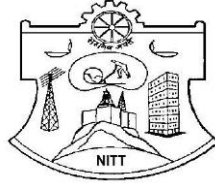


# NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI – 15

Web : [www.nitt.edu](http://www.nitt.edu)

Phone : 0431 –250 3840

**ESTATE MAINTENANCE DEPARTMENT/ELECTRICAL**



## TENDER DOCUMENT (TECHNICAL BID)

Name of work	:	Replacement of existing PL 36W blub into LED lights at CSG and CA Depts.& pdg power to computer with UPS connections at MTB 305 & 314 in prod Dept. and various Machines to Ojas 128A in Ojas building.
Value of Work	:	₹ 9,49,865/-
Tender Enquiry No	:	52/17-18
Period of Contract	:	90 days.
Tender Enquiry No	:	<u><a href="#">EMD/EO/ELE/tender notice//Enq.No:52/17-18</a></u>

NATIONAL INSTITUTE OF TECHNOLOGY  
TIRUCHIRAPALLI -620 015.  
**ESTATE MAINTENANCE DEPARTMENT/ELECTRICAL**

**NOTICE INVITING TENDER**

1. **Name of Work** : Replacement of existing PL36W blub into LED lights at CSG and CA depts..&pdg power to computers with UPS connection at MTB 305&314 in Prod dept.and various machines to Ojas building.
2. **Estimated Cost** : ₹ 9,49,865/-
3. **Earnest Money Deposit** : ₹ 18,997/-
4. **Completion time** : 90 days (from the date of commencement of work which will be reckoned from the date of agreement with the contractor)
5. **Cost of tender document** : ₹ 150/-
6. **Last Date & Time for downloading of tenders:** : 27.11.2017& 3.00 P.M
7. (a) **Date & Time of Tender opening (Technical Bid):** 27.11.2017 & 3.30 P.M  
(b) **Opening of Price bid** : **Only qualified bids on the same day**
8. **Maintenance period and Handing over** : 1 year from the date of actual completion of entire work and handing over to National Institute of Technology.
9. **Address for Submission of tender** : The Director, National Institute of Technology, Tiruchirappalli-620 015.

Tender document contains 29 pages including Price bid.

**Name of the Agency Submitting :** .....

**the tender** .....

.....

**Check list to evaluate the capability of the tenderer qualifying for price bid opening.**

Sl. No	Item/ Requirement from the Bidder	Bidders Response should be definite, complete and legible. Use separate sheet wherever necessary.
1	Particulars of remittance of EMD: Specify (a) DD Number (b) Amount (c) Name of Issuing Banker <b>Note: Bids without EMD will be rejected summarily</b>	
2	Particulars of remittance of Cost of Tender Document. Specify (a) DD Number (b) Amount (c) Name of Issuing Banker <b>Note: Bids without cost of tender document will be rejected summarily.</b>	
3	<b>Name and Complete Postal address of the Applicant or Bidder Firm/ Company with phone/ Fax/ Mobile number</b>	
4	Legal status / Constitution of the Bidder : (a) Sole Proprietor (b) Partnership (c) Private Limited Company (d) Public Limited Company (e) others <b>Please attach self-attested documentary proof</b>	
5	<b>Details of License type obtained from the Licensing Authority (Attach Self-attested Copy) Tick Whichever applicable</b>  ESB <input type="checkbox"/> EA <input type="checkbox"/> ESA <input type="checkbox"/>	License no :  Issue date :  Valid up to:
6	Nature of the Business of the Bidder	
7	Year of Commencement of Business	
8	Location of the Registered / Main Office	
9	(a) Name, (b) address ,(c) designation, (d) phone & cell number and (e) E mail ID of the CONTACT PERSON of the applicant/ bidder	
10	Name and address of your banker	
11	Copy of Income Tax Permanent Account Number (PAN Number) <b>(Please Attach self-attested copy)</b>	

12	Annual Turnover during the Last three financial years 2013-14,2014-15 & 2015-16 ( <b>Profit and Loss Account and Balance sheet duly audited and certified by a Chartered Accountant and Income Tax Return Acknowledgement i.e., ITR for the last three years may be attached</b> )	
13	Details of Manpower available with the bidder	<b>Use separate sheet to furnish the list</b>
14	Details of Equipment/ Tools/ Tackles available with bidder	<b>Use separate sheet to furnish the list</b>
15	Have you registered Under Employees Provident Fund (EPF) and Miscellaneous Provisions Act? If so, enclose copy of the registration certificate. Also provide a copy of the latest remittance, if any, made by your firm towards EPF.	
16	Have you registered under Employees State Insurance Corporation Act (ESI) Act? If so, enclose copy of the registration certificate. Also provide a copy of latest remittance made by your successful bidder/ firm/ company	
17	GST Registration Number, ( <b>Self-attested copy to be attached</b> )	
18	Details of similar work, if any, executed or being executed along with address of the service receiver with contact number, value of the work. <b>Enclose a copy of the work order along with performance certification.</b>	<b>Use separate sheet to furnish complete details in Appendix-B format.</b>

- ✓ I / we hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct.
- ✓ I / we have furnished all information and details necessary for deciding our eligibility to be qualified for taking part in the tendering process for the work. We have no further information to supply.
- ✓ I/We also authorize the Director, NIT Tiruchirappalli or his representative to approach individuals, firms and corporations to verify our competence and general reputation.

**Authorized signatory of Bidder with Seal**

Name.....

Designation.....

**ESTATE MAINTENANCE DEPARTMENT/ELECTRICAL**

**INSTRUCTION TO TENDERERS**

1. Average Annual financial turnover during the last **3 years**, ending 31<sup>st</sup> March of the previous financial year, should be at least **30% of the estimated cost**.
2. Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: -
  - a. **Three similar completed works costing not less than the amount equal to 40% of the estimated cost. or**
  - b. **Two similar completed works costing not less than the amount equal to 50% of the estimated cost. or**
  - c. **One similar completed work costing not less than the amount equal to 80% of the estimated cost.**
3. Definition of “similar work”.  
Similar work means execution of LT works/Fuse of calls in educational institution/Private/Public sector.  
  
In addition to above, the criteria regarding satisfactory performance of works, personnel, establishment, plant, equipment etc. may be incorporated according to the requirement of the Project.
4. The bidder should possess a valid Electrical Contractor’s license grade **ESB or higher grade license** issued by Tamilnadu Electrical Licensing board. If he possesses any other license issued by other State Governments, the same has to be endorsed by Tamilnadu Electrical Licensing Board.
5. The tender value includes cost of Electricals and civil materials and all other related material required for completion of the work.
6. Time is the essence of the contract. Being a time bound project, the contractor should make all efforts to complete the work in time.
7. Even though the overall completion period is indicated as **90 days**, the work shall be completed progressively and handed over as per agreed split up schedule if any.
8. The tenderers are advised to visit the site and get themselves acquainted with the site conditions before submitting the offer.
9. Tender quantity is only approximate and liable for variation without entitling the tenderer to any compensation, till the total value of contract vary by more than 30% (thirty percentage).
10. Quoted rate shall remain valid for a period of 90 days from the date of tender opening for the release of work order and will be firm throughout the contract period of **90 days** or till completion of work, once awarded and no cost escalation is allowed on any account.

11. The item rate offered is for finished item of works and shall provide for the complete cost towards fuel, tools, tackles, plant & machinery, temporary works, labour, materials, levies, taxes, transport, lay-out, repairs, rectifications, maintenance till handing over, supervision, labour colonies, establishment, services, roads, revenue expenses, overheads, profits & all other incidentals etc., complete. Rate quoted shall include all royalties, terminal taxes, Octroi duties, Central or Provincial Excise Tax, Sales Tax and any other taxes leviable under the State or Central Government rules. NITT will not entertain any claim whatever in this respect. **The applicable GST can be reimbursed by NITT along with the running / final bill on production of documentary evidence by the agency for having paid the GST to the authorities concerned.**
12. Some changes are likely in the quantities furnished as well as in the layout, design and specifications of the work. The rates quoted shall be deemed to be inclusive of all such contingencies
13. **Liquidated damage :** Liquidated damage due to delay in completion of works shall be levied .In case of delay in completion of works beyond the contract period as stated in the work order penalty @ 0.5% of the total value of contacts /week and subject to maximum of 5%, of the total value of the contract will be levied.
14. The work shall be carried out as per drawings released then and there, Electricity act 2003 and its amendments BIS/CPWD specifications, standard code of practice and as per the instructions of Engineer-in-charge. The brief description of items of work is given in the bill of quantities. **Tenderer has to quote rates both in figures and in words for all the items given in the Bill of Quantities provided in the Price Bid.**
15. For any item of work not covered in Bill of Quantities, the rate will be arrived at based on the procedure given in CPWD manual.
16. Since the responsibility for the quality, workmanship and accuracy of any work being carried out under this contract lies with the contractor, the contractor should ensure that no work is done without the presence of contractor's representative at the work spot, whose strength depends on the value of contract awarded. The contract should arrange for surveying construction site at his own cost.
17. The decision of Engineer-in-charge shall be final and binding on the contractor  
Regarding clarification of items in this tender schedule.
18. The works contract to be entered into with the successful tenderer will be governed by the CPWD Works Manual in force.
19. The contractor shall strictly adhere to various labour laws in force.
20. To safeguard the persons working at height in roof, wall etc., sufficient number of Industrial Safety nets shall be provided at tenderer's cost in appropriate level and locations. The working hand including Supervisors, Engineers should wear the personal protective items and safety measures such as helmets, safety belts, shoes, etc., before entering into working place.

21. The tenderer has to deploy adequate labour of required categories such as Electrician, Wireman, Foreman, Supervisor, Technically experienced, etc. so as to execute the works simultaneously in all areas of work.
22. Expertise labour and work experienced persons only to be engaged for specialized items of work like laying of cables ,erection of transformer, DGs, HT & LT panels, cable terminations and cable joint kit etc.
23. The contractor shall follow norms of NITT security system for movement of men & materials within the campus.
24. All the works shall be executed as per the standard specifications as provided in CPWD / BIS/Electricity act 2003 and its amendment.
25. All the materials to be used in the work and the nature of work shall conform to the respective CPWD & BIS and National Building Organization, Standard Specifications forming part of "DELHI STANDARD SCHEDULE OF RATES" specifications and shall be got approved by the Engineer-in-charge before actual incorporation in the work.
26. All materials brought by the Contractor for incorporation in the work shall be got inspected and approved by the Engineer-in-charge before they are incorporated in the work and submitted with bills.
27. All safety measures are to be followed during execution of work, particularly during blasting and only licensed blaster should be engaged for this purpose. Sufficient care shall be taken by the contractor during excavation to avoid damages to the buried pipe lines, cables and other infrastructure if any etc. Controlled blasting including muffling can be carried out with prior permission from safety department. Damages caused if any shall be rectified at contractor's risk and cost.
28. The contractor should extend fullest co-operation with the third party agencies engaged, if any by NITT, to adhere the Quality Control Procedures ensuring quality.
29. The contractor should extend full co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty.
30. Tenderers are requested to furnish the duly filled in payment format attached as separate sheet along with a cancelled cheque leaf to accept Electronic fund transfer / R T G S transfer for any payment from NITT, Trichy.
31. No advance / mobilization advance will be given.
32. LD/penalty clause applicable as per CPWD works manual in force.
33. NITT reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract awarded against a different Tender.
34. The tenderer has to ensure payment of Minimum Wages as per Central rules and Minimum Wages as applicable under law from time to time.
35. Also the labourers shall be paid a minimum bonus which shall be 8.33% as per the payment of Bonus Act 1965 for the total wages paid.

36. The Contractor shall have to remit EPF & ESI contributions at the rates applicable under law to the authorities concerned for the total wages paid / abide by BOCW Act / Coverage in Group Insurance Scheme / All Risk Policy.
37. Rate for each item should be quoted in FIGURES and in WORDS. In case of any difference in the rates quoted in figures and in words, the lower of the two rates will be taken as the tendered rate. Unit rate quoted shall be the basis for arriving the total value of the tender. The total amount for every item shall be arrived by multiplying the unit rate with the quantity indicated for that item. In case of any arithmetic deviation is noticed in the total amount, the same will be corrected and evaluated by taking unit rate as basis and multiplying with the quantity indicated.
38. Tenders received after the due date and time of opening, will not be accepted.
39. The contractor's responsibility under this contract shall commence from the date of receipt of the LOI by the tenderer. The scheduled period of completion for this work is as mentioned in page No. 01, and the Contractor will have to plan his work accordingly.
40. Generally, the maintenance period for any work under NITT will be SIX (6)MONTHS from the date of completion
41. All the documents shall be duly signed with seal in all pages and placed in a common sealed cover duly superscripting the **Name of Work, Tender reference & Date of opening** and submitted.
42. Tenderer should furnish the RATE in the enclosed tender "Price Bid" and shall be duly signed with seal in all pages and placed in a separate sealed cover duly superscripting the cover "PRICE BID".
43. The Demand Draft towards Document cost & EMD along with complete tender document consisting Technical qualification details but excluding price bid shall be placed in a separate cover duly superscripting the cover "Technical Bid". Tender without EMD or document cost will be rejected.
44. Totally there will be 2 Separate sealed covers. One cover containing Document cost, EMD and the tender documents containing Technical Qualifications and the other containing the "Price Bid" both the contents duly signed with seal in all pages.
45. Both the above 2 Covers shall be placed in a Common Sealed Cover and submitted before the said due date as given above superscripting the tender No. & Date and Due Date.
46. Any deviation to this tender terms & condition and schedules of this tender will cause total rejection of the offer submitted
47. Incomplete offers will become liable for rejection.
48. Tender addressed to **The Director, NIT, Tiruchirappalli-620 015** will be received up to 15.00 Hrs **at the office of the Registrar** as per the schedule of tender notice and will be opened at 15.30 Hrs in the presence of those who may choose to attend the tender opening.
49. Tender submitted by post should be sent superscripting "**Register Post with Acknowledgement Due**". These should be posted with due allowance for any postal delay. Tender received after due date and time of opening tenders, will be rejected and NIT, Trichy will not be responsible for any postal delay or tender may be put into tender box.





55. Tenderers shall not increase their quoted rate in case NITT, negotiates for reduction of rate. Such negotiation shall not amount to cancellation or withdrawal of the original offer and the rate originally quoted shall be binding on the tenderers for a period of three months from the date of opening of tenders.
56. Canvassing in any form in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
57. All entries in the tender documents should be in one ink. Erasers and over writings are not permitted. All cancellations and insertions should be duly attested by the tenderer concerned.
58. TENDERERS should fill in all the required particulars in the blank spaces provided for this purpose in the tender documents and also sign each and every page of Tender Documents including the drawings attached there to, before submitting their tender.
59. Conditional and Un witnessed tenders, tender containing absurd rates and amounts tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions laid down by the Accepting Officer are liable to be rejected.
60. Tenders not submitted on the prescribed form are liable to be rejected.
61. This tender notice shall be deemed to form an integral part of the contract to be entered into for this work.
62. The tenderers are advised to go through the condition stipulated in Tender document & code of conduct for 'Safety of Contract Labourer' in details. Any violation thereof will invite punitive action being taken against them. While quoting the rate all the above factors are to be taken into account.
63. **Agency registered with NSIC is exempted from payment of tender document cost & Earnest Money Deposit but required to attach the attested copy of registration indicating the company name, address, registration number, validity & product for which registered in the technical bid,. Any deviation in the certificate on product or validity or name of the company tendering, will attract rejection resulting non-opening of respective price bid.**
64. **Payment Terms :** Payments will be made in 45 days after satisfactory completion of service if the documents are in order .
67. **Compensation for Delay:**

If the contractor fails to maintain the required progress or to complete the work and clear the site on or before the contracted or extended period of completion, he shall, without prejudice to any other right or remedy of the NITT on account of such breach, pay as agreed compensation an amount calculated as stipulated below or such smaller amount as may be fixed by the NITT on the contract value of the work for every week that the progress remains below or that the work remains incomplete. This will also apply to items or group of items for which separate period of completion has been specified.

For this purpose the term 'Contract Value' shall be the value at contract rates of the work as ordered and the compensation for delay is by way of recovery at 1 percent of contract value per week of delay provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the contract value or of the contract value of the item or group of items of work for which a separate period of completion is given.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the NITT.

**68. Arbitration :**

Except where otherwise provided for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions hereinbefore mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the work or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Director of NITT and if Director is unable or unwilling to act, to the sole arbitration of some other person appointed by the Director, willing to act as such arbitrator. The cases referred to arbitration shall be other than those for which the decision of the Estate Officer / Engineer-in-charge is expressed in the contract to be final and conclusive. There will be no objection if the arbitrator so appointed is an employee of NITT and that he had to deal with the matters to which the contract relates and that in the course of his duties as such he had expressed views on all or any of the matters in dispute or difference.

The arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, Director as aforesaid at the time of such transfer, vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. Subject as aforesaid the provision of the Arbitration & Reconciliation Act, 1996 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of the contract that the party involving arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.

The arbitrator(s) may from time to time with consent of the parties enlarge the time for making and publishing the award.

The work under the Contract shall, if reasonably possible, continue, during the arbitration proceedings and no payment due or payable, to the Contractor shall be withheld on account of such proceeding.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the Parties fixing the date of first hearings. The arbitrator shall give a separate award in respect of each dispute or difference referred to him. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion. The award of the arbitrator shall be final, conclusive and binding on all parties to this contract.

In the event of disputes or differences arising between one public sector enterprise and a Govt. Department or between two public sector enterprises the above stipulations shall not apply or its amendments for arbitration shall be applicable.

**69. Force Majeure clause:** If at any time during the continuance of this contract the performance in whole or in part by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events) then provided notice of happening of any such events is given by either party to other within twenty one days from the date of occurrence thereof neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non-performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by NITT subject to prompt notification by the tenderer to NITT of the particulars of the events and supply to the NITT if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

The correspondence exchanged against the tender from both tenderer and NITT through email are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business.

Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the patties to the business.

In case Letter of Intent (LOI) is issued through email, the PC generated time and date of mail shall be construed as the official time and date of release of LOI. In as much as this date is within the last date of validity given by the tenderer the LOI is said to have been issued within the validity period and shall be bidding on both the parties to the business.

Tenderers participating in the tender should declare in their technical bid that whether they have been black-listed / kept on hold for a specified period / given Business holiday for a specified period by any Public sector undertaking or Government departments. The reasons for such action with details and the current status of such hold shall be clearly furnished to NITT. If no such details are mentioned in the offer then it will be construed that the subject tenderer is not under any such hold. But at a later date if it comes to the notice of NITT about any such hold under enforcement on the subject tenderer, NITT will have every right to reject the offer of such vendors at any point of time and also under any stage of the finalization of the subject tender irrespective of the status of the subject tenderer in that tender. Such

tenderers will not be permitted to participate in the further tender proceedings and will be communicated suitably. They will not be also considered for any ongoing tenders even if participated till the hold is officially lifted and confirmed in writing.

**70. Undertaking regarding EPF provision :** "I.....  
.....Son of.....  
.....Resident of ..... hereby give an undertaking that  
\* I/We have employed only ..... persons in our establishment and hence the EPF and Miscellaneous provisions Act, 1952 is not applicable to my /our establishment.  
\* I/ We have registered as per the EPF and Miscellaneous provisions Act, 1952 and our registration no is ..... We undertake to keep it valid during the currency of contract.  
In case at any stage, it is found that the information given by me is false / incorrect, NIT shall have the absolute right to take any action as deemed fit/without any prior intimation to me".  
\* strike out whichever is not applicable.

## **GENERAL CONDITIONS OF CONTRACT**

1. No night work will be permitted without the written permission of the Engineer – in – charge.
2. Items of work other than those mentioned in the Bill of Quantities (Tender Schedule) attached hereto will be carried out at the rates to be fixed by this organization as per relevant clauses of CPWD Works Manual.
3. Permission for erection of temporary work sheds etc., at site will have to be obtained from NITT in writing in advance.
4. The works contract to be entered into with the successful tenderer will be governed by the CPWD works Manual 2012 or the latest in force.
5. The successful tenderer / Contractor shall observe all safety regulations and take necessary safety precaution as called for and Safety Precautions enclosed herewith.
6. In all matters of dispute, the decision of the Director, National Institute of Technology, Tiruchirappalli -620 015. Shall be final and binding on the tenderer / contractor.
7. Some changes are likely in the quantities furnished as well as in the layout, design and specifications of the work. The rate quoted shall be deemed to be inclusive of all such contingencies.
8. All the materials to be used in the work and nature of work shall conform to respective CPWD, BIS and National Buildings Organisation Standard Specifications and shall be got approved by the Engineer – in – charge before actual incorporation in the work.
9. All materials brought by the Contractor for incorporation in the work shall be got inspected and approved by the Engineer-in-charge before they are incorporated in the work
10. Engineer in charge / Civil or his duly authorized representative shall have all reasonable times access to Contractor's premises of work and shall have the power at all the reasonable times to inspect and test any portion of the work or examine the materials and workmanship of the structures during their manufacture and test. The contractor shall give due notice in writing to the Inspecting Engineer of NITT when the materials supplied to be incorporated in the work are ready for Inspection and test. No material shall be incorporated in the work until the inspecting Engineer certified in writing that such materials have been inspected and approved by him or else the rejected material should be removed from site immediately.
11. The Contractor shall closely scrutinize all the drawings issued in connection with the work by this organization and bring to the notice of the Engineer-in-charge if any discrepancies, omissions in the drawings before undertaking the actual work pertaining thereto.
12. The contractor should submit in advance every fortnight a detailed programme of work to be undertaken from time to time strictly in conformities with the "Time and Progress Chart" covering the entire constructed work and reschedule them wherever necessary during the progress of the work so as to achieve the target set.
13. The contractor should extend full co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty.

## **GENERAL SAFETY PRECAUTIONS TO BE FOLLOWED AT WORK SITE DURING EXECUTION**

The following safety measures should be strictly adhered to, during execution of works at sites.

1. Providing the working platform with toe board and handrail for continuous working at heights.
2. Providing safety belt and life line at all times for men working at heights.
3. Providing dust or fume respirator in places where dust and fume concentration exists.
4. Providing goggles and welding screens.
5. Providing acid and alkali proof rubber gloves for handling acid and alkali and chemical which are corrosive.
6. Providing rubber gloves for working on electrical works.
7. Ensuring proper lashing of the components while being transported in vehicles.
8. The vehicles must have side supports or have body to support the materials conveyed.
9. The materials should not be allowed to extend or overflow the sides of the vehicles.
10. Materials should not be allowed to overhang from the rear edge of the body of the vehicle.
11. Driver of the vehicle must possess license.
12. Vehicle must not be overloaded prescribed limits.
13. Red flags and lights for parts projecting from the body of vehicle must be provided.
14. The speed restrictions within the Institute must be strictly adhered to.
15. The gas cylinders must be always handled on trolleys or kept tied down not in use. They should never be rolled as Roller for conveying.
16. Cylinders should not be used without regulators.
17. All excavations must be barricaded and red lamps must be provided.
18. All electrical connections must be properly earthed.
19. Providing helmet, safety belt, etc., for high level work and sufficient number of Industrial Safety nets at appropriate level to safeguard the persons working at high level particularly in roofing etc.,
20. All personal protective equipment conform with standard specification and Contractor including their sub-contractors, agents and labour engaged on the work are required to scrupulously adhere to the safety regulations, safety precautions and measurers. Any violation thereof will invite punitive action being taken against them. Also contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

## **SAFETY PRECAUTIONS TO BE OBSERVED WHILE TRANSPORTING MATERIALS**

### **I. VEHICLE**

1. Vehicles carrying material should have proper registration documents and must be produced on demand by our Security Staff.
2. The light on right side, i.e., over the driver's cabin shall be in working condition.
3. Both the head lights as well as park lamps must be in working conditions.

### **II. MOVEMENT OF VEHICLE**

1. The vehicle should not travel at more than 20 km.ph in our premises.
2. The Driver of the vehicle must possess heavy duty license and produce on demand by the Security Staff.
3. Vehicles carrying inflammable liquids in the tank containers should have grounding chain or the tank should be coated with insulating material also to avoid Static Electricity.
4. In road junctions, speed breakers and railway crossing, the speed should be lowered and vehicle should proceed cautiously.
5. The driving should 'KEEP TO THE LEFT' at all places.
6. The vehicle should not be parked in road which could obstruct the vehicular traffic.
7. No person other than driver should be allowed to sit or stand on the prime mover or trailer.
8. The vehicle should pass only through the approved routes. Short cuts should be forbidden.
9. There must be a safe distance behind another moving truck.
10. The driver should avoid making quick starts, jerky stops or quick turns at excessive speed.

## **TERMS AND CONDITIONS REGARDING COMPLIANCE WITH VARIOUS LABOUR LAWS BY THE CONTRACTORS FOR NITT**

1. The Contractor shall not employ in connection with the work any person who has not completed 18 years of age.
2. The Contractor shall in respect of labour employed by him either directly or through subcontractors, comply with or cause to be complied with the following statutory provisions and rules and in regard to all matters provided therein.
  - a) The Contract Labour (Regulation & Abolition) Act 1970
  - b) The Minimum Wages Act 1948 and related Central Rules.
  - c) The Payment of Wages Act 1936 and related Central Rules.
  - d) The Employee's Provident Fund & Miscellaneous Provisions Act 1952.
  - e) The Employees State Insurance Act 1948.
  - f) The Workmen Compensation Act 1923.
  - g) The Industrial Disputes Act 1947.
  - h) The payment of bonus act 1965And any other law or modifications to the above or to the Rules made thereunder from time to time.
3. The Contractor employing 20 or more workmen is required to obtain license from the authorities (The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). The license shall be amended and / or renewed wherever, there is an increase in the workmen employed by him or in the event of contract being extended or renewed. The Contractor shall inform the license number to the NITT Management before taking up the work.
4. The Contractor (Licensed or unlicensed) shall promptly furnish every information and document required by NITT authorities for the purpose of fulfilling their obligations as Principal Employer and shall render all necessary assistance for the same.

### **WAGES**

5. The Contractor shall pay wages to the workmen employed by him at the rate which shall not be less than the minimum wages applicable under Law from time to time.
6. The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall exceed one month.
- 7.
8. The Contractor shall ensure payment of wages to the contract labour employed by him within three days from the end of wage period in case the wage period is one week or a fortnight and in all other cases before 7<sup>th</sup> day of the following month.
9. All Payment of wages shall be made on working days at the work site and during the working time and on date notified in advance. In case the work is completed before the expiry of the wage period final payment shall be made within 48 hours of the last working day.



10. Where the employment of any worker is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the second working day from the day on which his employment is terminated.
11. Wages due to every worker shall be paid to him direct or to the person authorized by him in this behalf. All wages shall be paid in current coin or currency in both.

#### **REGISTERS & RECORDS: -**

11. The Contractor shall maintain all registers and records in the proper manner and as required by the regulations of the various authorities concerned and indemnify the Employer from the consequences due to any inaccurate or faulty documentation on the part of the Contractor.

#### **POST TECHNICAL AUDIT OF WORK AND BILLS:-**

12. NITT reserves the right to carry out the post-payment Audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and enforce recovery of any sum becoming due as a result thereof in the manner provided in the presiding sub-paragraphs. Such recovery shall be enforced any time even after passing the final bill.

#### **SUBMISSION OF BILLS BY CONTRACTOR: -**

13. a) The contractor has to submit the bill in their Invoice form with GST No, Invoice Serial No and other details as per Annexure-2 in the Tender document.
- b) The Contractor at the end of each month shall submit a bill in triplicate, if required, detailing the various items of work done during the month supported by the requisitions issued from time to time. The Contractor shall, once in every month, submit to the EO / EMD separately details of his claims for the work done by him up to and including the previous month which are not covered by his contract agreement in any of the following respects:
  - a) Deviation from the items provided in the contract documents.
  - b) Extra items / new items of work.
  - c) Items in-respect of which rates have not been settled. He should in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of the work done upto and including the period under report.

#### **PAYMENT OF BILLS:-**

14. All payments to be made to the Contractor, under this contract shall be by NEFT or RTGS within a reasonable time, after the certification of bills by the execution department.

**RECOVERY FROM CONTRACTOR:-**

15. Whenever under the contract, any sum of money, shall be recoverable from or payable by the Contractors, the same may be deducted from or any sum then due or which at any time thereafter may become due to Contractor under the contract or under any other contract with NITT or from his Security Deposit or he shall pay the claim on demand.

**CANCELLATION OF CONTRACT FOR CORRUPT ACTS:-**

16. NITT, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued shall accrue thereafter to NITT cancel the contract in any of the following cases and the Contractor shall be liable to make payment to NITT for any loss or damage resulting from any such cancellation to the same extent as provided in the case of cancellation for default,

If the Contractor shall:-

- a) Offer or give or agree to give to any person in NITT service any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for borne to do any act, in relation to the obtaining or execution of this or any other contract for NITT service,
- OR
- b) Enter in to a contract with NITT in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to NITT.
- OR
- c) Obtain a contract with NITT as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to NITT.

**CANCELLATION OF CONTRACT FOR INSOLVENCY ASSIGNMENT OF TRANSFER OR SUB-LETTING OF CONTRACT:-**

17. NITT, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to NITT shall cancel the contract in any of the following cases:

If the Contractor,

- (a) Being an individual or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order for administration of his estate, made against him or shall take any proceedings for liquidation or composition under any bankruptcy Act or assignment of his effects of composition or arrangement for the benefit of his creditors or purport to do so, or if any application made under any

Bankruptcy Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors

OR

- (b) Being a Company, shall pass a resolution or the Court shall make an order for the liquidation of its affairs, or a receiver or Manager on-behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager,

OR

**CONTRACTOR**

18

**ACCEPTING OFFICER**

- (c) Assigns, Transfers, Sub-lets or attempts to assign, transfer or sub-let any portion of the work without the prior written approval of the NITT.
- (d) Whenever NITT exercise the authority to cancel the contract under this conditions, NITT may have the work done by any means at the Contractor's risks and expenses provided always that in the event of the cost of the work so done (as certified by Engineer in charge which is final and conclusive) being less than the contract cost, the advantage shall accrue to the NITT and if the cost exceeds the money due to Contractor under the contract, the Contractor shall either pay the excess amount ordered by Estate Maintenance Dept. or the same shall be recovered from the Contractor by other means.
- (e) In case the NITT carries-out the work under the provisions of this condition the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plants and/or labour provided by the NITT with an addition of such percentage to cover superintendence and establishment charges as may be decided by Estate Maintenance Dept., whose decision shall be final and conclusive.

**CANCELLATION OF CONTRACT IN PART OR FULL FOR CONTRACTOR'S DEFAULT:**

18. If the Contractor:

- (a) makes default in carrying out the work as directed and continues in that state after a reasonable notice from Engineer in charge or his authorised representative
- (b) fails to comply with any of the Terms and Conditions of the contract or after reasonable notice in writing with orders properly issued thereunder
- (c) NITT, may without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to NITT, CANCEL the contract as whole or in part thereof or only such work order or items of work in default from the contract. Whenever NITT exercise the authority to cancel the contract as whole or part under this condition NITT may complete the work at the contractor's risk and cost (as certified by Engineer in charge, which is final and conclusive) being less than the contract cost, the advantage shall accrue to the NITT. If the cost exceeds the moneys due to the Contractor under this contract the Contractor shall either pay the excess amount ordered by Estate Maintenance Dept. or the same shall be recovered from the Contractor by other means. In case the NITT carries out the work or any part thereof under the provisions of the conditions the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plant and/or labour provided by the NITT with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the Engineer in charge, whose decision shall be final and conclusive

**TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR. :-**

- 19. Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, or if the firm is dissolved or the company is liquidated, NITT shall have the option of terminating the contract without compensation to the Contractor.

**SPECIAL POWER TO TERMINATION:-**

20. If at any time after the award of contract, NITT shall for any reason whatsoever not require whole or any part of the work to be carried out the Engineer in charge shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the fore-closing of the work.

**LABOUR:-**

21. The Contractor shall remain liable for the payment of all wages or other moneys to his work-people or employees under the payment of Wages Act 1936, Employees Liability Act. 1938, Workmen's Compensation Act 1923 or any other Act or enactment, relating thereto and rules framed, thereunder from time to time.

**PRECAUTIONS AGAINST RISK:-**

22. The Contractor shall be responsible for providing at his own expense for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose.

**23. Rate for additional item / substituted item:**

This will be as per the rate analysis based on the market rate for material and labour prevailing at the time of execution at place of work as ascertained by Engineer in charge raised to the overall tender percentage at which the work was awarded to cover overheads / establishment/ profit.

**24. Corrigendum / Amendment:**

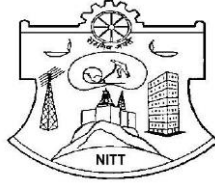
It is tenderer's responsibility to watch for any corrigendum or amendment till the opening of a particular tender that will be posted only at NITT web site.

# NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI – 15

Web : [www.nitt.edu](http://www.nitt.edu)

Phone : 0431 –250 3840

**ESTATE MAINTENANCE DEPARTMENT/ELECTRICAL**



## TENDER DOCUMENT (PRICE BID)

Name of work	:	Replacement of existing PL 36W blub into LED lights at CSG and CA Depts.& pdg power to computer with UPS connections at MTB 305 & 314 in prod Dept. and various machines to Ojas 128A in Ojas building.
Value of Work	:	₹ 9,49,865/-
Tender Enquiry No	:	52/17-18
Period of Contract	:	90 days.
Tender Enquiry No	:	<u><a href="#">EMD/EO/ELE/tender notice//Enq.No:52/17-18</a></u>

CONTRACTOR

21

ACCEPTING OFFICER

**SCHEDULE 'A'**

**LIST OF WORKS AND PRICES**

**NAME OF WORK:**

DETAILS & QUANTITIES of each item of work shown in the BILL OF QUANTITIES are only approximate. They are given as a guide for the purpose of tendering only and are liable to variation and alteration of the Competent Authority. The work under each item as executed shall be measured and priced at the corresponding rate quoted by the contractor in the BILL OF QUANTITIES

Sl.No.	Description of work / supplied	Total amount of work (in figures and words) Rs. Ps.	Period of contract
1.	-----	----- Lakhs (Rupees ----- Lakh and - ----- only)	----- MONTHS

**BILL OF QUANTITIES**

Sl. No.	Appx. Qty.	Description of work	TNBP No.	Rate (Both in Unit fig & Words)	Amount Rs. Ps.
---------	------------	---------------------	----------	---------------------------------	-------------------

AS PER SEPARATE SHEETS ATTACHED CONTAINING 2 PAGES

FROM SERIAL No. 25 to 29

Contract Agreement No.....

**TENDER**

To

The Director,  
National Institute of Technology  
TIRUCHIRAPPALLI –620 015.

I / We hereby offer to carry out the work of

I / We hereby carefully perused the following documents connected with the above noted work and agree to abide by the same.

- 1.Specifications (General & Particular )
- 2.Drawings
- 3.Schedule ‘A’,
- 4.Bill of Quantities
- 5.CPWD works Manual in force.

I / We forward herewith the sum of Rs.....as Earnest Money, which shall be refunded should this tender be rejected. I / We further agree to deposit such sum which along with the sum of Rs.....mentioned above shall make up 50% of the fully Security Deposit for this work as provided for under conditions of the NATIONAL INSTITUTE OF TECHNOLOGY General Conditions of Contract.

I / We further agree to execute all the work referred to in the said documents upon the terms & conditions contained or referred therein and as detailed in Schedule ‘A’ and Bill of Quantities thereto and to carry out such deviations as may be ordered, vide conditions of the NITT upto a maximum of 30% of the tendered amount of Rs.....

I / We further agree to refer all disputes, as required to the sole arbitration of an Officer, to be appointed by the Director, NITT., in his sole discretion whose decision shall be final and binding.

**WITNESS**

Signature of the Contractor

Date :

1. ....

2. ....





## SCHEDULE OF WORK

State Tamil Nadu Enq No: 52

Branch Electrical

Division EMD

Sub-Division EMC

Name of Work : Replacement of existing PL 36W blub into LED lights at CSG and CA depts.& pdg power to computers with UPS connections at MTB 305 & 314 in Prod dept. and various machines to Ojas 128A in Ojas building.

ITEM No	SUB-HEADS AND ITEM OF WORK	QUANTITY	UNIT	RATE (Rs)	RATE (In Words)	AMOUNT(Rs)
1	WIRING					
1.1	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC					
1.1.1	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	10	Metre			
1.1.2	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	10	Metre			
1.2	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
1.2.1	5/6 amps switch	60	Each			
1.2.2	15/16 amp switch	18	Each			
1.2.3	3 pin 5/6 amp socket outlet	59	Each			
1.2.4	6 pin 15/16 amp socket outlet	18	Each			
1.3	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as	60	Each			
1.4	DLP plasticTrunking wiring (Make: Legrand/MK)					
1.4.1	DLP Pastic Trunking 105x50mm and accessories Flexible cover 40mm width-1No, Flexible cover 85mm -1No, Joints for cover 40 mm width-1No, Joints for cover 85mm width-1No, Basejoint-25Nos, Clips-15Nos, Separation partition-1No, Endcap-1No, Internal angles-adjustable from 80 degr - 120 deg - 1No, VDI accessories for internal angles-1No, VDI accessories for external angles -1No, Flat angles -1No, VDI accessories for flat angles-1No, Flat junctions-1No, Flat junctions for specific size-tap off to an 80mm wide branch - 1No, VDI accessories for junctions -1No, Wall crossing -1No, Capacity change -1No, Capacity change-1No, partition junction	180	metre			

ITEM	SUB-HEADS AND ITEM OF WORK	QUANTIT	UNIT	RATE	RATE (In Words)	AMOUNT(Rs)
1.5	DLP Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor. single core cable in surface/ recessed as					
1.5.1	2 X 4.0 sq. mm + 1 X 4.0 sq. mm earth wire	180	metre			
1.5.2	2 X 6.0 sq. mm + 1 X 6.0 sq. mm earth wire	80	metre			
1.5.3	4 X 6.0 sq. mm + 2 X 6.0 sq. mm earth wire	30	metre			
1.6	"Supplying of following size ISI marked Module Arteor frame for fixing swiches or sockets in DLP plastic trunking wiring of 1.1 KV grade as required. "					
1.6.1	3 Module Arteor frame for 85 mm cover	12	each			
1.6.2	4 Module Arteor frame for 85 mm cover	17	each			
1.6.3	8 Module Arteor frame for 85 mm cover	24	each			
	Sub-Total					
2	MCCB, MCB & DB'S					
2.1	Providing and fixing following rating and breaking capacity and pole MCCB in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as					
2.1.1	4 pole 200A, 36 KA	2	each			
2.2	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, 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)					
2.2.1	2 + 8 way/ 10 way , Double door	3	Each			
2.3	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volts, 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)					
2.3.1	8 way (4 + 24), Double door	1	Each			

ITEM	SUB-HEADS AND ITEM OF WORK	QUANTIT	UNIT	RATE	RATE (In Words)	AMOUNT(Rs)
2.4	Supplying and fixing following way prewired vertical type TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box of sheet steel, dust protected, duly powder painted, inclusive of 250A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's, terminal connectors for all incoming and outgoing circuits, duly prewired with adequate size of FRLS PVC insulated copper conductor upto the terminal connector/ neutral link, earthing etc as required (But without MCCB/ RCCB/ Isolator). (Note: Prewired vertical type MCB TPDB is normally used where 3 phase outlets are required.)					
2.4.1	12 way Double door	1	Each			
2.5	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections. testing and commissioning etc. as required.					
2.5.1	Single pole	22	Each			
2.5.2	Double pole	4	Each			
2.5.3	2-4 Pole enclosure box only	2	each			
2.6	Supplying and fixing 32A, 415 volts, 3P +N+E-FP industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top along with 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	3	Each			
2.7	Supplying and fixing of following rating,double pole,240 volts,Isolator/MCB in the existing MCB/DB complete with connections.testing and commissioning etc.as required.					
2.7.1	Double pole 40-63A MCB	16	each			
2.8	Supplying and fixing of following rating,Three/four pole,415 volts,Isolator/MCB in the existing MCB/DB complete with connections.testing and commissioning etc.as required.					
2.8.1	Four Pole 80A MCB	1	each			
2.8.2	Four Pole 100A MCB	4	each			

ITEM	SUB-HEADS AND ITEM OF WORK	QUANTITY	UNIT	RATE (Rs)	RATE (In Words)	AMOUNT(Rs)
2.9	Supplying and fixing FP sheet steel enclosure on surface/ recess along with following amps 415 volts "C" curve FP MCB complete with connections, testing and commissioning etc. as required.					
2.9.1	Four pole MCB 40-63A with enclosure.	4	each			
	Sub-Total					
3	EARTHING					
3.1	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	25	Metre			
3.2	Supplying and fixing cosmos earthing electrode systems.					
3.2.1	COSMOS ROMA 40mm DIA 2 Mtrs LENGTH WITH MOISTURE ENHANCER 25 Kg.	1	each			
	Sub-Total					
4	FABRICATION OF CUBICLE BOARDS/LADDER/SOLAR STRUCTURE					
4.1	Manufacturing, Supplying, installation, testing and commissioning of MCCB DB, MCB DB enclosure feeder pillar type cubicle type fabricated out of 2.2 mm thick MS sheet free standing totally enclosed dust and verminproof and locking arrangement of the board and providing and fixing following switch gears with cable entry boxes for both incoming and outgoing cables termination, glands, interconnection, connections, powder coated painting, earthing etc., as required.					
4.1.1	Essential supply Pannel size 1000mm x 500 mm x 250mm mm deep (Nominal) a) 4 strip copper bus bars of suitable capacity b) Direct connected (Whole current), 3Phase 4Wire, 230/240V (P-N), 400/415V (P-P) with RS 485 port c) 160A, 4P, 36kA MCCB Thermal Magnetic release-1No d) CT'S, 200/5 - 3Nos e) R, Y, B LED indicators -3Nos f) Toggle switch -3Nos g) wiring charges -3Nos	1	each			
	Sub-Total					

ITEM	SUB-HEADS AND ITEM OF WORK	QUANTITY	UNIT	RATE (Rs)	RATE (In Words)	AMOUNT(Rs)
5	SUPPLY OF ELECTRICAL ITEMS					
5.1	Repairing and painting works.					
5.1.1	Removing of switch bords/DBs/light fittings/Fuse control box from wall works	18	each			
	Sub-Total					
6	Supplying of Cables.					
6.1	Supplying and fixing of following size ISI marked PVC insulated and PVC unsheathed copper single core and multi-core shaethed bright annealed bare copper flexible cables for voltage grade 1.1 KV grade as required.(Make:Finolex,Gloster,Havells and Polycab)					
6.1.1	6x4sqmm	60	metre			
	Sub-Total					
7	Supply of Light Fixtures with Lamps					
7.1	Supply and fixing of indoor decorative LED fitting of high efficincy luminaire range suitable for recessed/surface mounting in moudular ceiling with 600 x 600/300X300/round type/down light module and extemely low hight of 50 mm. (Make: Crompton Greaves, philips etc)					
7.1.1	LED driver for 2 X 2 Light fitting Uin=240-, Fin=50hz, Iin=0.23A max,Pin=52W max ,PF(λ)=0.95 Typ.,Iout=0.60A,ULED=57-67V DC,Uout=115V DC max,ta=0-50°C,tc=+70°C	6	each			
7.2	Supplying and fixing of LED lightings.					
7.2.1	LED Tube LPLL-18-CDL	367	each			
	Sub-Total					
8	SUPPLY OF G.I PIPES AND ANGLES					
8.1	Supplying and erection of following size Medium class PVC pipe bended to required shape having threaded top end with chucknuts to fix in looping box, and fixing in pole coller /foundation as required.					
8.1.1	32 mm dia.PVC. pipe (medium class)	60	metre			
	Sub-Total					
	Total					