



राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, भुवनेश्वर  
(परमाणु उर्जा विभाग, भारत सरकार का एक स्वयं शासित संस्थान)  
**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, BHUBANESWAR**  
(AN AUTONOMOUS INSTITUTE UNDER DEPT. OF ATOMIC ENERGY, GOVT. OF INDIA)

Name of Work: -“Provision for Additional Power point, lighting, LAN point and Telephone point installation in proposed CIS office at ground floor, Library Building.”

NIT No. & Date:-NISER/IWD-ELECT/CIS/2018-19/002  
Dtd: 09.05.2018

Estimated cost of tender: -Rs 11, 97,679.00  
Earnest Money : Rs. 23,954.00/-

Completion time: - 60 (Sixty) days

Last date of submission of E- tender: 25.05.20185 up to 11.30 AM  
Opening of Technical Bids: 25.05.20185 at 3.00 P.M

This tender documents contains 13 (Including front page) pages.



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**TENDER DOCUMENTS**

**File No. NISER/IWD-ELECT/CIS/2018-19/002**

**Date: 09.05.2018**

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**I N D E X**

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7.	C.P.W.D. Specifications 2016 of Electrical work	Available in the office of the SO-D (Electrical) of NISER, Jatni. (If required, the same can be made available on written request addressed to the SO-D (Elect.) NISER	

## NOTICE INVITING TENDER

**NIT No. NISER/IWD-ELECT/CIS/2018-19/002    Date: 09.05.2018**

Director, NISER invites E- tender on two bid system (Technical Bid and Financial Bid) for the following work:-

Name of the work:    “Provision for Additional Power point, lighting, LAN point and Telephone point installation in proposed CIS office at ground floor, Library Building.”

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Earnest Money	:	Rs. 23,954.00/-
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<b>Opening of Technical Bids:</b>		<b>25.05.20185 at 3.00 P.M</b>

Tender can be downloaded and bided from website address: [www.tenderwizard.com/NISER](http://www.tenderwizard.com/NISER).

Tender documents for viewing only is also available in NISER web-site address: [www.niser.ac.in](http://www.niser.ac.in).

  
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### Standard e-Tender Terms & Conditions

1. The details of tender notification can be downloaded from [www.tenderwizard.com/NISER](http://www.tenderwizard.com/NISER) under "**Tender Free View**" link.
2. Vendors should obtain the USER ID and PASSWORD from [www.tenderwizard.com/NISER](http://www.tenderwizard.com/NISER) by clicking on "**REGISTER ME**" link in the homepage.
3. The Vendor registration fees has to be paid to ITI Ltd for Rs. 1180/- including GST. Using the e-payment link provided at the time of registration, and the mode of payments are Credit Card, Debit Card and Internet Banking. Vendor Registration is Valid for 1year.
4. For further details on e-Tender participation, please contact ITI Help desk on
  - Telephone: 080-49352000/9686115318
  - Email: [harishkumar.kb@etenderwizard.com](mailto:harishkumar.kb@etenderwizard.com), [ambasa@etenderwizard.com](mailto:ambasa@etenderwizard.com).
5. Tenders should be submitted only through e-Tender portal and obtain the Tender Acknowledgement copy as a proof of successful submission.



राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, भुवनेश्वर  
(परमाणु उर्जा विभाग, भारत सरकार का एक स्वयं शासित संस्थान)  
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**Tender Notice**

Director of NISER hereby invites E- tender on two bid system (Technical Bid and Financial Bid) for the following work from **registered electrical contractors** of CPWD, MES, Railways and State PWDs and/or those who have worked for DAE or its Organizations or Govt. /Semi Government organizations and **having a valid ELBO License** and have successfully carried out a minimum of one/two/three similar works (Supply erection and commissioning of electrical equipment) of 80%/60%/40% respectively of the estimated cost or above, as indicated in the prescribed format of the E-Tender portal in last seven years. The eligible contractors may submit their bid along with supporting documents of fulfilling the above conditions otherwise the bids bear the risk of not being considered.

Name of Work	Estimated Cost ₹	Earnest Money ₹	Duration of work
<b>Name of the work:</b> -“Provision for Additional Power point, lighting, LAN point and Telephone point installation in proposed CIS office at ground floor, Library Building ” NISER/IWD-ELECT/CIS/2018-19/002 Dt. 09.05.2018	11, 97,679.00/-	23,954.00/-	60 (Sixty Days).

The Bidders are requested to give detailed tender in E-Tender portal in the prescribed forms in two Bids i.e. Part – I Technical Bid and Part - II Financial Bid.



**Tender process & award of contract.**

The technical bids will be evaluated to shortlist the eligible bidders. The financial bids of only the short listed bidders shall be considered for further processing. Bidders whose technical offer is found acceptable and meeting the eligibility requirements as specified in this tender, will be informed about the date and time of the opening of the financial bid.

NISER will open financial bids of only the technically qualified bidders. The Date and Time of opening the financial Bid will be intimated only to technically acceptable Bidders for the work at a later date.

The earnest money deposit and the cost of tender (Non Refundable) as indicated against the work should be send **by post or by hand** to “SO(D)-ELECTRICAL,INSTITUTE WORKS DEPARTMENT, NISER,Jatni ampus, PO-Bhimpur-Padanpur, Via-Jatni, District- Khurda, PIN- 752050” so that it reaches on or before the opening of the technical bid for e-tender system, in the form of **Account Payee Bank Draft** payable on any branch of Nationalized/Schedule Bank at Bhubaneswar/ Jatni in favour of **Director, NISER payable at Bhubaneswar/Jatni** in a sealed envelope. All tenders submitted without requisite amount of earnest money and tender cost shall be rejected and their technical and financial bids shall not be opened. No interest is payable on EMD. Director of NISER, reserves the right to accept/reject any/all tenders without assigning any reason whatsoever. Part or incomplete tenders will be summarily rejected. No further correspondences whatsoever shall be entertained in this regard. Canvassing in any manner shall result in rejection of the tender.

Any dispute arising out of this shall subject to Bhubaneswar jurisdiction only.

  
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## General Terms and Conditions:

1. Director of NISER hereby invites e-Tender in two bid system (Technical Bid and Financial Bid) for the following work from **registered electrical contractors** of CPWD, MES, Railways and State PWDs and/or those who have worked for DAE or its Organizations or Govt. /Semi Government organizations and **having a valid ELBO License** and have successfully carried out a minimum of one/two/three similar works (Supply erection and commissioning of electrical equipment) of 80%/60%/40% respectively of the estimated cost or above, as indicated in the prescribed format of the the e-Tender portal in the last seven years. The eligible contractors may submit their bid along with supporting documents of fulfilling the above conditions otherwise the bids bear the risk of not being considered.

In support of fulfilling all the essential conditions mentioned in the previous Para the contractor shall submit the details through e-Tender in the prescribed format the past details, mentioning the name of work, estimated cost,, 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 from an officer not below the rank of Executive Engineer (Electrical).

2. The estimated cost of the work is **₹11, 97,679.00/- (Rupees Eleven Lakhs Ninety seven Thousand Six hundred and seventy nine only.)** (as per DSR- 2016).
3. Period for completion of the work will be **60 (Sixty Days)**. and the date of commencement shall be reckoned from the tenth day of issue of award letter.
4. The earnest money deposit and the cost of tender (Non Refundable) as indicated against the work should be send by **post or by hand** to **“SO(D)-ELECTRICAL,INSTITUTE WORKS DEPARTMENT, NISER,Jatni Campus, PO-Bhimpur-Padanpur,Via-Jatni,District- Khurda, PIN- 752050”** so that it reaches on or before the opening of the technical bid for e-tender system in the form of Account Payee **Bank Draft** payable on any branch of Nationalized/Schedule Bank at Bhubaneswar/ Jatni in f avour of **“Director, NISER payable at Bhubaneswar/Jatni”** in a sealed envelope. All tenders submitted without requisite amount of earnest money and tender cost shall be rejected and their technical and financial bids shall not be opened. No interest is payable on EMD. The EMD will be returned to the bidders(s)/Agents whose offer is not accepted by NISER within one month from the date of the placing of the final order(s) on the selected bidder(s). In case of the bidder(s) whose offer is accepted the EMD will be returned on submission of Performance Bank Guarantee (if applicable). However, if the return of EMD is delayed for any reason, no interest /penalty shall be payable to the bidders.
5. The details of tender notification can be download from [www.tenderwizard.com/NISER](http://www.tenderwizard.com/NISER) under **“Tender Free View”** link. Vendors should obtain the USER ID and PASSWORD from [www.tenderwizard.com/NISER](http://www.tenderwizard.com/NISER) by clicking on **“REGISTER ME”** link in the homepage.The Vendor registration fees has to be paid to ITI Ltd for Rs. 1180/-. Using the epayment link provided at the time of registration, and the mode of payments are Credit Card, Debit Card and Internet Banking. Vendor Registration is Valid for 1year.Tenders should be submitted only through e-Tender portal and obtain the Tender Acknowledgement copy as a proof of successful submission.
6. The Bidders are requested to give detailed tender in E-Tender portal in the prescribed forms in two Bids i.e. Part - I Technical Bid & Part – II Financial Bid.
7. Last date of submission of E- tender: **25.05.20185 up to 11.30 AM.**  
**Opening of Technical Bids: 25.05.20185 at 3.00 P.M**

**8. Tender process & award of contract.**

The technical bids will be evaluated to shortlist the eligible bidders. The financial bids of only the short listed bidders shall be considered for further processing. Bidders whose technical offer is found acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the financial bid.

NISER will open financial bids of only the technically qualified bidders. The Date and Time of opening the financial Bid will be intimated only to technically acceptable Bidders for the work at a later date.

Please note, that bids submitted without tender cost and EMD are summarily being rejected.

9. Director of NISER 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. Director NISER, reserves the right to accept/reject any/all tenders without assigning any reason whatsoever. The decision of the Director shall be final in this regard.
10. Canvassing in any manner or form will lead to rejection of the Bid.
11. The tenderer shall not be permitted to bid for works in any unit of DAE where any of his/her relatives are employed. He shall also intimate the names of any such persons who are working with him in any capacity or subsequently employed by him and whose relatives are working in DAE or its units.
12. **Contact for Technical information:** (Only E-mail enquiries will be entertained)

**Mr. Bhagaban Dhal**  
SA\_C (Electrical),  
Institute Works Department, NISER.  
E-Mail – bhagaban87@niser.ac.in

**NOTE :**

A person shall be deemed to be a relative of another if, (a) they are members of a Hindu undivided family; or (b) they are husband and wife; or (c) the one is related to the other in the following manner : Father, Mother (including step mother), Son (including step son), Son's wife, Daughter (including step daughter), Father's father, Son's son, Son's wife, Son's daughter, Son's daughter's husband, Daughter's husband, Daughter's son, Daughter's son's wife, Daughter's daughter, Daughter's husband, Brother (including step brother), Brother's wife, Sister (including step sister), Sister's husband.

13. 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.
14. The tenderer should see and obtain the drawings. In case of any queries, necessary clarifications may please be sought from the office of the Scientific Officer-D (Electrical). No claim whatsoever will be entertained in this regard for any alleged ignorance, thereof.
15. 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.

16. EMD is liable to be forfeited if the contractor fails to commence the work as per award letter.
17. Some of the provisions of the contract are given below.
  - a). DEFECT LIABILITY PERIOD - Twelve months from the date of completion as certified by the authorized engineer.
  - b). MINIMUM VALUE OF WORK FOR THE INTERMEDIATE CERTIFICATE Intermediate certificate for a lesser amount can be admitted for payment at the discretion of the Institute.
  - c). SECURITY DEPOSIT - A sum @ 5% of the gross amount of the bill shall be deducted from each running bill of the contractor, till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. In addition, the contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as **Performance Security** within the period prescribed for commencement of work in the letter of award issued to him.
  - d). COMPENSATION – In the event of any delay in completion of the work beyond the scheduled period, the contractor shall pay an amount equal to one per cent of the total cost of work or such smaller amount as decided by Director of NISER (whose decision shall be final) as compensation to the institute, for every week that the work remains un-commenced or unfinished. Compensation to be paid shall not exceed ten per cent of the estimated cost of the total work as per award letter.
18. Stores to be issued: - No material shall be issued by the Institute. The responsibility for arranging all materials from approved manufacturer as per award letter lies with the contractor.
19. There will be deduction of TAX from every RA bill and also from the final bill of the contractor at the rate prescribed by govt. of India from time to time.
20. 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.
21. The tenderer should also submit the detail list of tools and plants/ machineries/ equipment, etc. that he proposes to place at the site of work.
22. The Contractor shall have to make his own arrangements for storage of materials required for execution of the work and NISER in any manner shall be held responsible for the storage and safe custody of the said materials at work site.
23. Electricity will be supplied to the site of work at one point only if required and Contractor can do onward distribution with metering arrangement as per the requirement. Electricity charges; if any will be recovered from the Contractor's bill based on meter readings towards its consumption.
24. Before commencement of the work, the contractor has to submit the list of tools and plants brought to the site of work. No items other than the list submitted will be allowed to be taken out from the work site.
25. All the mandatory testing charges will be borne by the contractor.
26. Cost escalation in any manner whatsoever, will not be accepted for the said work, where in the stipulated period of completion of work is 18 (eighteen) months or less.
27. The work will be executed as per CPWD guidelines and DAE works procedure under the supervision of Engineer-In-charge of NISER.



**SCHEDULE OF QUANTITY**

<b>Sl No</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>
1	Supply & instalaltion of 105 x 65 mm DLP Al.trunking suitable for surface mounting with 85 mm width cover complete with all accessories such as clip on partitions, end caps, internal angles (Adjustable from 80 - 100 deg C) partition junction for internal angles, base joint,cover joint, clips for 85 mm width cover, flat junction , wire retainers, earth link etc as required and as per instructions of E-I-C Make: Legrand (111 11) Only/Approved make	Mtr	50
2	<b>Supply and fixing of ceiling fan below false ceiling</b> (1200 mm sweep institutional type) with 1.5 sq.mm wires and with 2.5 sq.mm insulated earth wire complete with <b>6A, 240V, SP switches &amp; 5 stepped capacitor type regulator</b> (minimum 100 W capacity). With hanging Rod and below details accessories for ceiling etc. Min Ground clearance: 2700 MM False ceiling depth: 600-700 MM Required Hanging GI Rod : 900 mm to 1100 mm <b>NOTE: - Supply and installation of fan hook clamp of 85mm long mild steel tee of size 75X75 mm fabricated out of 150mmx75 mm ISMB and making holes at the corners for fixing the same in ceiling with 4 nos of 75x10 mm long anchor fasteners &amp; provide suitable hole in the centre of web for hanging 'S' hook and including with S shape hook made of 12 mm dia rod for hanging ceilng fan, painting of M.S. tee with two coats of red oxide primer, all as per sample approved etc &amp; as per instruction of Engineer in charge.</b> Make: CGL	Each	26
3	<b>Light Fixtures &amp; Fittings:</b> Supply, installation, testing & commissioning of <b>fixtures &amp; fittings etc complete with accessories, LED/tube/lamp etc</b> along false ceiling fixed with wall plug on ceiling or by 2 nos. (minimum) of 6 mm, anchor fasteners on ceiling with GI wire or Strip & other fixing accessories etc provision & as per the instruction of E.I.C. <b>Note:</b> 1) <b>Min Ground clearance: 2700 MM</b> 2) <b>False ceiling depth: 600-700 MM</b> 3) <b>All fixtures shall be with low loss electronic ballast.</b>		
3.1	Decorative Recessed mounted (595 mm x 595) Luminaire with FullGlow (High Efficiency) 38 Watt LED Luminarie Ref Model : RC380B LED34S-6500 G3 PSD OD light Make: Philips Only	Each	67
4	Supplying and fixing of 6 Module Cover plate/face plate (w/o surface box) including 6/16A socket outlet and Modular switch including installation, fixing of switch and socket and connection in existing Alluminium Race way. <b>2nos. of Switch and 2 nos. of socket each</b> Make: Legrand (Mylic/Equivalent) only	Each	20
5	Supplying and fixing of 6 Module Cover plate/face plate (with surface box) including 6/16A socket outlet and Modular switch including installation, fixing of switch and socket and connection in existing Alluminium Race way. <b>2nos. of Switch and 2 nos. of socket each</b> Make: Legrand (Mylic/Equivalent) only	Each	5

6	Supplying and fixing of 9 Module Cover plate/face plate (with surface box) on wall surface, including 6/16A socket outlet and Modular switch including installation, fixing of switch and socket and connection in existing Alluminium Race way. <b>3nos. of Switch and 3 nos. of socket each</b> Make: Legrand (Mylic/Equivalent) only	Each	10
7	Supplying and fixing of 6 Module Cover plate/face plate (with surface box) on wall surface, including 6/16A socket outlet and Modular switch including installation, fixing of switch and socket and connection <b>4nos. of Switch and 1 nos. of socket each</b> Make: Legrand (Mylic/Equivalent) only	Each	7
8	Supplying and fixing of 12 Module Cover plate/face plate (with surface box) including Modular switch installation, fixing of switch and Stepped regulator connection in existing Alluminium Race way. <b>6nos. of Switch and 3 nos. of regulator each</b> Make: Legrand (Mylic/Equivalent) only	Each	5
9	Supplying and fixing of 6 Module Cover plate/face plate (with out surface box) including Modular switch installation, fixing of switch and Stepped regulator connection in existing Alluminium Race way. <b>2nos. of Switch and 2 nos. of regulator each</b> Make: Legrand (Mylic/Equivalent) only	Each	6
10	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required. (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.) 4 way (4 + 12), Double door Make: Legrand/Hager/ABB	Each	1
11	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator) 6 way (4 + 18), Double door Make: Legrand/Hager/ABB	Each	2
11.1	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 Amp MCB Isolator, Make: Legrand/Hager/ABB	Nos	1
11.2	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 Amp RCCB, Make: Legrand/Hager/ABB	Nos	1
11.3	63 A, 4 pole MCB, "C" curve, 10 kA breaking in Existing MCB DB.	Nos	3
11.4	32 A, 4 pole MCB, "C" curve, 10 kA breaking in Existing MCB DB.	Nos	3
11.5	32 A, 3 pole MCB, "C" curve, 10 kA breaking in Existing MCB DB.	Nos	3
11.6	16 A and 25A ratings, SP MCB, "C" curve, 10 kA breaking capacity	Nos	28

12	Supplying and fixing FP sheet steel enclosure on surface/ recess along with 32 A, 240 V “C” curve FP MCB complete with connections, testing and commissioning etc. as required (Including MCBs) Make: Legrand/Hager/ABB	Set	4
13	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32 A, 240 V “C” curve DP MCB complete with connections, testing and commissioning etc. as required.	Set	4
14.1	Supply and laying of 3.5Cx25 Sqmm XLPE Armoured Alluminium Cable with double run of 8 SWG GI earth wire (DB Wiring) Make: Polycab/Universal	Mtr	30
14.2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. <b>3.5CX 25 sq. mm Cable</b> Make: Polycab/Universal/CCI	Set	2
15	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. (Sub DB wiring) Cable: <b>4X 6 sq. mm + 2 X 6sq. mm earth wire</b> Make: <b>Polycab/CCi/RR Kabel</b>	Mtr	80
16	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. (AC's wiring and Sub-main ckt wiring for Fan Light) Cable: <b>4X 4 sq. mm + 2 X 4sq. mm earth wire</b> Make: <b>Polycab/CCi/RR Kabel</b>	Mtr	350
17	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. (Light Fan and Power point Wiring) Cable: <b>2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire</b> Make: <b>Polycab/CCi/RR Kabel</b>	Mtr	745
18	<b>Supplying Wiring for light point/ fan point/ call bell poin.t</b> with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface or recessed medium class PVC conduit, with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required (including PVC conduit, PVC Bends, PVC couples, PVC saddles/staples/ screws and junction box accessorie) Make: Polycab/CCi/RR Kabel	Each	60
19	Supply and laying and fixing of 50x16 mm dia. ISI marked, Casing n capping	Meter	80
20	<b>LAN Point and Telephone Point Wiring</b>		
20.1	<b>Supply, installation and commissioning of CAT6 UTP Jack and Patch Panel (24 Port):-</b> 24-port modular,1U,Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 & ISO/IEC 11801 Configured as 6 port module with <b>individually replaceable CAT-6 Jack</b> . Front of each module shall be capable of accepting 9 mm to 12 mm labels. Poly Phenylene Oxide 94 V-0 rated, 1500 VAC @ 60 Hz Dielectric withstand voltage, RMS 1.5 A @ 20 °C 500MOhm with ROHS/ELV Compliant ( Ref. 1100 GS3 Category 6 U/UTP Patch Panel, 24 port) Make: Belden/Commscope/Panduit	Set	1

20.2	<p>Supply, installation, testing &amp; commissioning of <b>19" Wall mounted 12 U rack with acrylic glass door with following accessories :</b></p> <p>a) Four fan position tray with 4 fans (230 V AC) - 1 no b) AC power panel with minimum 6 nos. 6/16 A socket, fuse and 6 switches - 1 panel. Make: President</p>	Set	1
20.3	<p><b>Supply and fixing of CAT6 Face Plate with RJ45 UTP Jack:</b> Should be 2-port flush mounted, square faceplate, High-impact, flame retardant, UL-rated 94 V-0, thermoplastic, UL 94 V-0 with all accessories for fixing on existing race way.</p> <p><b>Supply and fixing of RJ-45 CAT-6 UTP Jack:</b> Electrical performance guaranteed to meet or exceed latest TIA/EIA 568 Category 6 and ISO/IEC Category 6/Class E specifications, Minimum 750 mating cycle. 200 termination cycle, 100 M Ohm, 1.5 A @ 20 °C, 1500 VAC @ 60 Hz, 500 M Ohm, UL listed(UL 94 V-0) Conductor Gauge- 22-26 AWG and ROHS Compliant <b>2 nos. in each face plate</b> Make: Belden/Commscope/Panduit</p>	Set	15
20.4	<p><b>Supply, laying and commissioning of CAT6 Patch Cord with CAT-6 RJ45 Connector:-</b> Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 &amp; ISO/IEC 11801, Plug Protection -Factory fitted Strain relief boots on either side or antisnag feature that improves and provides maximum protection from snagging during moves and rearrangements. UL 94 V-0 Plug retention force Minimum: 98 N Safety Standard- ETL, Jacket- LSZH Temperature range of -10 °C to +60 °C Make:- Belden/Commscope/Panduit</p>	Set	20
20.5	<p><b>Supply and fixing of Telephone point, RJ11 Jack with face plate in existing Race way. 2 nos. in each face plate</b> Make: Belden/Commscope/Panduit</p>	Set	4
20.6	<p><b>Supply and fixing of Cat-6 UTP Cable for Lan point and telephone point :-</b>Unshielded Twisted Pair, Category 6, TIA / EIA 568 C.2 &amp; ISO/IEC 11801 2nd edition, Conductors- 23 AWG Solid bare copper, Insulation- Polyethylene or Polyolefin Jacket- LSZH jacket must complying to: Fire rating-IEC60332-3-22, Acid gas- IEC 60754-2 Smoke density- IEC 61034-2, Minimum 250 MHz; ETL report for 4 connector channel performance up to 250 MHz to be provided. Impedance-100 Ohms + / - 15 ohms, Mutual Capacitance-5.6 NF MAX /100 Meter, Bend Radius- 4 * Cable Diameter DC Resistance-unbalance 5% Max. with ROHS/ELV Compliant Make: Belden/Commscope/Panduit</p>	Mtr	810

  
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## Technical Specifications

1. Work should be carried out as per CPWD electrical specification.
2. **Circuit wiring:** - Phase, Neutral & Earth wire shall be connected up to Switch Box.
3. 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.
4. **2.5 sq mm** for **points & circuit** wiring, **4 sq. mm** for **power plug point** wiring, **6 sq mm & above size** for **Sub-main** wiring, i.e. Panel to DB etc. as per site plan/project requirement as directed by Engineer-in-charge.
5. Drawing of PVC insulated copper conductor cable should not be excess from maximum capacity of conduit, as per clause [4.2.1 (ii)]
6. MCB DBs pre-wired type & brand name/make as specified in the tender only.
7. Only quality materials of reputed make as specified in the tender will be used in work.
8. The contractor shall engage suitably **skilled/licensed workmen** of various categories for execution of work & **supervised by supervisors / Engineer of appropriate qualification** & experience to ensure proper execution of work. They will carry out instructions of Engineer-in-charge & other senior officers of the Institute during progress of work.

## MEASUREMENT AND RA/ FINAL BILL

1. The contractor shall submit his running and final bills with detail measurement for the purpose of payment & bills shall be processed by the various offices for payment, as per existing procedure. He has to sign the MB Book as an acceptance to the measurements carried out by the engineer in charge of NISER, based on which the RA/Final Bill shall be generated for payment.
2. The contractor shall extend all possible co-operations for checking the measurement. Decision of the engineer in charge (electrical) of NISER shall prevail. In case of any dispute, the final decision lies with the Director of NISER, 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 NISER Stock Yard along with the list of materials under intimate to the concerned Engineer in- Charge. No extra payment will be made by the institute for this purpose.

