INSTITUTE OF MATHEMATICS & APPLICATIONS

(Established by the Govt. of Odisha)

Andharua, Bhubaneswar-751003

General Terms and Conditions:

1. Sealed tenders are hereby invited for the work of "Supply and Installation of Data Points, LAN cabling, other required computer networking materials along with electrical wiring and other repair works at Computer Laboratory of IMA, Bhubaneswar.", from Contractors, those who have worked in any Govt./Semi Govt. organizations and have successfully carried out minimum one/two/three similar work (BUILDING or Lab. Wiring/ LAN Points work) during the last five years. The eligible contractors may submit their bid along with supporting documents of fulfilling the above conditions otherwise their bids bear the risk of not being considered. The eligible contractors are also required to submit the self-attested copies of PAN card, registration and GST certificate. In support of fulfilling all the essential conditions mentioned, the contractor shall submit the details of the past work, mentioning the name of work, estimated cost, tendered amount, gross value of work done, date of commencement as per agreement & actual date of completion as per agreement along with schedule of quantities executed and any penalty levied due to delay in executing the work.
2. Period for completion of the work will be 30 (Thirty) days and the date of commencement shall be reckoned from the day of issue of award letter.
3. Tender documents are to be submitted in a sealed cover. The documents in support of eligibility criteria along with the bid should be covered in a single envelope super scribing the name of work, address of contractor and date of opening. **Tenders complete in all respects, will be accepted up to 3.30 PM on 03-03-2018. The bid shall be opened at 4.00 PM on 03-03-2018.**
4. Tenders applications should reach by regd. /speed post to **"The Director, Institute of Mathematics and Applications, Andharua, Bhubaneswar, Odisha, PIN: 751029**". To ensure that the same reaches before the date and time indicated above. Late or delayed tenders are liable for rejection.
5. Director of IMA, Bhubaneswar does not bind himself to accept the lowest or any tender and reserves the right to accept the tender either in whole or in part. The decision of the Director shall be final in this regard.
6. Canvassing in any manner or form will lead to rejection of the Bid.
7. The Bid shall remain valid for a minimum period of 90 days from the date of opening of the tender for the purpose of acceptance and award of work. Validity beyond 90 days from the date of opening shall be by mutual consent.
8. **Before tendering, the tenderer shall inspect the site to fully acquaint himself about the condition in regard to accessibility to site, nature and extent of ground, working condition of site and locality including stacking of materials, conditions affecting accommodations and movement of labour, etc., which are required for satisfactory execution of the work. No ignorance of the same, whatsoever shall be entertained under any circumstances.**
9. Stores to be issued: - No material shall be issued by the Institute.
10. The successful bidder will be required to submit the names, qualifications and experiences of the supervising staff to be deployed for execution of the work. In case of any changes occurring during the course of execution of the said work, the same shall also be intimated by the bidder to the institute.
11. The Contractor shall have to make his own arrangements for storage of materials required for execution of the work at IMA, Bhubaneswar.
12. All the mandatory testing charges will be borne by the contractor

Sd-
DIRECTOR
IMA, Bhubaneswar.

List of completed works by the Contractor:

Detail list of works, completed satisfactorily during last five years (minimum 3).

Name of works	Location of site	Value of Work	Name of organization/ engineer in charge under whom the work is completed

N.B:- The copy of work order and completion certificates from the organization may be attach

DETAIL CREDENTIALS OF THE CONTRACTOR

Contractors shall fill this form and enclose it with the original copy of tender (Technical Bid)

Name of the Contractor _____

Firm of the Contractor _____

Telephone No. (Official) _____

Office Address:

SIGNATURE OF THE TENDERER

Technical Specifications: SOLID CABLE CATEGORY 6 UTP FR-PVC, 4 PAIR

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	The 4 pair Unshielded Twisted Pair cable shall be UL® Listed.		
2	This cable well exceeds the requirements of TIA/EIA-568-C.2 and ISO/IEC 11801		
3	Nominal Outer Diameter of Cable should be 5.9+/-0.01mm and Conductor Diameter 0.56 mm (23 AWG)		
4	Construction: 4 twisted pairs separated by internal PE Cross Separator. Full separator. Half shall not be accepted. Rip Cord is must.		
5	Conductor Solid bare Copper and Outer jacket sheath FRPVC and UL approved CM rated cable. Jacket color: Light Grey		
6	Insulation :High Density Polyethylene Solid		
7	Dielectric Strength of cable should be 1000 V RMS		
8	Bending Radius : < 4X Cable Diameter at -20°C +/- 1°C Pulling Force: 25.35 LBS		
9	Electrical Parameters Pair – to – pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR.		
10	Insertion Loss of 32.8 db/100m at 250 MHz		
11	Cable should support operating Temperature from -20° to +70°C		
10	Cable support Conductor Resistance < 9.38 Ω /100m		
11	Mutual Capacitance of cable should be < 5.6nF/100m		
12	Max Resistance Unbalance of cable should be 5% Max		
13	Capacitance Unbalance of cable should max 330pF/100m		
14	Cable support Delay Skew: < 45nS, Operating Voltage: 72V NVP: 69% and Current Rating : MAX 1.5A		
15	Printed sequential Length Counter of each meter on Outer Jacket		
16	Category 6 UTP cables shall Supports Gigabit Ethernet (1000 base-T) standard and Operates at bandwidth of 600MHz		

PATCH PANEL 24 PORT CAT 6 UTP 90 DEGREES

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	The Cat-6 transmission performance is in compliance and Exceeds ANSI/TIA/EIA-568-C.2 Standard. Supports 1000-Base-T.		
2	90 Degree (Top Entry) Punch Down Design for Convenient Network Terminations		
3	Ease of Installation with built in Rear Cable Management.		
4	Removable Module Design		

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
5	6x4 Module Specially Designed Jack Configuration		
6	PCB: FR4, 1.6mm Thickness.		
7	IDC Conductor : 0.5 mm Phosphor Bronze, Tin Plating		
8	Contact Compatibility : 22~26 AWG Stranded and Solid Wires		
9	1U Patch Panel to Mount In any Standard Rack. Panel Frame : SPCC Powder Coating In Black Color.		
10	Housing : High Impact Flame Retardant Plastic, UL 94V-0 Rated		
11	Easy Port Labeling Identification Provision		
12	**Electrical Characteristics:**		
a	Current Rating : 1.5amps		
b	Insulation Resistance : >= 500mΩ		
c	Contact Resistance : <=10mΩ		
d	DC Resistance : <=0.1Ω		
e	DC/AC Volt Endurance : DC 1000V/AC 750V 1 Min		
13	**Mechanical Characteristics:**		
a	Plug Insertion Life : >= 750 Cycles with FCC Compliant RJ-45 Plug		
b	Plug & Jack Contact : >= 100 Grams with FCC Compliant RJ-45 Plug Force		
c	Plug Retention Force : >= 11 LBF		
d	Durability : 200 Termination Cycles		
e	Operating Temperature : -10 Degree ~ 60 Degree		
f	Operating Humidity : 10% ~ 90% RH		
g	Storage Temperature : -40 Degree ~ 68 Degree		
14	**Standard Verification:**		
a	ANSI/TIA-568-C.2		
b	ISO/IEC 11801:2002/AMMD.2:2010		
c	YD/T 926.3-2009		
d	ISO/IEC 60603-7 Compliant		
e	RoHS Directive 2002/95/EC/Compliant		
f	UL Listed, ETL Verified		

KEYSTONE CAT6 UTP TOOL LESS TYPE

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	Category 6 Keystone is Tool less Design 50 Micron Gold Plating Suitable For 23~24 AWG Stranded and Solid Wire, Easy For Termination and Compliant to T568A and T568B Wiring Schemes		
2	Efficient : Rotation Design Tool Free, Press with Click to Terminate Wires		
3	Cable Holder with Strain Relief Function for Better Termination		
4	Fast, Easy, Reliable Termination		
5	Removable Shutter Option		
6	Keystone Jack Can Be Easily Terminated by Hand, Optional Termination by Hand Tool		
7	Backward compatible with both RJ11/RJ12 Plug		
8	**Physical:**		
a	Housing : High impact flame retardant plastic, UL 94V-0 rated		
b	PCB : FR4, 1.6mm Thickness		
c	Jack Wire : Phosphor bronze gold over nickel plating		
d	Nickel Plating Base(Ni) : 40µ~80µ		
e	Gold Plating : 50 microns		
f	Connector : Insulation displacement connector		
g	(IDC) Accept #23~24 AWG solid wire		
9	**Electrical:**		
a	Current Rating : 1.5amps		
b	Insulation Resistance : 500 MΩ minimum		
c	Contact Resistance : 10 mΩ maximum		
d	DC Resistance : 0.1 Ω maximum		
10	**Mechanical:**		
a	Plug Insertion Life : 750 Cycles minimum		
b	Plug & Jack Contact Force :100 Grams minimum using FCC-approved plug		
c	Plug Retention Force : 30 lbs minimum		

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
d	Temperature : -40° to 150°F (-40° to 68°C)		
11	**Standard Verification:**		
a	Qualified unscreened Class E/Cat.6		
b	Permanent Link & Channel ANSI/TIA-568-C.2		
c	IEC 60603-7-4 2nd Edition		
d	ISO/IEC 11801 2.2 Edition		
e	CENELEC EN 50173-1:2011		

PATCH CORDS CAT6 UTP LSZH

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	Category 6 UTP Patch Cords should be Factory Tested for Better Quality and Suitable for the High Speed Data Transmission.		
2	Complies with the ANSI/TIA/EIA-568-C.2 Standard. Supports Data Networks Speeds Up to 10/100-Base-T and 1000-Base-T		
3	Should be LSZH Jacket for Reduced Toxic Gasses Emitted During Combustion		
4	RJ45, 8P8C, 2 FORK 50µ'' Gold Plated Contacts		
5	Patch cords should be 100% Factory Tested		
6	Transparent Boot Cable Assemblies		
7	Should be Available in Different Colors on request		
8	**Technical Specifications :**		
a	Conductor Material : Stranded Copper		
b	Conductor Diameter : (24 AWG)		
c	Insulation Material : HD-PE		
d	Insulation Thickness : Min at any point: 0.18mm MAX AVG:0.20mm		
e	Min at any point: 0.17mm MAX AVG:0.19mm		
f	Insulation Diameter : 0.94±0.01mm/0.92±0.01mm		
g	Cross Filler : Transparent 4.2×0.35		
h	Jacket Type : LSZH (Low Smoke Zero Halogen)		
i	Jacket Thickness : Min at any point: 0.51mm MAX AVG: 0.55mm		
j	Jacket Width : Min at any point: 5.2mm MAX AVG:5.8mm		

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
k	Plug : 50µ'' Gold Plated Contact		
l	Boot : Transparent		
m	Standard : ANSI EIA/TIA 568-C.2		
n	ETL Verified.		

FACE PLATE

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	Single & DUAL Face Plate Square (86 x 86mm) x 12 mm		
2	Two Piece design : Mounting Frame and Cover Plate		
3	Shutter on Face Plate		
4	Elegant : hidden-screw design		
5	Glossy Finish : Suite for all decor		
6	Cover Material : ABS-UL94-V2 Base Material : ABS-UL94-V2 Dust Cover Material : ABS-UL94-V2		
7	Plug Retention Force : 14Kgf (140N)		
8	Plug Reliability : 750 Cycles minimum		
9	Should support UTP and STP Jacks Cat5e, Cat6 and Cat6A		
10	**Standard Verification:**		
a	ANSI/TIA-568-C.2		
b	ISO/IEC 11801:2002 AMMD.2:2010		
c	YD/T 926.3-2009		
d	ISO/IEC 60603-7 Compliant		
e	RoHS Directive 2002/95/EC/Compliant		

SURFACE MOUNT BOX (SMB)

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
1	Should have Robust and installer friendly design Surface Mount Boxes for Face Plates for a variety of media including voice and data, Audio, video and CATV distribution to the work area.		

SR.#	SPECIFICATION / QUALITATIVE REQUIREMENT	COMPLIANCE (YES/NO)	REMARK
2	Should secure and protect wire with durable wall box		
3	Material : ABS		
4	Shape : Square Size : 86 x 86		
5	Color : White		

OEM Eligibility:

The OEM should be ISO 9001: 2008 & ISO 14001: 2004 Certified

- OEM authorization should be provided by the contractor
- OEM Should have manufacturing base in India.
- OEM should have direct presence/ Service Centres in India
- OEM should have toll free Number and warehouse in India.
- OEM should be a Company registered in India under the Indian Companies Act.
- OEM Should offer 25 Years Performance Warranty based on successful site certification.
- All the Cat 6 products should meet the CHANNEL performance of 100 Meters.
- All Passive products should comply with RoHS directives.
- All Copper UTP Components should be from the same OEM.

MEASUREMENT AND FINAL BILL

1. The contractor shall submit his final bills with detail measurement for the purpose of payment & bills shall be processed by the various offices for payment, as per existing procedure.

2. The contractor shall extend all possible co-operations for checking the measurement. Decision of the officer in charge of IMA, Bhubaneswar shall prevail. In case of any dispute, the final decision lies with the Director of IMA, Bhubaneswar which shall be binding on both the parties.

OTHERS

If, the contractor has to remove/dismantle any old, damaged wiring & fixtures etc. for the purpose of execution of the said work, the same shall be deposited with IMA Stock and Store Section along with the list of materials under intimate to the concerned officer in-Charge. No extra payment will be made by the institute for this purpose.

SIGNATURE OF THE TENDERER

INSTITUTE OF MATHEMATICS & APPLICATIONS
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Financial Bid

Work: Supply and Installation of Data Points, LAN cabling, other required computer networking materials along with electrical wiring and some repair and maintenance work at Computer Laboratory of IMA, Bhubaneswar.

Sl.No	Work Description	Cost (including all taxes)
01	Material supply and installation of wired data points (Approximately 35)	
02	Material supply and installation of electrical wiring for 32 computers, provision for electric supply points for audio visual equipments, projector and other imaging devices.	
03	Supply and installation of a wireless data point (01)	
04	To make the Laboratory water proof (total 08 number of glass doors)	
05	Repair & Maintenance of celling.	
	Total Cost	

Signature of Tenderer