

नाबार्ड

राष्ट्रीय बैंक स्टाफ महाविद्यालय

NBSC

National Bank Staff College

ISO 9001:2000 Certified Institution

सेक्टर-एच

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दिनांक 01 फरवरी 2010

/computer lab renovation-power & data cabling/ 2009 -10

मैसर्स

प्रिय महोदय

राष्ट्रीय बैंक स्टाफ महाविद्यालय, लखनऊ के कम्प्यूटर लॉब में पॉवर केबलिंग व डाटा केबलिंग की आपूर्ति, स्थापना, परीक्षण व उसे शुरू करने के लिए सीलबन्द निविदाएं आमंत्रित करना

1 राष्ट्रीय बैंक स्टाफ महाविद्यालय, लखनऊ कार्य की उक्त मदों को करवाना चाहता है. आपसे अनुरोध है कि नीचे दिए गए विस्तृत विवरण, सामान्य शर्तों व मात्राओं की अनुसूची व नक्शों के अनुसार उक्त कार्य के लिए सीलबन्द लिफाफे में अपना प्रस्ताव प्रस्तुत कर दें.

2 सीलबन्द निविदाओं के लिफाफे पर " कम्प्यूटर लॉब में पॉवर केबलिंग व डाटा केबलिंग की आपूर्ति, स्थापना, परीक्षण व उसे शुरू करने के लिए सीलबन्द निविदाएं" लिख दें व उसे श्री वी श्रीनारायणन, प्रधानाचार्य, राष्ट्रीय बैंक स्टाफ महाविद्यालय, सेक्टर - एच, एल डी ए कॉलोनी, कानपुर रोड, लखनऊ - 226 012 को दिनांक 15 फरवरी 2010 को 15.00 बजे तक अथवा उससे पहले प्रस्तुत कर दें.

3 सीलबन्द कोटेशन दिनांक 15 फरवरी 2010 को 15.30 बजे आपूर्तिकर्ताओं के प्रतिनिधियों, जो उपस्थित रहना चाहते हैं, की उपस्थिति में खोले जाएंगे.

4 किसी भी कारण से देरी से प्राप्त तथा तार अथवा फैक्स के माध्यम से भिजवाए गए कोटेशन्स पर विचार नहीं किया जाएगा.

5 राष्ट्रीय बैंक स्टाफ महाविद्यालय, लखनऊ के पक्ष में किसी भी अनुसूचित बैंक पर आहरित डिमाण्ड ड्राफ्ट के माध्यम से रूपए 3200/- (रूपए तीन हजार दो सौ मात्र) की बयाने की राशि कोटेशन के साथ भेज दी जाए. बयाने की निर्दिष्ट राशि के बिना प्राप्त निविदाएं अस्वीकृत कर दी जाएगी.

6 कार्य को पूरा करने की अवधि **45 दिन** होगी जिसकी गणना राष्ट्रीय बैंक स्टाफ महाविद्यालय द्वारा कार्य आदेश जारी करने की तिथि से 10 वें दिन से की जाएगी.

7 त्रुटि ठीक करने की अवधि (defect liability period) वास्तविक पूर्णता प्रमाणपत्र की प्रमाणित तिथि के बाद 6 महीने होगी. इस अवधि के दौरान ठेकेदार सभी मदों के संबंध में सिस्टम का सामान्य रूप से कार्य करने की स्थिति में रखरखाव करेगा.

8 प्रस्ताव की वैधता निविदाओं के खोलने की तिथि से 90 दिन तक होगी.

9 किसी भी अथवा सभी सीलबन्द कोटेशनों को स्वीकार करने अथवा अस्वीकार करने, किसी भी फर्म से पूरे / आंशिक रूप से कार्य करने का अधिकार राष्ट्रीय बैंक स्टाफ महाविद्यालय के पास सुरक्षित रहेगा. ऐसा करने लिए राष्ट्रीय बैंक के लिए कारण बताना आवश्यक नहीं होगा.

भवदीय

(मुकेश वत्स)

सहायक महाप्रबंधक

- संलग्न :
- 1) अनुबन्ध I : कॉन्ट्रैक्ट की सामान्य शर्तें (02 शीट्स)
 - 2) अनुबन्ध II : तकनीकी विशिष्टताएं (03 शीट्स)
 - 3) अनुबन्ध III : मात्राओं की अनुसूची (03 शीट्स)
 - 4) नक्शा : 01 शीट

ANNEXURE-I

Supply, Installation, Testing & Commissioning of Power cabling & Data Cabling at Computer Lab, NBSC, Lucknow

GENERAL TERMS AND CONDITIONS

1. Vendor has to deposit Rs 3200/- as EMD by means of Demand draft drawn on any commercial bank favouring National Bank Staff College, Lucknow.
2. The rates & amounts should be quoted in words & figures both in the schedule of quantities. Rates quoted shall remain valid for a period of 90 days from the last date of the quotation.
3. Vendor must ensure that corrections/alterations made while filling the quotation must be authenticated.
4. Sample of all the material required for execution of the work shall have to be approved by NBSC's competent authority before the work is started.
5. The data cabling work should be executed as per EIA/TIA 568-B.
6. The work shall be treated as on works contract basis and the rates tendered shall be for complete items of work inclusive of all taxes (including works contract tax, if any), duties, and levies etc. and all charges for items contingent to the work, such as, packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor, watch and ward of all materials for the work at site etc.
7. Being an indivisible works contract, Sales Tax, Excise Duty etc. are not payable separately. The works contract tax shall be deducted from the bills of the contractor as applicable.
8. No mobilisation advance shall be paid for the work, unless otherwise stipulated in tender papers for any individual works.
9. All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.
10. Suitable and lockable storage space, if available, shall be provided by NBSC to the contractor. However, watch and ward of the stores and their safe custody shall be his responsibility till the final taking over of the installation by NBSC.
11. All tools and tackles required for handling of equipments and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.
12. The contractor shall co-ordinate with all other agencies involved in the building work so that the work is not hampered due to delay in his work. Recessed conduit and other works, which directly affect the progress of work, should be given priority.
13. Care shall be taken by the contractor to avoid damage to the building during execution of his part of the work. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his costs all unwanted and waste materials arising out of his work from the site.

14. All materials and equipments supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.
15. All components shall conform to relevant Indian Standard Specifications, wherever existing. Materials with ISI certification mark shall be preferred.
16. Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.
17. Time should be considered as the essence of the contract. The entire work must be completed within **45 days** from the 10th day of the receipt of work order.
18. The contractor shall remove all the malba etc. and hand over the site in absolutely clean condition upon completion of the work.
19. A retention amount @ 5% of the actual work will be deducted and kept as security deposit. The same will be refunded after the defects liability period of six months from the date of completion of work. This amount shall be forfeited in the event of the contractor not fulfilling his obligations towards rectification of defects. EMD deposited by the successful vendor shall be adjusted towards security deposit. **Warranty of 20 years on passive components by the OEM as set out in the technical specifications (annexure-II) shall also be provided by the vendor.**
20. **PAYMENT TERMS & CONDITIONS:** All the payments would be made after satisfactory completion/commissioning of work, subject to work being executed in accordance with this contract, and scrutiny by the Employer and submission of bill alongwith measurement sheets. Bill amounting to **10% of data cabling amount shall be settled after successful Testing, Documentation and certification of entire installation for 100 Mbps transmission as per standards laid down by EIA/TIA including certification for 20 years warranty.**
21. The retention at the rate of 5% (Five percent) of the value of the work executed shall be deducted from the bill. The contractor shall be entitled to receive payment of total security amount at the end of defects liability period, provided the defects, if any, are made good according to the true intent and meaning hereof after due completion of work. The Employer shall have power to withhold any payment, if the works or any parts thereof are not carried out to his satisfaction. The Contractor shall submit bills only after working out the appropriate measurements jointly recorded with the Employer at site in a register. The final bill complete in all respect shall be submitted by the Contractor within three months of Virtual Completion Certificate and such bill shall be settled and certified for payment by the Employer within three months of the submission of the bill. Bills received without the test certificates /results /measurements shall be returned to the Contractor for the reason of the same being not submitted duly.
22. Payment will be made on the basis of quoted rates and actual measurement done at site after completion of work.
23. Vendor /contractor shall be fully responsible for the proper care and insurance of men and material at site during work in progress. The Bank will not be responsible/liable for any accident, loss, injury resulting in death or damage of any kind whatsoever.
24. Contractor shall be solely responsible for full compliance with provisions of the Contract Labour (Regulation and Abolition) Act 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971.
25. Contractors are advised to visit the site and thoroughly understand the nature and scope of

the work and get familiar with the site conditions before quoting the rates.

26. The quantities indicated in the SOQ are only tentative and are liable to change as per site conditions.
27. Quoted rates should be workable and reasonable and should include incidental and all overhead and profit. The contractor should furnish Rate Analysis for scrutiny of the rates by NBSC, if required.
28. Any discrepancy in the settlement of bills may be brought to the notice of the Bank within a period of one month from the date of settlement of the bill. The bank will not entertain any claim regarding any dispute in settlement of the bill after stipulated period.
29. Additional civil/electrical works and replacement/repair works shall be paid as per the latest CPWD schedule of rates where applicable. The items not covered in the schedule rates shall be paid as per Rate Analysis based on the market prices supported by documentary proof or assessed from market by engineer with 15% towards contractor's Over Heads & Profit plus work contract tax as applicable.
30. If any dispute arises on any matter concerning this work, the decision of the Bank shall be final and binding.
31. The contractor should not at any time do, cause or permit any nuisance on the site/do anything, which shall cause unnecessary disturbances or inconvenience to the occupants/visitors at site or near the site of work.
32. The contractor shall not directly or indirectly transfer, assign or sublet the contract or any part of it without written permission of the Bank.
- 33. Tax deduction at source towards Income Tax and Works contract or other taxes as applicable will be done from the bill amount payable to the contractor.**
34. National Bank Staff College is at full liberty to accept or reject any/ all the quotations without assigning any reason whatsoever.

DECLARATION BY THE CONTRACTORS

We/I have read and understood all the instructions/conditions made above & we /I have taken into account the above instructions / terms and conditions while quoting the rates. We/I accept all the above terms and conditions without any reservation, in all respect.

Place :

Signature of the Vendor

Date:

Name & Seal

ANNEXURE-II

Supply, Installation, Testing & Commissioning of Power cabling & Data Cabling at Computer Lab, NBSC, Lucknow

Technical Specifications - Power Cabling

35. All holes and cuttings to be made with Electrical tools.
36. All Electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 1910 and Indian Electricity Rules, 1956 amended up to date.
37. The contractor shall be 'A' Class licensed electrical contractor suitable for execution of the electrical work. He shall engage suitably skilled/licensed workmen of various categories for execution of work supervised by supervisors/Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instructions of Engineer-in-charge and other senior officers of the Department during the progress of work.
38. Only quality materials of reputed make as specified in the tender will be used in work.
39. After the work is completed, it shall be ensured that the installation is tested and commissioned.
40. Essential/non-essential/UPS distribution each will have a completely independent and separate distribution system starting from the main, switchboard upto final wiring for each system. Conduit carrying non-essential wiring shall not have essential or UPS wiring. Wiring for essential and UPS supply will have their own conduit system. No mixing of wiring is allowed.
41. Balancing of 3-phase circuit, if any, shall be done.
42. Circuit wiring shall be measured on linear basis along the run of the wiring. The measurement shall include all lengths from end to end of conduit or channel as the case may be, exclusive of interconnections inside the switchboard etc. The increase on account of diversion or slackness shall not be included in the measurement.
43. The length of circuit wiring with two wires shall be measured from the distribution board to the nearest switch box from which the point wiring starts. Looping of switch boxes also will be counted towards circuit wiring, measured along the length of conduit/channel.
44. When wires of different circuits are grouped in a single conduit/channel, the same shall be measured on linear basis depending on the actual number and sizes of wires run.
45. Following shall be deemed to be included in wiring and no separate payment shall be made for these items/works :
 - a. Interconnections inside the switchboard
 - b. All fixing accessories such as clips, screws, Phil plug, rawl plug etc. as required.
 - c. Outlet boxes, pull-through boxes etc. but excluding metal boxes if any, provided with switchboards for loose wires/conduit terminations.
46. Wiring System :
 - a. Wiring shall be done only by the looping system. Phase/live conductors shall be looped at the switch box. For point wiring, neutral wire/earth wire looping for the 1st point shall be done in the switch box ; and neutral/earth looping of subsequent points will be made from point outlets.
 - b. In wiring, no joints in wiring will be permitted anywhere, except in switch box or point outlets, where jointing of wires will be allowed with use of suitable connector.
 - c. The wiring throughout the installation shall be such that there is no break in the neutral wire except in the form of linked switchgear.
47. Where specified, shutter type (interlocking type) of sockets shall be used.
48. Copper conductor cable shall be PVC insulated, Fire retardant, Low smoke (FRLS) type conforming to BIS specification.

49. Each switchboard shall be marked Essential/non-essential/UPS to indicate the nature of such switchboards.

50. Colour Coding :Following colour coding shall be followed in wiring :-

Phase : Red/Yellow/Blue (Three phase wiring)

Live : Red (Single Phase wiring)

Neutral : Black

Earth : Yellow/Green

19. Conduits

All non-metallic conduit pipes (PVC pipes) and accessories shall be of suitable material complying with IS:2509-1973 and IS:3419-1989 for rigid conduits and IS:9537(Part V) 2000 for flexible conduits. The interior of the conduits shall be free from obstructions. The rigid conduit pipes shall be ISI marked.

The conduits shall be circular in cross-section. The dimensional details of rigid non-metallic conduits are given in following table :

S.No.	Nominal outside diameter (mm)	Maximum outside diameter (mm)	Minimum inside diameter (mm)	Maximum permissible eccentricity(mm)	Maximum permissible ovality (mm)
1	25	25+0.3	21.6	0.2	0.5
2	32	33	28.2	0.2	0.5
3	50	50+0.3	45	0.4	0.6

The maximum number of PVC insulated aluminium/copper conductor cables of 650/1100 V grade conforming to IS:694-1990 that can be drawn in one conduit of various sizes is given in following Table. Conduit sizes shall be selected accordingly.

Nominal cross sectional area of conductor in sq.mm.	25 mm		32 mm	
	S	B	S	B
1.5	10	8	18	12
2.5	8	6	12	10
4	6	5	10	8
6	5	4	8	7

S- Straight Run , B- Bent by an angle of more than 15 degrees

ANNEXURE -II

Supply, Installation, Testing & Commissioning of Power cabling & Data Cabling at Computer Lab, NBSC, Lucknow

Technical Specifications - Data Cabling

All the items/components used for the installation shall exceed the minimum performance requirement for horizontal cable as specified under EIA/TIA 568A/B and ISO/IEC 11801.

The proposal for the work consists of installation of networking system. The total no. of data nodes will be about 34. It is proposed to provide a wall-mounted 6 U Rack in Computer Lab. 1x48 port managed switch is to be provided in this rack alongwith jack panel and patch cords. Enhanced CAT 5 cables originating from various nodes in computer lab rack would terminate in the 6U rack.

Approved Makes of various components (samples to be approved by NBSC) :

	Description of item	Approved makes
1	CAT-5e UTP Cables, RJ 45 information outlets, RJ45 modular patch panels (48 port), Patch / Mounting Cords, Switch	AVAYA/AMP/D-Link
2	Rack Panels	APW PRESIDENT/ VERO
3	Rigid PVC pipe	Finolex/Prince/Precision or Equivalent

All user outlets will be identically wired with UTP Cabling System conforming to TIA/EIA 568-B Enhanced Category 5. Each user outlet shall be provided with one data circuit via one Enhanced Category 5 cable to the outlet. The outlets shall be recess mount with shutters to prevent ingress of dust and foreign matter, and shall have provisions for holding labels (for outer identification) and icons (for circuit identifications). The horizontal cable shall be terminated on modular jack panels, placed in wall-mounted/floor-mounted racks provided with lockable doors. Factory-crimped workstation and equipment cords shall be provided.

General Requirement

Bidders shall propose and submit a comprehensive Structural Cabling Solution to define the Telecommunication Infrastructure (cables, face plates, patch panels, outlets, frames etc.) necessary to build a uniform premises distribution system, which will function for a multimedia telecommunications solution to support up to 1000 Mbps transmission. ALL THE PRODUCTS MUST BE FROM THE SAME MANUFACTURER SO THAT THERE IS NO PROBLEM IN GETTING 20 YEARS CERTIFICATION.

Modular Jack Panels

The jack panels' mounts shall be fabricated out of polycarbonated or powder coated stamped steel. Each port in the jack panel shall have integrated insulation displacement connections (IDC) field from rear for termination and the fields shall be made continuous to the 8 pin modular jack field in the front of the panel through printed wiring board interconnection. The design of the jack panel will be modular in construction and the jack panel shall be :
suitable to support high termination density,
suitable for mounting the panel in 19" wide EIA compliant rack,
fully shielded., complete with robust cable clamp for optimum cable strain relief.

Modular Jack RJ 45

The modular jacks in patch panel/jack panel or in the information outlets shall be of international standards to support diverse services with 4 pair enhanced Cat 5 UTP cabling. The transmission performance shall be rated to 100 Mbps. The electrical, mechanical and physical characteristics shall comply with EIA standards and specifications.

Information Outlets

All the information socket outlets shall be recessed mounting type with (provision of one or more) modular jacks fixed on face plate and complete with adapter box. The face plate and adapter box shall be pure white in colour, made from best quality ABS plastic. The dimensions of face plate shall be similar to MK (India) make panel mounting frame/moulded front plates as far as possible.

Communication racks

The racks shall be fabricated out of heavy gauge mild steel and shall be powder coated. They shall have mounting rails and compartments as per EIA standards for installations of modular jack panels/patch panels and switching devices such as hubs, routers, switches etc. with top and bottom cable entry provision. The depth of racks shall be at least 400 mm. The racks shall have lockable transparent glass covers at the front. The rack shall be installed alongwith the following accessories :

- ÿ 1U fan tray, 2 fan position
- ÿ Cooling fans
- ÿ Cantilever shelf
- ÿ Cable managers
- ÿ Earth continuity kit
- ÿ AC power distribution box

Patch Cords/Mounting Cords

The patch cords/mounting cords shall be factory fabricated and shall be suitable for enhanced category 5 application. Patch cords shall have a two pair/four pair twisted cord with RJ 45 plugs at both ends with boots.

Enhanced Category 5 Unshielded Twisted Pair Cable

The category 5 UTP LAN cable shall be four pair unshielded twisted pair (UTP) copper cable designed and constructed as as per the specifications laid down by the EIA of USA.

The patch cords / mounting cords and the category 5 UTP cables shall be as follows:

Conductor	24 awg.stranded bare copper for patch / mounting cords 24 awg.solid bare copper for enhanced category 5 LAN cable
Insulation	Polyolefin for both
Jacket	PVC for both
Operating Frequency	100 MHz. max. for both

0

The cables shall be laid in PVC conduits from the information outlets to the jack panels in the racks.

Testing of Equipments/Installation

After completion of installation, 100% of the structured cabling work shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage. Tests shall include attenuation and near-end cross talk for 100 Mbps, by using suitable equipment like scanner etc. in the presence of Bank's Engineer. The test results shall be tabulated in a format and submitted to the Bank. In case any part of work does not comply with the standards specified by the EIA or fails the tests, the same has to be redone without any extra charge.

Application Assurance & Warranty :

Bidder/Manufacturer shall provide a minimum 20 years industry standards compliance warranty from the date of successful implementation, testing and commissioning of the cabling system.

The 20 year product warranty shall cover product manufacturing defects for all passive Structured Cabling System components.

In the events of system failure, the Bidder / Manufacturer shall repair or replace the defective products at its own cost for the cost of labour to repair or replace any such defective product until the cabling system is set up to support the required applications.

NBSC seeks warranty for the installed network from the OEM equipment supplier. Bidder shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with TIA / EIA standards and NBSC's requirement specifications. The warranty shall be provided by the OEM vendor to NBSC, and shall be administered in India.

Documentation Specifications :

The successful bidder shall after completion of the installation, submit a detailed documentation of the network system. The documentation shall cover, in the minimum, the following.

- i) As-built diagrams of the Network, with distribution of users, structured cabling components, points etc.
- ii) Test results for UTP links
- iii) Consolidated BOM with manufacture's part Nos. and quantities used
- iv) Warranty certificate from OEM supplier
- v) Any other useful handouts / notes for general trouble shooting and functional maintenance of the total network.

Structured LAN Cabling Practices

It is advised to follow the following cabling practices which are in tune with EIA/TIA 568 Wiring practices :

Wherever possible reduce the length of the cable and the number of bends. The bends radii should not exceed 6 times the internal diameter of conduit for conduits upto 2 inches. "L" bends should be avoided.

When routing UTP cables maintain the following minimum distances from power sources :

- i. 15cms from power lines of 2KV or less.
- ii. 30cms from high voltage lighting including fluorescent.

iii. 90cms from power lines of 5KV or greater.

iv. 100cms from transformer and motors.

The above is for parallel running with Electric cables only.

"+" crossing on electrical cable / lines are allowed.

For Fire and other safety procedures the National Electric Code to be followed.

Care should be taken to use only the minimum possible pulling tension on the UTP cable else the cable twist will elongate and will cause heavy loss for transmission of data.

The number of UTP cables in a conduit and flexible pipe should be so that the cable is not subjected to clinching or kinking. Guidelines are as below :

- | | |
|--------------------|-----------------------------------|
| i. 20mm Conduits | - Three to Four 4 Pair UTP cables |
| ii. 25mm Conduits | - Six to Seven 4 Pair UTP cables |
| iii. 32mm Conduits | - Ten to Twelve 4 Pair UTP cables |

The Cable Ties used for bunching the UTP cables should only be loose fitted. Do not over tight the kink of the Cables. Use of Velcro Ties is recommended.

While termination to Outlets or Patch Panels never untie the twist in the UTP cable.

All the cables to be properly enclosed in a conduit pipes or flexible conduit irrespective of whether the cables are laid inside table channels or not etc.

All the junctions/entry & exit points/bends to be properly sealed after laying of cables to avoid ingress of water, dust, termite, rodent etc.

Supply, Installation, Testing & Commissioning of Power cabling & Data Cabling at Computer Lab, NBSC, Lucknow

Schedule of Rates

S No	Particulars	Unit	Quantity	Rate (Rs)	Amount (Rs)
PART A	POWER CABLING				
1	Supply, Installation, Testing & Commissioning of circuit wiring (UPS) from Distribution Board to sockets and switches at the computer tables with 2 x 2.5 sq.mm. PVC insulated single core copper cable and 1.5 sq.mm. copper wire for earthing in Rigid PVC conduit. The supply and fixing of PVC Conduit to be taken up separately as per item no. 5. FIA FRLS wires and FIA pipes ISI marked to be used. Note: Use Black for Neutral and Green for Earth APPROVED MAKE : Finolex/Polycab/Havells	Mtr.	200		
2	Supply, Installation, Testing & Commissioning of circuit wiring (Raw power) from Distribution Board to sockets and switches at the computer tables with 2 x 2.5 sq.mm. PVC insulated single core copper cable and 1.5 sq.mm. copper wire for earthing in Rigid PVC conduit. The supply and fixing of PVC Conduit to be taken up separately as per item no. 5. APPROVED MAKE : Finolex/Polycab/Havells	Mtr.	200		
3	Supply and Installation of pre-wired SPN DB Single Door steel sheet surface mounting distribution board with bus bar, DIN channerl, neutral link and incoming MCBs - 8 way with 1 No. 32 A SPN MCB and 8 Nos. C-Curve MCB's of 6-32 A - IP 43 protection Acrylic door -Legrand 6077 21 SPN DB or equivalent. APPROVED MAKE : Legrand/Merlin-Gerin/Scheider. Rates for incoming & outgoing MCB's also to be included in this item.	Nos.	1		
4	Supply & fixing of 2 Nos. 6 A Switches (White Colour- Anchor ROMA make - Item code - 21011) and 3 Nos. 6 A Sockets (White Colour-	Set	30		

	Anchor ROMA make - Item Code-30373) in 1 No. 8 module front plate (White Colour- Anchor ROMA make - Item code - 30431) with necessary connections. The front plate alongwith switches & sockets shall be fixed in the slot provided in the computer table.				
5	Supply and installation of following sizes of ISI PVC conduit in surface/recess complete with junction boxes, joints, bends, saddles and necessary hardware :				
5.1	25 mm	Metres	60		
5.2	32 mm	Metres	30		
5.3	50 mm	Metres	10		
5.4	Supply and installation of 25 mm ISI PVC flexible Conduit	Metres	10		
6	Floor cutting for 50 to 100 mm width x 50 mm depth and making good the surface with cement (1:2:4) after laying of conduits.	Mtr	30		
7	Providing & fixing earthing with copper earth plate 600 mm x 600 mm x 3 mm thick (10.5 kg) including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. complete with charcoal or coke and salt) as required as per IS:3043-1987.	Set	1		
8	Supply & laying 8 SWG copper wire (4 mm dia) in 20 mm ISI PVC conduit on wall/floor complete with connection, soldering as required. Cost of providing & fixing 20 mm PVC conduit to be included in this item	Mtr	30		
	Sub-total (PART-A)				

Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
PART B	DATA CABLING				
1	Supply, installation, testing and commissioning, labelling, documentation etc. complete of the following equipments/items as per the detailed technical specifications				
1.1	48 port switch DES 3550 Make D-link	Nos.	1		
1.2	Fully shielded 19" wide EIA compliant 48 port modular jack panels with Insulation Displacement Connections (IDC) field on the rear and made continuous to the 8 pin (RJ 45) modular jack field in the front of the panel through printed wiring board interconnections, complete with mounts, cable clamps. The jack panel shall be suitable for services with universal 4 pair cabling and enhanced category 5 application and shall be of non intelligent type and will be installed in the racks provided.	Nos.	1		
1.3	Single port Information socket outlets straight shuttered type with RJ 45 modular jack at the front and Insulation Displacement Connection (IDC) field at the rear for enhanced category 5 UTP cable termination on recessed type face plate, complete with 1 module face plate (white colour) made from ABS plastic	Nos.	34		
1.4	Factory made mounting cords of at least 1 metre length with enhanced category 5 UTP twisted four pair cord and RJ 45 plugs with boots at both ends	Nos.	34		
1.5	Factory made mounting cords of at least 2 metre length with enhanced category 5 UTP twisted four pair cord and RJ 45 plugs with boots at both ends	Nos.	34		
1.6	6 U Rack with accessories (as per detailed technical specifications indicated in Annexure II)	Nos.	1		
1.7	Enhanced Category 5, unshielded twisted pair LAN cables laid through PVC conduits/Casing Capping. (Item for laying of PVC Conduit considered	Metres	360		

	separately in item no 3 below)				
2	Testing, Documentation and certification of entire installation for 100 Mbps transmission as per standards laid down by EIA/TIA including certification for 20 years warranty.	LS	LS		
3	Supply and installation of following sizes of ISI PVC conduit in surface/recess complete with junction boxes, joints, bends, saddles and necessary hardware :				
3.1	25 mm	Metres	22		
3.2	32 mm	Metres	45		
3.2	50 mm	Metres	10		
3.4	Supply and installation of 25 mm ISI PVC flexible Conduit	Metres	10		
4	Floor cutting for 50 to 100 mm width x 50 mm depth and making good the surface with cement (1:2:4) after laying of rigid PVC conduits.	Mtr	45		
SUB - TOTAL (PART-B)					

PART-C	Labour charges for shifting of the existing computers and peripherals alongwith furniture (table, chairs etc.) from the computer laboratory (Room No. 44) to a specified location on the same floor, setting up of the furniture alongwith computers & peripherals in the location thus specified by making temporary connections (both power & LAN) with the available wiring so as to make a temporary arrangement for running the computer laboratory. Only labour charges to be quoted. Material required, if any, would be provided by NBSC.	LS	LS		
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TOTAL PART-A + PART-B + PART-C

Place :

Signature of the Contractor

Date:

Name & Seal