
• 10 Years Warranty			
• ROHS Complaint			

Sl.No 15 9 U Rack

<u>Specifications Item-wise</u>	<u>Specification of Item Offered</u>	<u>Compliance to Specification - Yes/No</u>	<u>Remarks</u>
• 1 or 2 Fan Mount Provision on top			

Cover			
• Cable Organisers			
• Power Distribution Units			
• Lockable Toughened Glass Door, frame integrated with side panels			
• 100% assured compatibility with all equipments conforming to DIN 41494 (General industrial standard for equipments)			
• Welded to Frame with Cable entry exit cut outs			

Note

- * All the quantity and measurements mentioned in the BOM are approximate.
- * Please provide the data sheet for each device for the technical comparison.
- * Any other material and labour charges not mentioned above but required for successful commissioning of the proposed network must be specified in the quotation. Otherwise these will have to be provided by the vendor without any additional cost.
- * Vendor may visit the site before submitting the quotation after prior appointment.
- * Tender must quote price separately for each item and not on whole lot basis and price should be valid for a period of 90 days or more from the closing date of tender.
- *The Proposal for Supplies or Services must clearly itemize all costs. The cost should include the following but not limited to:
 - ✓ Hardware Cost
 - ✓ Maintenance Cost
 - ✓ Installation Cost
 - ✓ Training Cost

TERMS & CONDITIONS

1. The tender received after the prescribed date and/or time will be summarily, rejected.
2. There is no separate tender document. This enquiry notice can be downloaded from Board's website at <http://www.indianspices.com/html/quot.php> for tender submission.
3. Cost shall include all taxes, duties, entry tax, packing, insurance, forwarding and installation charges.
4. Proposal shall include documents to prove quality of products, service support and technical competence.
5. The offer shall include delivery time, validity of quotation, warranty period.
6. Offers which are incomplete in terms of scope, items or specifications or required details will not be considered and such tenders are liable to be rejected forthwith.
7. 50% of payment will be released on delivery and remaining 50% on successful implementation
8. AMC shall include onsite troubleshooting of network issues and resolution.