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Name of Work: RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi, During 2023-24

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NIT APPROVAL

Name of Work: - RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24

Head of Account :- Maintenance & Repair Of building :Electrical

Estimated Cost :- Rs. 3,45,42,727/-

Earnest Money :- Rs. 6,90,855/-.

Security Deposit :- 2.5 % of gross value of the Bill

Performance Guarantee :- 3% of accepted value of work

Time allowed :- 12 Months

NIT approved amounting to Rs.3,45,42,727/-(Rupees Three Crore Forty Five Lakh Forty Two Thousand Seven Hundred Twenty Seven Only)

Chief Project Officer

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE

(Applicable for inviting open bids)

The Chief Project Officer, Delhi Technological University, Bawana Road, Delhi on behalf of DTU invites online percentage rate bid in two bid system from approved and eligible contractors of CPWD enlisted in appropriate category/Class and those of appropriate list of M.E.S., BSNL, Railway, DDA and State PWD (B&R) in appropriate category/Class who fulfil the eligibility criteria for the following work (s): The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

Information and Instructions for bidders posted on website shall form part of bid document.

S. No.	NIT No.	Name of work & Location	Estimated cost put to tender	Earnest money	Period of completion	Last date & time of submission of bid. EMD, e-tender processing fee and other documents as specified in the Press Notice.	Time & date of opening of bid
1	2	3	4	5	6	7	8
1.	DTU/ENGG.CELL/2023-24	RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24	3,45,42,727/-	6,90,855/-	12 Months	Up to 03.00 PM On	At 03.30 PM On

- The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <http://govtprocurement.delhi.gov.in> free of cost.
- Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website
- The intending bidder must have valid class and above digital signature to submit the bid.
- On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the comparative bid sheets.
- Contractor can upload documents in the form of **JPG** format and **PDF** format.

List of Documents to be scanned and uploaded within the period of bid submission:

1. Earnest Money Deposit: Scanned copy of duly Stamped and Signed EMD.
2. Scanned copy of valid CPWD/DDA/MES/Railway registration certificate of appropriate class in electrical category /Composite Category.
3. Scanned copy of performance certificate from the client for successfully completed similar works preferably in Educational University/PSU's, semi-govt. for reckoning towards works experience during last seven years ending previous day of last date of submission of bid. **“RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24(Addition and alteration work or Special repair work for upgradation of Electrical work) ”**

The Specialized firms who fulfill the following requirements shall be eligible to apply. (Joint ventures are not accepted):

- a) Three similar work not less than 40% of estimated cost put on tender.
OR
 - b) Two similar work not less than 60% of estimated cost put on tender.
OR
 - c) One similar work not less than 80% of estimated cost put on tender.
4. Scanned copy of average annual financial turnover of 50% of the estimated cost during the last three consecutive years ending 31st March 2022. (Scanned copy of Certificate from CA to be uploaded). There is no need to upload entire voluminous balance sheet.
 5. Scanned copy of solvency of 50% of the estimated cost (Scanned copy of original solvency to be uploaded)
 6. Scanned copy of valid Electrical License.
 7. Certificate of Registration for G.S.T. and acknowledgement of up to date filed return.
 8. Works experience certificate as per 1 at page 5 of NIT as per proforma 'C' & 'D' at page No. 48 & 52 of NIT.

Note: However, certified copy of all the scanned and uploaded documents duly attested by Gazetted officer/ Notary Public as specified on above shall have to be submitted by the lowest bidder only within a week physically in the office of Executive Engineer, Engineering Cell, DTU, Delhi-110042.

Further details can be seen at <https://dtu.ac.in>

Chief Project Officer

CPWD-6 FOR E-TENDERING

The Chief Project Officer, DTU, Bawana Road, Delhi on behalf of DTU invites online percentage rate bid in two bid system from approved and eligible contractors of CPWD enlisted in appropriate category/Class and those of appropriate list of M.E.S., BSNL, Railway, DDA and State PWD (B&R) in appropriate category/Class who fulfil the eligibility criteria of **“RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24 ”**.

Criteria of eligibility for submission of bid documents

1. The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids. The work is estimated to cost **Rs.3,45,42,727/-**. This estimate, however, is given merely as a rough guide. Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified Below: -
 - 1.1 Three similar works each of value not less than 40% of estimated cost put to tender or two similar works of value not less than 60% of estimated cost put to tender or one similar work of value not less than 80% of estimated cost put to tender in last 3 years ending previous day of last date of submission of bids.
 - 1.2 Scanned copy of valid Electrical License.
 - 1.3 Scanned copy of average annual financial turnover of 50% of the estimated cost during the last three consecutive years ending 31st March 2022. (Scanned copy of Certificate from CA to be uploaded). There is no need to upload entire voluminous balance sheet.
 - 1.4 Should have a solvency of 40% of the estimated cost (Scanned copy of original solvency to be uploaded)
 - 1.5 Certificate of Registration for G.S.T. and acknowledgement of up to date filed return.
Works experience certificate as per 1 at page 5 of NIT as per proforma 'C' & 'D' at page No. 49 & 50 of NIT.
Similar work shall mean “Running Maintenance Operations Various Electrical and Mechanical works (Internal and External)”

To become eligible for bid, the bidders shall have to furnish an affidavit as under: -

- 1 **“I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in DTU in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer- in-Charge shall be at liberty to suspend for one year and shall not be eligible to bid for CPWD and DTU from the date of issue of suspension order.**
- 2 Agreement shall be drawn with the successful bidders on prescribed Form No. **CPWD 6** (or other Standard Form as Mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders Shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
- 3 The time allowed for carrying out the work will be **12 months** from the date of start as defined in schedule 'F' or from the first date of Handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
- 4 The site for the work in phase manner available.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <http://govtprocurement.delhi.gov.in> **free of cost.**
4. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
5. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re- enter rate of all the items) but before last time and date of submission of bid as notified.

6. Bids are invited in under two bid system i.e. Technical bid and Financial bid.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the press notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. **However, lowest bidder shall submit certified copy of all the scanned and uploaded documents as specified in press notice in the office of Executive Engineer/ DTU.**

Online bid documents submitted by intending bidders shall be opened only of those bidders, whose documents with EMD declaration scanned and uploaded are found in order.

The bid submitted shall be opened onat 03:30 PM

The bid submitted shall become invalid if:

- (i) The bidder is found ineligible.
- (ii) The bidder does not upload required documents as mentioned above.
- (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the entire bidder in the office of bid opening authority.
- (iv) If a tenderer quotes NIL rates against each item in percentage rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

7. The contractor whose bid is accepted will be required to furnish Performance guarantee of 3% (Three Percent) of the tendered and accepted value of the work amount within the period specified in Schedule F. This guarantee shall be in the form of Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/ Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than Rs.1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW welfare board and program chart (Time & progress) with in the period specified in Schedule F.

8. The description of the work is as follows: Name of Work: - RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

9. The competent authority on behalf of the Delhi Technological University does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

10. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.

11. The competent authority on behalf of the Delhi Technological University reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

12. The contractor shall not be permitted to bid for works in the DTU (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of E.E. and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are

subsequently employed by him and who are near relatives to any gazetted officer in the Delhi Technological University or in the Govt. of NCT of Delhi. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

13. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

14. **The bid for the works shall remain open for acceptance for a period of Seventy-Five (75) days from the date of opening of bids. If any bidders withdraw his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to suspended for one year and shall not be eligible to bid for CPWD and DTU from the date of issue of suspension order.**

This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 10 days from the stipulated date of start of the work, sign the contract consisting of: -

(a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

(b) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.

15.For Bids

The bid document will include following two components:

Part A: - CPWD-6, CPWD-7 including schedule A to F for the work, Standard General Conditions of Contract for CPWD 2014 as amended/modified up to the last date of submission of bid, including extension, if any.

Part B: - General / specific conditions, specifications and schedule of quantities of the work.

20.1 The eligible bidders shall quote rates for all items of work.

20.2 After acceptance of the bid by competent authority, the EE of the work shall issue letter of award on behalf of the Delhi Technological University. After the work is awarded, the contractor will have to enter into an agreement with EE.

20.3 Security Deposit will be worked out on the basis of estimated cost put to tender for work.

**GUIDELINES REGARDING SIGNING OF INTEGRITY PACT BY THE BIDDER
AT THE TIME OF SUBMISSION OF BID (Vide No. DG/CON/255A dated 10.08.2011)**

Sub: Clarification regarding Introduction of Integrity Pact introduced vide OM No. CON255 dated 23.05.2011

A new provision of Integrity Pact (IP) was introduced in GCC-2022 vide OM No. CON/255 dated 23.05.2011. In the OM it is mentioned that at the time of submission of bid, it shall be mandatory to sign the pact by the bidder failing which the bidder will stand disqualified from the tendering process and such bid would be summarily rejected.

Some field Units has raised their doubts regarding submission of duly signed Integrity Pact by the bidder at the time of submission of bid. In this regard it is clarified that: -

1. Submission of duly signed Integrity Pact by the bidder is applicable in case of manual tendering where e- tendering is not followed.
2. In case of manual tendering Executive Engineer should sign the first page addressed to the intending bidder at the time of issue of tender form and before submission of the bid, each bidder shall sign IP at respective places and submit the bid. If duly signed IP is not submitted by the bidder, such bid shall not be considered.
3. In case of e-tendering, Integrity Pact shall be treated in the same manner as other components of the bid document. In e-tendering, the intending bidder does not sign any document physically and entire bid document is submitted through digital signature. Since IP is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the Integrity Pact shall also be signed between Executive Engineer and successful bidder after acceptance of bid.

CPWD -7	DTU
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TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, of **2014** with amendments up to the last date of submission of tenders, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work **RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24 .**

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract of 2014 with amendments up to the last date of submission of tender and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for Seventy-Five (75) days from the date of opening of technical bid and not to make any modification in its terms and conditions.

I/We fail to commence work as specified, I/We agree that DTU or the successors representatives in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said the performance guarantee absolutely. The said performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in **Clause 12.2 and 12.3** of the tender form. Further, I/We agree that in case of forfeiture of Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in DTU in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer- in-Charge shall be free to forfeit the entire amount of Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated:**

Signature of Contractor **

Witness: **

Address: **

Postal Address **

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for an on behalf of the Delhi Technological University for a sum of Rs.....
(Rupee.....).
.....

The letters referred to below shall form part of this contract agreement: -

- (a)
- (b)
- (c)

For & on behalf of Delhi Technological University

Signature*

Dated:.....* Designation*

SCHEDULES**SCHEDULE 'A'**

Schedule of quantities (Enclosed.)

As per Schedule attached (Page 32-49)**SCHEDULE 'B'**

Schedule of materials to be issued to the contractor free of cost.

S. No.	Description of Item	Quantity	Recovery rates in figures & words at which the material will be charged to the contractor.	Place of Issue
1	2	3	4	5

-N/A-

SCHEDULE 'C'

Tools and plants to be hired to the contractor.

S.No.	Description	Hire charges per day.	Place of Issue
1	2	3	4

NOT APPLICABLE

SCHEDULE 'D'

Extra schedules for specific requirements / documents for the work, if any.

- N.A. -

SCHEDULE 'E'

Schedule of component of Cement, Steel, Other Materials, Labour etc. for price escalation.

SCHEDULE 10 'C'

Schedule of labour rates etc for price escalation

- - N.A. -.

CLAUSE 10 CC

Component of Cement

expressed as per cent of total value of work Xc

- N.A. -

Component of Steel

expressed as per cent of total value of work Xs

- N.A. -

Component of Materials

expressed as per cent of total value of work Xn

- N.A. -

Component of Labour

expressed as per cent of total value of work Y

- N.A. -

Component of POL

expressed as per cent of total value of work Z

- N.A. -

J.E(E)

Correction.....
Deletion.....
Insertion.....

SCHEDULE 'F'

Reference to General Conditions of contract.

Name of Work: RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24

Estimated cost of work. : Rs. 3,45,42,727/-

- (i) Earnest Money : Rs. 6,90,855/-.
- (ii) Performance Guarantee: 3% (Five Percent) of accepted value of Tender.
- (iii) Security Deposit: 2.5% (Two and Half percent) of Gross Value of the Bill.

GENERAL RULES & DIRECTIONS:

Officer inviting tender	Chief Project Officer
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	DTU, Bawana Road, Delhi
	See below.

Definitions:

2 (v) Engineer –in – charge	Chief Project Officer, DTU, Bawana Road, Delhi
2 (viii) Accepting Authority	Vice Chancellor, DTU, Bawana Road, Delhi
2 (x) Percentage on cost of materials and labour to cover all overheads and profits.	15 %
2 (xi) Standard Schedule of Rates.	DSR 2016/Market Rates
2 (xii) Department	DTU

9 (ii) Standard CPWD contract Form date. CPWD form 07 as modified & corrected upto

Clause 1

- | | |
|---|----------------|
| i) Time allowed for submission of Performance Guarantee From the date of issue of letter of acceptance, in days | <u>15 Days</u> |
| ii) Maximum allowable extension beyond the period provided in i) above in days | <u>7 Days</u> |

J.E(E)

Correction.....
Deletion.....
Insertion.....

Clause 2

Authority for fixing
Compensation under Clause 2.

Vice Chancellor
DTU, Bawana Road, Delhi

Clause 2 A

Whether Clause 2 A shall be applicable

Not applicable

Clause 5

Number of days from the date of issue of letter
Of acceptance for reckoning date of start

10 days

Miles Stone(s) as per table given below:-**TABLE OF MILE STONES (S)**

S.No.	Description of Milestone(Physical)	Time Allowed in days (from date of start)	Amount to be with - held in case of non-achievement of milestone.
AS PER TERMS AND CONDITION			

OR

S.No.	Financial Progress	Time Allowed (from date of start)	Amount to be with - held in case of non-achievement of milestone.
AS PER TERMS AND CONDITION			

Time allowed for execution of work

12 Months

Clause 6

Clause applicable

Yes, Applicable

Clause 7

Gross work to be done together with net payment/ adjustment of advances for Material collected, if any, since the last such payment for being eligible to interim payment.

Clause 10 A

List of testing equipment to be provided by the contractor at site lab.

Not applicable.

Clause 10 B (ii)

Whether Clause 10 B (ii) shall be applicable

Not applicable

Clause 10 CA

Material covered under the Clause

Not Applicable

J.E(E)

Correction.....
Deletion.....
Insertion.....

Clause 10 CC

Clause 10 CC to be applicable in contracts
With stipulated period of completion exceeding
The period shown in next columns.

Not Applicable**Clause 11**

Specifications to be followed
execution of work

As per CPWD General Specification for Elect.
Works. As per Gen. electrical specifications
2013 amended upto date correction slips
Maintenance work

Clause 12

Type of work

12.2 & 12.3

Deviation limit beyond which
Clause 12.2. & 12.3 shall apply
for building work

No limit

12.5

Deviation limit beyond which
clauses 12.2 & 12.3 shall apply
for foundation work.

No limit

Clause 16

Competent Authority for
Deciding reduced rates.
upto 5% of Contract value

Vice Chancellor,
DTU, Bawana Road, Delhi

Clause 19C Engineer in charge authority to decide penalty for each default Clause
19D Engineer in charge authority to decide penalty for each default Clause
19G Engineer in charge authority to decide penalty for each default Clause
19K Engineer in charge authority to decide penalty for each default Clause

Clause 25 Settlement of disputes by conciliation and arbitration V.C., DTU.**Clause 32**

Requirement of technical representative (s) and recovery rate(s)..

S. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36 (i)	
						Figures	Words
1.	Graduate Engineer or Diploma Holder	Electrical	Principal Technical representative	2 Years 5 Years	1 1	Rs. 20000/- Per Month	Rs. Twenty Thousand Per Month

Clause 38

i) (a) Schedule/ statement for determining theoretical quantity of cement & : Not Applicable.

J.E(E)

Correction.....
Deletion.....
Insertion.....

	bitumen on the basis of Delhi Schedule of Rates 2016 printed by C.P.W.D.	
ii)	Variations permissible on theoretical quantities	: Not applicable
(a)	Cement for works with estimated Cost put to tender not more than Rs. 5 Lakhs.	: Not applicable
	For works with estimated cost put to Tender more than Rs. 5 lakhs.	: Not applicable
b)	Bitumen All works.	: Not applicable
c)	Steel Reinforcement and structural steel Sections for each diameter, section and category	: Not applicable
d)	All other materials	: Not applicable

GENERAL TERMS AND CONDITIONS FOR ALL E & M Works

1. The work shall be generally carried out in accordance with tender specifications and the following specification rules, unless otherwise specified the latest amended edition of all such codes/specification/manuals on the last date of submission of the tender would be applicable.
 - a) CPWD General Specifications for Electrical Works Part I Internal - 2013 as amended up to date.
 - b) CPWD general specification for electrical work part II External 1994 as amended up to date.
 - c) General Specifications for Electrical Works (Part-III-Lifts & Escalators) - 2003 as amended up to date.
 - d) CPWD general specification for electrical work part IV Sub-Station 2013 as amended up to date.
 - e) CPWD General Specifications for Electrical Works Part VII D.G. Sets - 2013 as amended up to date.
 - f) General Specifications for Heating, Ventilation & Air-Conditioning (HVAC) - 2017 as amended up to date.
 - g) Indian Electricity Act 2003 amended up to date.
 - h) National Electrical Code 2008 and NFPA (National Fire Protection Association).
 - i) Indian Electricity Rule 1956 amended up to date.
 - j) National Building Code 2016
 - k) BIS codes as applicable.
 - l) Other standards and codes as applicable in the electrical and mechanical works.
2. The contractor is advised to visit the site of work to have an idea of the execution of work; failure to do so shall not absolve their responsibility to do the work as specified in agreement.
3. **Rates:**
 - 3.1 The work shall be treated as on works contract basis and the rates tendered shall be before complete items of work (except the materials, if any, stipulated for supply by the department) inclusive of all taxes (including GST, 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 (including those supplied by the department, if any) for the work at site etc.
4. **Taxes and Duties:**
 - 4.1 Being an indivisible works contract tax, GST etc. are not payable separately.
 - 4.2 The GST for works contract tax shall be deducted from the bills of the contractor as applicable in the State in which the work is carried out, at the time of payments.
- 5.0 **Mobilization Advance:**

No mobilization advance shall be paid for the work, unless otherwise stipulated in tender papers for any individual works/ composite work.
- 6.0 **Completeness of Tender:**

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.
- 7.0 The contractor shall make his own arrangement of tools for maintenance of Sub Station/Electrical Installations equipments & following T&P shall always be available at the site of work by the contractor: -
 - a) Tong tester
 - b) Gloves- 4 Sets
 - c) First Aid Box
 - d) Crimping Tool Kit
 - e) Meggar (5kV HT and 500 Volts LT)
 - f) Spanner Set

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

- g) Screw Driver set
- h) LN Keys set
- i) Earth Tester
- j) Blower
- k) Hammer, Drill Machine & Spade
- l) Different size of aluminum ladder for maintaining the campus street light of different height and fans & fittings.
- m) Every wireman/operator should have plier, screw driver of different size, tester for day to day maintenance work.

8.0 **Works to be done by the contractor:**

Unless and otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost of respective items:-

- (i) Foundations for equipments and components where required, including foundations bolts.
- (ii) Cutting and making good all damages caused during installation and restoring the same to their original finish.
- (iii) Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same.
- (iv) Painting at site of all exposed metal surfaces of the installation other than pre-Painted, items like fittings, fans, Switchgear / distribution gear items, cubicle Switch board etc. damages to finished surfaces of these items while handling and erection, shall however be rectified to the satisfaction of the Engineer-in-Charge.
- (v) Maintaining the Cleanliness safety and Hygiene standards as per applicable local bylaws and National standards.
- (vi) Testing and commissioning of each of the individual system and Final Integrated System Test (IST) and Handover of complete installation.
- (vii) Reports and Documentation submission post IST which includes Pre-commissioning, Commissioning, Test-Reports, IST and SOPs (Standard Operating Procedures) for system and Operational manuals.
- (viii) Storage space for all equipments, components and materials for the work

9.0 **Storage and Custody of Materials:**

- (i) The contractor has to make his own arrangement for the storage of the material at site & necessary watch and ward of the electrical installation during the execution of work till the same is handed over to the department. No extra payment will be made on this account. The storage space shall however be arranged by the department at site, if available.
- (ii) The main contractor shall arrange for proper storage of the electrical fans and fittings at site and that double lock system shall be arranged for the fans and fittings after receipt at site until the time they are taken for installation. The contractor shall however be responsible for proper storage and safe custody of the same till their installation and completion of work to the department.

10.0 **Electric Power Supply and Water Supply:**

Power and water supply will be arranged by the contractor at the site for installation purpose. However, for testing purpose after complete installation of the electrical items, electricity supply will be made available free of cost to the contractor. Contractor will take due care to ensure safety of electrical installation during execution of work.

11.0 **Tools for handling and Erecting:**

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 arranged by the contractor at his own cost.

12.0 **Co-ordination with other agencies:**

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The contractor shall co-ordinate with all other agencies involved in the building work so that the building work is not hampered due to delay in his work. Recessed conduit and other works, which directly affect the progress of building work, should be given priority.

1 2.1 Care of buildings:

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 own cost. He shall also remove, at his costs, all unwanted and waste materials arising out of his work, from the site.

13.0 Structural Alterations to Buildings:

- (i) No structural member in the building shall be damaged/altered, without prior approval from the competent authority through the Engineer-in-charge.
- (ii) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these required modifications, or fresh provisions are required to be made, such contingent works shall be carried out by the contract at his cost.
- (iii) All such openings in floors provided by the department shall be closed by the contractor after installing the cables/conduits/rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.
- (iv) All chases required in connection with the Electrical Works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

14.0 Addition to an installation:

Any addition, temporary or permanent, to the existing electrical installation shall not be made without a properly worked out scheme/design by a qualified Electrical Engineer to ensure that such addition does not lead to overloading, safety violation of the existing system.

15.0 Work in occupied buildings:

- (i) When work is executed in occupied buildings, there would be minimum of inconvenience to the occupants. The work shall be programmed in consultation with the Engineer-in-charge and the occupying department. If so required, the work may have to be done even before and after the office hours.
- (ii) The contractor shall be responsible to abide by the regulations or restrictions set in regard to entry into, and movement within the premises.
- (iii) The contractor shall not tamper with any of the existing installations including their Switching operations or connections there to without specific approval from the Engineer-in-charge.

16.0 Drawings:

- (i) The work shall be carried out in accordance with the drawings of site and the tender documents and also in accordance with modification thereto from time to time as approved by the Engineer-in-charge.
- (ii) All wiring diagrams shall be deemed to be 'Drawings' within the meaning of the term as used in Clause 11 of the conditions of contract (PWD 7). They shall indicate the main Switch board, the distribution boards (with circuit numbers controlled by them), the runs of various mains and sub mains and the position of all points with their controls.
- (iii) All circuits shall be indicated and numbered in the wiring diagram and the points shall be given the same number as the circuit to which they are electrically connected.

17.0 Conformity to IE act, IE Rules, and standards:

17.1 All E&M Works shall be carried out in accordance with the provisions of Indian Electricity Act, 1910 and Indian Electricity Rules, 1956 amended up to date (Date of call of tender unless specified otherwise). List of rules of particular importance to electrical installations under these General Specifications is given in Appendix C for reference.

17.2 General requirements of components:

18.0 Quality of material: All materials and equipments supplied by the contractor shall be new and manufacturing date shall not be prior to six month from date of approval of sample/make. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the

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environmental conditions at site or as specified in the tender.

18.1 Inspection of materials and equipments:

19.0 Materials and equipments to be used in the work shall be inspected by the departmental officers. Such inspection will be of following categories:

- (i) Inspection of materials/ equipments to be witnessed at the Manufacturer's premises in accordance with relevant BIS/ Agreement Inspection Procedure.
- (ii) To receive materials at site with Manufacturer's Test Certificate(s) for specific part of equipment supplied under the scope.
- (iii) To inspect materials at the authorized dealer's go downs to ensure delivery of genuine materials at site.
- (iv) To receive materials after physical inspection at site.

19.1 Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall ensure that:

- (i) Material will be ordered & delivered at site only with the prior approval of the department to ensure timely delivery.
- (ii) As and when the order is placed for the fittings/ fixtures, cables, Switchgears, poles, rising main, other main items etc, its copy shall be endorsed to the Engineer-in-charge.
- (iii) The firm will be required to procure material like exhaust fans, MCB' s & DB' s, Switches & sockets, wires & cables, conduits and Switchgears etc directly from the manufacturer/ authorized dealers to ensure genuineness & quality and as per the approved makes only. Proof in this regard shall be submitted by the contractor if required by the department.
- (iv) Inspection at factory or at go down of the manufacturer, as required, shall be arranged by the firm for a mutually agreed date. Certificate for genuineness of the fittings shall have to provided duly signed by the manufacturer's officer not below the rank of Regional Manager (Note:- Waiver off inspection can be allowed after taking approval from the competent authority).
- (v) Delivery of material shall be taken up only with the consent of department, after clearance of the material.
- (vi) Department shall reserve the right to waive inspection in lieu of suitable test certificate, at its discretion.
- (vii) Contractor shall get the samples/models of luminaires/fans/fittings approved from the Engineer-in-charge before bringing at site for execution.

19.2 Similarly, for fabricated equipment s, the contractor will first submit dimensional detailed drawings for approval before fabrication is taken up in the factory. Suitable stage inspection at factory also will be made to ensure proper use of materials, workmanship and quality control.

20.0 Ratings of components:

20.1 All components in a wiring installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.

20.2 All conductors, Switches and accessories shall be of such size as to be capable of carrying the maximum current, which will normally flow through them, without their respective ratings being exceeded.

21.0 Conformity to standards:

21.1 All components shall conform to relevant Indian Standard Specifications wherever existing. Materials with ISI certification mark shall be preferred.

21.2 Relevant Indian Standards including amendments or revisions thereof up to the date of tender acceptance shall be applicable in the respective contracts for respective items, firm to ensure its compliance.

22.0 Interchange ability:

Similar parts of all Switches, lamp holders, distribution fuse boards, Switch gears, ceiling roses, brackets, pendants, fans and all other fittings of the same type shall be interchangeable in each installation.

23.0 Workmanship:

23.1 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.

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- 23.2 Proper supervision/skilled workmen: The contractor shall be a licensed electrical contractor of appropriate class 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 instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.
- 23.3 Use of quality materials: Only quality materials of reputed make as specified in the tender will be used in work.
- 23.4 Fabrication in reputed workshop: Switch boards and LT panels shall be fabricated in a factory/ workshop having modern facilities like quality fabrication, seven tank process, powder/epoxy paintplant, proper testing facilities, manned by qualified technical personnel. These shall be as per make/ item approved.
- 24.0 Testing:**
All testes prescribed in this General Specification, to be done before, during and after installation, as part of pre-commissioning stage, shall be carried out, and the test results shall be submitted to the Engineer-in-charge in prescribed Performa, forming part of the Completion Certificate.
- 25.0 Commissioning on completion:**
After the work is completed, it shall be ensured that the installation is tested and commissioned Recording of Completion certificate of following Electrical & Mechanical Services as follows:
- 26.0 Completion plan and completion certificate:**
- 26.1 For all works completion certificate after completion of work as given in Appendix -E of CPWD Specification shall be submitted to the Engineer-in-charge.
- 26.2 Completion As-built plan drawn to a suitable scale in tracing cloth with ink indicating the following, soft copy in storing device (two nos) along with three blue print copies of the same shall also be submitted.
- (i) General layout of the building.
 - (ii) Locations of main Switchboard and distribution boards, indicating the circuit numbers controlled by them.
 - (iii) Position of all points and their controls.
 - (iv) Types of fittings, viz. fluorescent, pendants, brackets, bulk head, fans, exhaust fans etc.
 - (v) Location of substation equipments cable route layout etc.
 - (vi) Name of work, job number, tender reference, actual date of completion, names of Division/ Sub-division and name of the firm who executed the work with their signature.
- 27.0 Guarantee**
The installation will be handed over to the department after necessary testing and commissioning. The installation will be guaranteed against any defective design/workmanship. Similarly, the materials supplied by the contractor will be guaranteed against any manufacturing defect, inferior quality. The guarantee period will be for a period of 12 months from the date of completion of work. Installation/equipments or components thereof shall be rectified/ repaired to the satisfaction of the Engineer-in-charge. The firm will be required to submit guarantee of fans and fittings from the manufacturer to the department.
- 28.0 Supply of fittings, fixtures & other material:**
The procurement of material for the works will be programmed as per the progress of work in consultation with Engineer-in-Charge. The firm will be required to submit a detailed programme and prior to the procurement will seek approval of the department. The direction of the department regarding timing & necessity of getting such material will be final & binding on the firm.
The LED fittings shall be covered under comprehensive warranty for a period of two years from the date of successful SITC/ replacement of such light. The contractor shall furnish such warranty from the OEM. However, ultimate responsibility for the warranty shall rest on the contractor and in case of any complaint the user department shall contact the contractor only who shall attend the defect within a period of 7 (seven) days of the complaint. In case of delay in attending the complaints, a penalty @ Rs. 100/- per day per light shall be levied and recovered from any amount due to the contractor. Decision of the Vice-Chancellor, DTU shall be final and binding on the contractor in respect of the levy of such penalty.
- 29.0** For each E & M services the defect liability period shall be for 12 months after a final certificate of completion of work has been given for entire project by the Engineer-In-Charge or from the actual date of completion of work.

30.0 Interpreting specifications

In interpreting the specifications, the following order of preference shall be followed in case of contradictions:

- a) Nomenclature of item as per Schedule of Quantities
- b) Additional/Special Conditions.
- c) Particular Specifications and List of Makes.
- d) CPWD Specifications.
- e) Architectural Drawings.
- f) National Building code 2016, ECBC 2017, Relevant BIS standards all as modified up to date. (Note: The specification mentioned in relevant code or CPWD specification or NBC 2016 or ECBC 2017 whichever is more stringent will be followed).
- g) OEM specification.

INTERNAL ELECTRICAL INSTALLATION WORKS

Additional Conditions

1. The work shall be carried out strictly in accordance with CPWD specifications for E&M Works 2013 (internal) and 1994 (External) as amended upto date and in accordance with Indian Electricity Rules, 1956, Indian Electricity Act, 1910 as amended upto date and as per instructions of the Engineer-in-Charge including as below and nothing will be paid extra.
 2. All materials to be used on this work shall be ISI marked & shall be got approved from the Technical sanctioning authority/Engineer-in-Charge before installation at site unless otherwise not covered under ISI.
 3. PVC insulated class 2 copper conductor wire used shall be multi-standard FRLS grade for which nothing extra shall be paid.
 4. The work shall be carried out according to approved drawings/details which shall be subsequently issued to the successful tenderer for execution of work and as per instructions of Engineer-in-Charge who will have the right to change the layout as per requirement at site and the contractor shall not have any claim due to change in layout. The work shall be executed by skilled person Licensed by the approved authorities.
 5. All damages done to the building during execution of E&M work shall be the responsibility of the contractor and the same will be made good immediately at his own cost to the satisfaction of the Engineer-in-Charge. Any expenditure incurred by the department in this condition shall be recovered from the contractor and decision of the Engineer-in-Charge about recovery shall be final.
 6. The bad workmanship will not be accepted and defects shall be rectified at contractor's cost to the satisfaction of the Engineer-in-Charge. The programme of E&M Works is to be co-ordinated in accordance with the building work and no claim for idle labour shall be entertained.
 7. All the debris of the E&M Works should be removed and the site should be cleared by the contractor immediately after the accruing of debris. Similarly any rejected material should be immediately cleared off from the site by the contractor.
 8. The contractor or his representative is bound to sign the site order book as and when required by the Engineer-in-Charge and to comply with the remarks therein.
 9. The size of conduit and wiring shall be got approved from the Engineer-in-Charge before taking up the execution.
 10. The contractor shall make his own arrangement at his own cost for E&M / general tools and plants required for the work.
- Main Board and Main Distribution Board:
The work shall be carried out according to the drawings / details as approved by the Engineer-in-Charge. The contractor shall have to get the samples approved before the whole lot is brought to site and it shall include all inter connections etc. All termination of electrical cables in panel / feeder pillars DB's, cable-looping box etc. shall have to be done with proper thimbles / lugs using crimping process. Copper thimbles / reducer shall be used for copper cable and Aluminium cable nothing extra will be paid for the same.
11. All materials shall be supplied and used in items of works by the contractor should be of approved make and approved quality. They should be got approved from the Engineer-in-Charge or his

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- authorized representative before installation otherwise no payment will be made for an unapproved or rejected material used on the works and the same shall be removed at his cost from site or work.
- 12 The contractor shall have to prove bonafides of the make of materials by producing necessary documentary evidence. They are advised to obtain prior approval of Engineer-in-Charge for proposed make of material, before bringing material to site work.
 13. Location of Light fixtures, All Electrical Equipments, cable routes etc. should be got approved from the Engineer-in-Charge before execution.
 14. All interconnection in the panel, DB, cable-looping boxes shall be carried out with suitable cable commensurate with the current carrying capacity of incoming and outgoing cables complete with thimbles etc. as required for which nothing extra shall be paid.
 15. All panels, DB's, cable-looping boxes will be numbered and marked with paint / name plate and nothing extra will be payable on this amount.
 - 16 All MCB, MCCB, MCB, DB's, RCBO's, RCCB with DB's shall be of same make / manufacturer and the MCB's shall be central trip mechanism type.
 - 17 Modular Switch / Socket's / Plates / Computer outlet / Telephone outlet and all accessories shall be of the single make only be provided. The contractor shall have to make the edges around the boxes wherever required shall have to be made by the contractor for which nothing extra shall be paid. The galvanized metal box shall be of the standard thickness as the GI boxes besides other requirement.
 - 18 All the material should be ISI Marked unless otherwise clarification is not available.
 - 19 All concealed works shall have to be done in the presence of Engineer-in-Charge or his authorized representative.
 - 20 The contractor shall make his own arrangement for storage and carriage of material at the site.
 - 21 The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the department.
 - 22 Notwithstanding the schedule of quantities, all items of interrelated works considered necessary to make the installation complete and operative are deemed to be included shall be provided by the contractor at no extra cost.
 - 23 The connection, inter connection, earthing and inter earthing shall be done by the contractor wherever required and noting extra shall be paid on this account. All repairs & patch work shall be neatly carried out to match with the original finish & all damages caused to the building installation during the execution of work shall have to be made good by the contractor immediately at his own cost to the entire satisfaction of Engineer-in-charge. In case contractor fails to comply with the instructions of the Engineer-in-charge, Engineer-in-charge shall be at liberty to get the work done by any other Contractor and recover such amount as paid to the other Contractor from the bill(s) of the contractor. Contractor shall have no claim, whatsoever, on the extent of such amount.
 - 24 The contractor shall have to provide the fish wire after removing the choking of the conduits. Even if subsequently the conduits are found choked, the choking will be get removed and / or the new conduits shall be provided at the risk and cost of the contractor.
 25. The makes of material have been indicated in the list of acceptable makes. No other make will be acceptable. The material to be used in the work shall be got approved from the Engineer-in-Charge before use at site. The Engineer-in-Charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not as per specifications.
 26. No material shall be brought to site without the approval of Engineer-in-Charge. All fixtures and fittings shall be procured just before the installation or as per direction of Engineer-in-charge.

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- 27 Wherever ceiling roses are not required to be provided in the light/fan/exhaust fan points, due to site conditions, the contractor shall use suitable three pin connectors for which nothing extra shall be paid. Wiring shall be carried out with FRLS wires.
- 28 Contractor shall provide polythene/PVC plastic cover for all MDB's/SDB's/DB's, panels, feeder pillars etc to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.
- 29 Makes of all items that are not covered in the schedule of work/additional specifications shall be got approved from the Engineer-in-charge and shall conform to relevant Indian Standard as applicable.
- 30 The contractor shall ensure that the staff employed by him for execution of the E&M work, possess the valid electrical license issued by competent authority. Consequences arising due to the default of the contractor in not complying with the above condition shall be the responsibility of the contractor.
- 31 Copper lugs shall be provided for terminating copper/aluminium/GI earth wire to all Switchboards for which nothing extra shall be paid. All multi-stranded/stranded wires shall be terminated through copper lugs.
- 32 All concealed work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.
- 33 The schematic diagram/dimensional drawings of the various electrical cubical panels shall be got approved from the Engineer-in-charge before fabrication and shall comply with CPWD specifications and Indian Electricity Rules. All panels shall be powder coated inside out, in shade approved by the Engineer-in-charge.
- 34 All floor-mounted panels shall be mounted on M.S. channel (size as per item) on all the sides. It shall have a continuous earth bus of the same size and material as the main phase running continuously along the length of the panel extending on either side for earth connection.
- 35 The doors of all cubicle panels shall be hinged type including those of bus bar chambers and cable alleys. The locking shall be with chrome plated metal key locks. All doors shall be earthed with copper conductor wire as approved by the Engineer-in-charge.
- 36 The work shall be carried out according to drawing approved by the Engineer-in-charge. The layout once approved can only be changed by the Engineer-in-charge as per requirement at site. It shall be the responsibility of the contractor to plan the layout and get the approval from the Engineer-in-charge before laying the conduits etc.
- 37 The MCB should be of the same make as that of MCB DB's and having a minimum breaking capacity of 10 KA. Contractor shall obtain approval of the Engineer-in-charge before procurement of MCB DB's.
- 38 All model of modular accessories required for the work shall be got approved from the Engineer-in-charge from among the approved makes. The base plate shall be preferably in sheet steel or otherwise in unbreakable polycarbonate. The cover plates shall be screw less type in shade approved by the Engineer-in-charge.
- 39 Contractor shall have to check the Site Order Book for any instructions of the Engineer-in-charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded therein.
- 40 MCCBs shall be used with terminal spreaders and all terminals shall be shrouded to avoid direct contact.
- 41 All measuring and indicating instruments shall be protected through MCB's and isolating Switches.
- 42 General arrangement drawing of the Switchboard shall be got approved from the Engineer-in-Charge before commencement of manufacturing.
- 43 For the items like LT panels, feeder pillars and accessories, etc, the firm shall arrange for inspection in J.E(E)

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the factory and provide for all facilities for testing. The cost of the visit of Engineer-in-Charge or his representative shall be borne by department. However, firm will be responsible for arranging the inspections as required.

- 44 Conduit layout, circuiting layout, DB detail with load balance as per Switching arrangement shall be prepared by contractor and got approved from the Engineer-in-Charge before slab casting.
- 45 Conduit and termination to SDB and main board adapter box i/c connection wires to MCB's inter connection between SDB and main board etc shall be included in the tendered rates and nothing extra shall be paid for the same.
- 46 The contractor shall provide junction boxes / looping boxes of required sizes and such boxes shall be measured as part of conduit / batten wiring without any extra payment. Connectors, Ceiling Rose, Hylem sheets, T-cover, fan box cover, loose wire box cover are provided as per site requirement nothing shall be paid extra on this account.
- 47 M.S. dash fastener shall be used for installation of fittings and fixtures in ceiling and for providing suspenders for the angle support, conduiting, cable tray etc. for which nothing extra shall be paid.
- 48 All CI/metal boxes & junction boxes should be cleaned properly and painted from inside before wiring & fixing the accessories.
- 49 Cables:-
- (a) Cables shall be bought from manufacturer only as per approved NIT.
 - (b) The length of the cables required shall be measured w.r.t. site condition and these shall be delivered in section of approved length only, to avoid jointing as far as possible.
 - (c) Cable delivery shall be scheduled in consultation with department only.
 - (d) All cables shall be offered for inspection by department prior to dispatch, department reserve the right to wave of inspection so required in lieu of proper test certificates.
50. Maximum group control of five numbers lights will be made at site by the first/primary light point.
51. The work shall be carried out after approval of the shop drawings & technical data sheet of all equipments / items from the Engineer-in-Charge / project consultant and according to the instructions issued.

EXTERNAL/INTERNAL LIGHTING WORK TERMS AND CONDITIONS FOR COMPOUND LIGHTS

1. CONFIRMATION TO SPECIFICATIONS: -

The work shall be carried out as per CPWD specifications for E&M Work's part – I internal works 2013. Part – II External Works 1994, as amended up to date and as per Additional specifications and conditions. The installation shall comply with the requirement of Indian Electricity Rules 1956 as amended upto date.

2. WORKS TO BE DONE BY THE CONTRACTOR

- 1) The tenderers are advised to visit the site to access the requirement of the site and probable difficulties in execution of the work, before tendering.
- 2) Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost.
 - a) Cutting and making good all the damages caused during installation and restoring the same to their original finish.
 - b) Temporary shed and storage space required for the storage with locking arrangement thereof and watch and ward of the materials and completed installation till completion of the work.
 - c) Testing and Commissioning of complete installation.

3. TAXES AND DUTIES

- i) The rates are inclusive of all taxes i.e. GST, excise duty, work contract tax etc.
 - ii) Works contract tax, if any, for the work shall be included within the quoted rates for the various items. The GST/works contract tax shall be deducted from the bills of the contractor, if applicable in the State in which the work is carried out.
4. All the material brought by the contractor for use in the work shall be of good quality and ISI marked wherever applicable and would be got approved from the Engineer- in-charge before use in the work.
 5. All the rejected material will have to be removed from site by the contractor without any delay.
 6. Failure to do so will compel the department to remove the material from site. It will be done at the risk and cost of the contractor. The department will not be responsible for any loss to the contractor in such eventuality.
 7. Persons executing E&M Works should have Electrical License as required under I.E. Act.
 8. The earthing shall invariably be done in presence of the Engineer-in-charge or his authorized representatives.
 9. No T & P shall be issued by the department.
 10. Water & Electricity required for execution of work shall be arranged by the contractor at his own cost. However for testing of system, electricity shall be given by the department at one point only free of cost.
 11. No claim for the idle labour shall be entertained by the department.
 12. All the debris/ malba due to electrical work shall be removed and sites shall be cleared by the contractor as soon as work is over for the day. Any damages to civil work due to execution of electrical work shall have to be made good by the electrical contractor without any extra cost.
 13. The contractor shall take all precautions for safety of the workmen. If any accident / miss-happening occur the department shall not be responsible for the same. If any compensation is to be paid to the victim the firm shall pay the same and no claim in this account shall be entertained by the department.
 14. The successful tenderer shall be responsible for the transportation handling and erection of Poles at site. Any special tools tackles/ lifting arrangement etc. required in this connection shall be his responsibility.
 15. Working drawing of feeder pillar shall be submitted by the firm within 30 days after award of work for approval of Engineer-in-charge.
 16. The work shall be carried out after approval of the shop drawings & technical data sheet of all equipments / items from the Engineer-in-Charge / project consultant and according to the instructions issued.

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GENERAL CONDITIONS

1. The staffs engaged for the work shall be qualified as per relevant trade rules and also as per Indian Electricity Rules 1956 amended up to date.
2. The Contractor shall provide all necessary tools and plants to his workmen.
3. It is the responsibility of the contractor to keep the electrical installations neat & clean.
4. (a) The contractor shall supply Consumable petty material such as cotton waste, grease, duster, soap, fuse wire, CTC gland, packing, gasket etc. within the scope of work without any claim of additional payment.
(b) This contract includes the maintenance of all batteries with necessary material i.e. distilled water, petroleum jelly, acid, terminal lead, poles etc i/c. periodic cleaning for which nothing extra shall be paid.
(c) Labour component for major breakdowns at site is covered within the scope of this contract, only day to day complaints of routine nature are within the scope of this contract
5. The materials used in the work will be got approved from the Engineer-in-charge before use in work.
6. All dismantled materials shall be property of Government and shall be returned to the department, in the store of JE (E) In charge of work.
7. The contractor shall assess the requirement of materials for preventive maintenance & break downs and intimate the Engineer-in-Charge of the work well in advance for taking procurement action by the department.
8. Log books, periodic inspection books & history books for all the services shall be supplied and maintained by the contractor as per proforma decided by Engineer-in-Charge & same shall be submitted along with running / final payment. Proper register shall be maintained by contractor for consumable materials used at site.
9. If the contractor fails to maintain the services to the satisfaction of the Engineer-in-charge then the department maintain the installations by alternative arrangement, the expenditure thus incurred will be recovered from the contractor.
10. The contractor or his representative, labour will not remove / disturb / dislocate the existing equipments and its parts from its positions until and unless it is authorized by the Engineer-in-Charge. The entire installations should be intact at any time of inspections and as handed over to him at the time of initial taking over for maintenance and operation. The contractor shall be responsible for any damage or theft and shall have to make good to its original shape and description as and when damage / theft etc is noticed or taken place.
11. Persons engaged in maintenance works should be competent for the type of work involved and should have necessary license.
12. In case any accidents during the Operation / maintenance of the equipment leading to injuries / damages to human beings / equipments and / or loss of life, the contractor shall be fully responsible for settling all claims and indemnify the department against any claim arising out of such accidents.
13. Water and electricity for operation / maintenance of the plant will be arranged by the department free of cost.
14. This contract can be terminated any day by the Engineer-in-Charge without assigning any reason at any time during the period of contract. No claim for any compensation will however be entertained due to such termination prior to the expiry of stipulated period of Contract.
15. The contractor will have to continue the maintenance further period after the expiry of this contract at the same rates and conditions of this contract if asked for.
16. This is a purely service contract and the persons employed by the contractor are his own employees and they will have no claim for right of employment in the department. The staff employed by Contractor shall always use a rubber stamp "An employee of M/s. _____" wherever they put their signature on log book, complaint register, diary or any record.
17. The maintenance staff employed shall be present in neat uniform with shoes, badges & Jackets (Address Marked) whenever on duty, the uniform to staff of contractor is liability of contractor. If it is not provided recovery of Rs. 100/- shall be made per day per person.

J.E(E)

Correction.....
Deletion.....
Insertion.....

18. Planned shutdown shall be taken up for the preventive maintenance for the electrical systems in Consultations with the Engineers.
19. A permanent Telephone Contact No. for emergency contact to the contractor shall be given by the contractor to Engineer-in-charge. Failure to response on such telephonic contact number shall attract penalty.
20. The contractor shall arrange to render efficient services as outlined above. However in case he fails to maintain the services to the satisfaction of the Engineer-in-charge and the department has to incur any expenditure to maintain the installations by alternative arrangement the expenditure thus incurred will be recovered from the contractor, for which Engineer-in-Charge decision shall be final.
21. The rates shall be included all taxes, etc. The department will pay nothing extra on this account.
22. The contractor can be terminated by Engineer-in-Charge without assigning any reason by issue of notice period of 30 days at any time during the contract. No claim for any compensation will however been entertained due to such termination of period prior to expiry of stipulated period of contract.
23. Tenderer shall visit the site and acquaint himself with site condition existing, restriction in movement, working hours, security aspects, condition of equipments before quoting for the job. No complaints for loss of labour shall be entertained at later stage on this account.
24. Tenderer shall inspect the installation / plant to be operated and list out the shortcomings in the tender documents. No claim at later stage shall be entertained towards such item.
25. In case any problem the operator should intimate to his contractor as well as Engineer-in-Charge immediately to resolve the problem.
26. The staff provided by the contractor shall be well qualified to operate and monitor the installation as per the requirement.
27. Engineer in charge is not satisfied with the performance of maintenance service, the contract shall be terminated in prior to one month notice.
28. All local safety security, regulations shall be observed strictly.
29. All the materials, whatsoever, to be supplied and provided by the contractor should be of standard and approved quality. These should be got approved from the Engineer-in-Charge of his authorized representative before installation. No payment will be made for any unapproved or substandard/ rejected materials used on the work. Rejected materials should be removed from the site of work within 48 hours failing which the same will be liable for removal by the department at the risk and cost of contractor without any liability.
30. Work shall be carried out as per CPWD Specifications wherever applicable. Safety procedure as indicated in CPWD Specifications of Electrical work //Fire Fighting /fire alarm/ D.G Set and Sub Station work should be followed.
31. The rates quoted shall be inclusive of wages of Electrician/ E&M Operator /Wireman/Khallasi etc i/c relievers, cleaning material, uniform and all taxes and duties etc. as applicable. However service tax, ESI/EPF will be reimbursed to the contractor, on production of proof of deposit of the same with respected govt. department.
32. The contractor shall take all precautions for safety of the workmen. If any accident/mis-happening occurs the department shall not be responsible for the same. If any compensation is to be paid to the victim, the firm shall pay the same and no claim in this account shall be entertained by the department.
33. All the cleaning material i.e. soap, duster, PVC tape roll etc. shall be arranged by the contractor at his own cost for cleaning of Electrical Installation & fans, switch gears, DB, Main control panel, Water supply pump, Fire Alarm System/ Wet Riser System/ D.G Set/ Sub Station equipment etc. If cleaning of installation is not found satisfactory at any time, a recovery of Rs. 200/- per occasion noticed per Sub Head shall be made from the bill of contractor.
34. In case the department staff is posted or due to some other reasons, the department reserve the right to terminate the contract in full or part thereof.

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

35. The contractor shall furnish name & contact number of the persons, who should be contacted during emergency.
36. No T&P shall be issued to the contractor.
37. The contractor shall Provide Biometric Attendance Machine in support of the attendance of the staff and the same shall be got periodically checked from JE (E) / AE (E) concern. Failure to which suitable recovery will be made from the contractor bill as decided by the Engineer-in-charge. Nothing Extra shall be paid on Account of Biometric Machine installation and maintenance
38. In case of any damage to any equipment due to negligence of the contractor's staff the same will have to be made good by the contractor at his cost. Failure to which suitable recovery will be made from the contractor bill as decided by the Engineer-in-charge.
39. Before the start of contract, the contractor is bound to submit the following details alongwith supporting papers of the workers proposed Sub Head wise to be engaged by him. After receipt of confirmation of their suitability from Engineer-in-charge or his authorized representative, they shall be deployed on duty.
 - (A) Name & Postal Address with I.D. proof
 - (B) Police Verification Certificate
 - (C) Photograph with specimen signature.
 - (D) Qualification and experience.
 - (E) Bank Accounts Details
 - (F) ESI/EPF Details

Before start of work the agency has to got approved detail of workers from Engineer-in-Charge & has to take over the site from J.E. in charge of site.

40. The contractor shall replace the staff, in the event of misconduct by him.
41. The contractor/ Firm is advised to visit the site of work before quoting the rates, in order to ascertain the quantum and location of works.
42. It shall be entirely the responsibility of the contractor to ensure that no unlawful act is done by his persons while on duty. In case any theft/ loss of departmental property takes place due to the negligence or carelessness of his personnel, the contractor will be held responsible and shall make good the same.
43. Therefore said terms and conditions shall be read in conjunction with the general rules and directions for the guidance of Contract form PWD -8.
44. **Terms of payment and other facilities for workers.**
 - 41.1 The contractor is bound to distribute the salary/ wages to his worker by 7th of each month, positively, by NEFT / ECS as feasible and the report for the same shall be submit to this office. Payment to the contractor shall be made by 15th of every month after receipt of bill complete with all documents mentioned in Sl. No. 16
 - 44.2 The contractor shall deduct worker subscription towards Provident Fund and ESI, as per rules, he shall deposit the same along with his contribution into the respective accounts of the worker and submit the detail to this office for verification.
 - 44.3 On completion of the work or completion of 12 months (from the date of start of the work) whichever is earlier, the contractor shall have to disburse bonus as per Delhi Govt. rates for casual labour to the each worker employed in this work and will submit the proof of having disbursed the bonus, before the release of the final payment.

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

44.4 The contractor shall take all precaution for safety of the workmen. If any accident / mis-happening occurs, the department shall not be responsible for the same. Consequently, any compensation payable shall be at the contractor cost.

J.E(E)

Correction.....
Deletion.....
Insertion.....

SPECIAL CONDITIONS TO COMPLY DIRECTIVES OF HON'BLE NATIONAL GREEN TRIBUNAL

1. The contractor shall not store/ dump construction material or debris on metalled road.
2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/ inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/ area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/ or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/ contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
7. The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.
8. The contractor shall compulsory use of wet jet in grinding and stone cutting.
9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
10. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that all DG Sets comply emission norms notified by MoEF.
12. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
13. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.

Schedule of work

Name of Work: RMO various Electrical and Mechanical works (Internal and External) at Delhi Technological University, Bawana Road, Delhi during 2023-24

Sl.No	Description of Work / Item(s)	Qty	Units	Rate Rs.	Amount RS.	
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class steel conduit, with piano type switch, phenolic laminated sheet, suitable size M.S. box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required. Group C	500	Point	994	497000	DSR-1.1.3
2	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	500	mtrs	239	119500	DSR-1.5
3	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	200	mtrs	366	73200	DSR-1.6
4	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	500	mtrs	168	84000	DSR-1.12
5	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit alongwith 2 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	200	mtrs	281	56200	DSR-1.13
6	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 conduit as required.					
a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	1000	mtrs	181	181000	DSR-1.7.1
b)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	500	mtrs	206	103000	DSR-1.7.2
c)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	1000	mtrs	237	237000	DSR-1.7.3

J.E(E)

Correction.....
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d)	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	500	mtrs	324	162000	DSR-1.7.4
e)	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	500	mtrs	392	196000	DSR-1.7.5
f)	2 X 16 sq. mm + 1 X 6 sq. mm earth wire	200	mtrs	530	106000	DSR-1.7.6
7	Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/ recessed steel/PVC conduit including dismantling as required..					
	Group C	800	Point	452	361600	DSR-1.15.1
8	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel/ PVC conduit as required					
a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	1000	mtrs	50	50000	DSR-1.17.1
b)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	1000	mtrs	75	75000	DSR-1.17.12
c)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	500	mtrs	111	55500	DSR-1.17.21
d)	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	500	mtrs	162	81000	DSR-1.17.30
9	Supplying and fixing of following sizes of PVC conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					
a)	20 mm	500	mtrs	57	28500	DSR-1.21.1
b)	25 mm	1000	mtrs	69	69000	DSR-1.21.2
c)	32 mm	500	mtrs	89	44500	DSR-1.21.3
10	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required					
a)	100 mm X 100 mm X 60 mm deep	50	Nos	114	5700	DSR-1.22.2
b)	180 mm X 100 mm X 60 mm deep	50	Nos	133	6650	DSR-1.22.5
c)	150 mm X 75 mm X 60 mm deep	50	Nos	118	5900	DSR-1.22.4
11	Supplying and fixing following piano type switch/ socket on the existing switch box/ cover including connections etc. as required					
a)	5/6 A switch	2000	Nos	34	68000	DSR-1.23.1
b)	15/16 A switch	1000	Nos	75	75000	DSR-1.23.2
c)	3 pin 5/6 A socket outlet	1000	Nos	42	42000	DSR-1.23.3
d)	6 pin 15/16 A socket outlet	1000	Nos	86	86000	DSR-1.23.4

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12	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
a)	5/6 A switch	500	Nos	84	42000	DSR-1.24.1
b)	15/16 A switch	2000	Nos	114	228000	DSR-1.24.3
c)	3 pin 5/6 A socket outlet	99	Nos	111	10989	DSR-1.24.4
d)	6 pin 15/16 A socket outlet	1500	Nos	153	229500	DSR-1.24.5
e)	Bell push	10	Nos	47	470	DSR-1.24.8
f)	Stepped type regulator	500	Nos	288	144000	DSR-1.25
g)	Blanking plate	200	Nos	12	2400	DSR-1.26
13	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.					
a)	3 Module (100 mmX75 mm)	100	Nos	185	18500	DSR-1.27.1
b)	6 Module (200 mmX75 mm)	500	Nos	258	129000	DSR-1.27.2
c)	8 Module (125 mmX125 mm)	500	Nos	297	148500	DSR-1.27.3
d)	12 Module (200 mmX150 mm)	60	Nos	344	20640	DSR-1.27.4
14	Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required	500	Nos	65	32500	
15	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 90 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	250	Nos	132	33000	DSR-1.45
16	Installation of 450 mm exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required	100	Nos	224	22400	DSR-1.50.1
17	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required					
a)	100 A, 16 kA,TPMCCB	50	Nos	3218	160900	DSR-2.2.1
b)	125 A, 16 kA,TPMCCB	50	Nos	3613	180650	DSR-2.2.2
c)	150 A, 16 kA,TPMCCB	50	Nos	4096	204800	DSR-2.2.3
d)	250 A, 25 kA,TPMCCB	15	Nos	9397	140955	DSR-2.2.5
e)	400 A, 35 kA,TPMCCB	5	Nos	15672	78360	DSR-2.2.9
f)	630 A, 35 kA,TPMCCB	4	Nos	20234	80936	DSR-2.2.11
g)	125 A, 36 kA, FPMCCB	30	Nos	5449	163470	DSR-2.2.14

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h)	630 A, 50 kA, FPMCCB	5	Nos	23710	118550	DSR-2.2.19
18	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 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)					
a)	8 way, Double door	10	Nos	1061	10610	DSR-2.3.1
b)	12 way, Double door	10	Nos	1151	11510	DSR-2.3.2
b)	16 way, Double door	5	Nos	1364	6820	DSR-2.3.3
19	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)					
a)	6 way (4 + 18), Double door	10	Nos	2659	26590	DSR-2.4.2
b)	8 way (4 + 24), Double door	10	Nos	3171	31710	DSR-2.4.3
20	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 with 125 Amp MCCB incomer i/c making connection and testing as required.					
a)	6 way (4 + 18), Double door	5	Nos	4502	22510	DSR-2.5.1
b)	8 way (4 + 24), Double door	5	Nos	5664	28320	DSR-2.5.2
c)	4 way (4 + 12), Double door	5	Nos.	12080	60400	MR
d)	12 way (4 + 36), Double door	5	Nos.	15576	77880	MR
21	Supplying and fixing 10 A to 32 A rating, 40/415 V, 10 kA, "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					
a)	Single pole 16-32	800	Nos	173	138400	DSR-2.10.1
b)	Double pole 20-32	200	Nos	445	89000	DSR-2.10.2
c)	Triple pole 25-32	200	Nos	700	140000	DSR-2.10.3
d)	Triple pole and neutral 25- 32	200	Nos	891	178200	DSR-2.10.5
22	Supplying and fixing following 40 -63 , curve, rating, 240/415 volts, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required Curve C 10 kA as per IEC 60898 MCB SB200 M					
a)	06-32 A Double pole MCB	300	nos.	950	285000	MR
b)	40-63 A Double pole MCB	300	nos.	950	285000	MR

J.E(E)

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c)	10-32 A TP pole MCB	150	nos.	1350	202500	MR
d)	40-63 A TP pole MCB	150	nos.	2130	319500	MR
e)	06-32 A Four pole MCB	150	nos.	2095	314250	MR
f)	40-63 A Four pole MCB	250	nos.	3120	780000	MR
23	Earthing with G.I. earth pipe 4.5 meter long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required	50	Nos	3672	16500	DSR-5.2
24	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	30	Nos	8289	248670	DSR-5.6
25	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required.	400	mtrs	129	51600	DSR-5.15
26	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.	500	mtrs	33	16500	DSR-5.7
27	Supplying and making outdoor end termination with cast resin compound including aluminium lugs and other jointing materials for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.					
a	4C X 10 sqmm (25mm)	20	Each	219	4380	DSR-9.1.32
b	3½C X 35 sq. mm (32mm)	20	Each	300	6000	DSR-9.1.18
c	3½ X 50 sq. mm (35mm)	20	Each	329	6580	DSR-9.1.19
d	3½ X 95 sq. mm (45mm)	20	Each	473	9460	DSR-9.1.21
e	3½C X 120 sq. mm	20	Each	473	9460	DSR-9.1.22
f	3½C X 185 sq. mm	20	Each	702	14040	DSR-9.1.24
g	3½C X 300 sq. mm	20	Each	936	18720	DSR-9.1.27
28	Supplying and replacement of following rating 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, residual current circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a	25 Amp 2 pole RCCB 30mA	20	each	1650	33000	DSR-2.14.1
b	40 Amp 2 pole RCCB 30mA	30	each	1719	51570	DSR-2.14.2

J.E(E)

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c	63 Amp 2 pole RCCB 30mA	40	each	2242	89680	DSR-2.14.3
d	40 Amp 4 pole RCCB 30mA	40	each	2131	85240	DSR-2.15.2
e	63 Amp 4 pole RCCB 30mA	40	each	2302	92080	DSR-2.15.3
29	Supplying and making straight through joint with heat shrinkable kit including ferrules and other jointing materials for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.					
a	3.5 x 70 Sqmm	10	Each	1661	16610	DSR-9.4.20
b	3.5 x 120 Sqmm	10	Each	2331	23310	DSR-9.4.22
c	3.5 x 185 Sqmm	20	Each	2632	52640	DSR-9.4.24
d	3.5 x 240 Sqmm	20	Each	3233	64660	DSR-9.4.26
e	3.5 x 300 Sqmm	20	Each	3971	79420	DSR-9.4.27
30	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required.					
a	Upto 35 sq. mm	500	mtrs	206	103000	DSR-7.1.1
b	Above 35 sq. mm and upto 95 sq. mm	500	mtrs	214	107000	DSR-7.1.2
c	Above 95 sq. mm and upto 185 sq. mm	500	mtrs	223	111500	DSR-7.1.3
d	Above 185 sq. mm and upto 400 sq. mm	1000	mtrs	248	248000	DSR-7.1.4
31	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on wall surface as required.					
a	Upto 35 sq. mm	400	mtrs	25	10000	DSR-7.7.1
b	Above 35 sq. mm and upto 95 sq. mm	500	mtrs	72	36000	DSR-7.7.2
c	Above 95 sq. mm and upto 185 sq. mm	500	mtrs	84	42000	DSR-7.7.3
d	Above 185 sq. mm and upto 400 sq. mm	500	mtrs	120	60000	DSR-7.7.4
Fixtures						
32	Supplying, fixing, testing and commissioning of Surface mounted luminaire for 20W LED 4 feet fixture with extruded thermal polycarbonate housing fixture should be of minimum 2000 lumens (6500 KELVIN) suitable for operation on 230 volt 50 Hz, Single Phase AC supply with electronic driver and all accessories complete for ceiling/wall/ Surface including wiring, connection with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable including earthing etc. as required. Similar to Philips Make, Cat No: BN 021 LED40S- 6500 PSU GR (4 ft) or equivalent preferred make.	1000	Each	586	586000	

J.E(E)

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33	Supplying, fixing, testing and commissioning of 15W/16W Round shape LED downlighter suitable for operation on 230V AC supply with minimum 1125 lumens. LED make shall be Nichia, Cree, Citizen having LM 80 Complied as per L70 standard tested for min. 10k hours confirming minimum 50000 burning hours of life 6500K LED's only. LED Driver shall withstand 2kV surge protection. Complete fitting similar to Philips WIPRO make CAT NO. N092B LED10S-6500 PSU WH or equivalent preferred make..	200	Each	1530	306000
34	Supplying, fixing, testing and commissioning of Surface 2'X2' LED Troffer with microprismatic diffuser suitable for indoor spaces 36-watt CEILING LED Light fixture) i/c less for old dismantle complete etc as required. Dismantled fixtures should be retained by the firm, rate quoted accordingly or equivalent to Philips C380B LED36S-6500 G5 L60 W60 PSD OD OC	500	Each	4246	2122932
35	Supplying installation, testing and commissioning of 80 watt LED type street light fitting, road lighting luminaire with high power LED and unique peanut lens with choice of optics to ensure uniform distribution, higher spacing between poles and maintenance free system, Ideal for road width upto 10 mts. (Make : Philips BRP410 LED CW 072 MR FG S1 PSU GR/Havells)	100	Each	8139	813900
36	Supplying, installation, testing & Commissioning of SITC of IP - 65 LED Post Top fitting aesthetically designed with symmetrical light distruction acrylic cover pressure die cart aluminium base with minimum 4950 lumens output with efficacy 110 l/w,CRI >80,PF >0.9, operating Voltage Range of 140 - 270 VAC, Minimum Internal Surge Protection of 2.0KV, the luminaries shall be following LM79 and LM 80 report issued by LED manufacturer etc. complete as required. Make- Twinkle/Havells/Philips	100	Each	7913	791318
37	Supplying, fixing, testing and commissioning of 10/11W LED Bulkhead fixture with min 850 Lumens suitable for operation on 230V AC supply with minimum LED make shall be Nichia, Cree, Citizen having LM 80 Complied as per LM80 standard tested for min. 10k hours confirming minimum 50000 burning hours of life 6500K LED's only. LED Driver shall withstand 2kV surge protection. Complete fitting similar to philips make CAT NO. WT202W LED6S NW PSU S2 PC or equivalent preferred make..	50	Each	1733	86650

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Insertion.....

38	Supplying installation, testing and commissioning of 30 watt LED tube in existing 2x 36 watt fitting i/c connection etc as reqd. Master LED Tube 30W, 4000lm, 865 T8	200	Each	1025	205000
39	Supplying and fixing of supply of LED Recessed 4' x 1' Luminaire with a nominal system lumen output of 3600 lumens and a minimum system efficacy of 125 lm/W. The luminaire shall have a rated system lifetime of 50,000 burning hours at L70. The luminaire should have a color temperature of 4000/6500K and CRI>80. The luminaire shall meet IP20 rating with THD<10% and PF >0.9 and an operating Voltage Range of 140 - 270 V. The luminaire housing should made of powder coated metallic CRCA with high efficiency opal diffuser. The total power consumption should not exceed 30W (including driver). Similar to Philips Make FULLGLOW 4'X1' "RC380B LED36S-6500 G5 L3W12 PSU OD"Vendor should provide separate BIS certifications for luminaire and Driver separately (For office area)	500	Each	6029	3014500
40	SITC of 1' x 1' energy efficient 15 Watt to 18 Watt surface mounted LED downlighter in power white finish with integrated electronic driver complete with all accessories including dismantling of the existing out life fitting etc. Complete as required. (Make: Havells /Philips DN096B LED6S-6500 PSU WH /Wipro.).	500	each	1630	814908
41	Supplying, installation, testing & Commissioning of LED highbay of system wattage 100Watt IP 66 Green Perform Prime is a new age highbay range that offers an industry leading efficacy of 150 Lm/W specially designed to deliver unmatched performance in adverse industrial environments with its robust housing design and cater to diverse applications with multiple options of beam angles. Complete with Mounting Brackets & accessories as required with connections. Havells /Philips DBY515P LED100S 5700 NB PSU GR or Equivalent	50	each	9314	465679

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

42	Supplying ,Installation ,testing and commissioning of 40 Watt Eye soothing lighting solution, exceptional color uniformity (SDCM<5) and color rendering (CRI>80) and System efficacy of >120 lm/w, saves more than 58% energy compared to conventional products, Integrated Serviceable lighting system sleek design. Power Factor of > 0.95 and THD < 10% makes it a perfect fit for all applications Versatile : Suitable for both surface and suspended mounting with relevant mounting accessories	40	Each	2416	96632
43	Supplying, Installation, testing and commissioning of 180 Watt lighting luminaire with single die ceramic base high power LED, PDC housing & integrated flood optics (SWB,NB, AMB, SMB, SWB) to ensure uniform distribution maintenance free system. (Make:- Philips Model No:- BVP483 LED185 CW SWB PSU GR or Equivalent used for sports lighting, area lighting and high mast lighting.	50	Each	13537	676847
44	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required. as required similar to Havells make or equivalent preferred make.	300	Nos.	2516	754800
45	Supplying and fixing MS clamp Fan Hook on existing T iron section in ceiling for installing of ceiling fan made of 30 mm x 4 mm MS strip (total length of strip 55 cm approx.) as per drawing.	100	Nos.	350	35000
46	Supply, installation, testing and commissioning of following exhaust fan heavy duty, 230Volts, single phase AC supply exhaust fan with 960 RPM double ball bearing, with energy efficient motor, louver/shutter, bird screen including all accessories and with 3 core flexible wire complete as required, in the exiting opening, including making the hole to suit the size of the above fan, making good the i/c fixing of louver/shutter etc.as required. Havells cat. ref. no. Turbo Force/ Usha -Turbo/ Orient Electric/Marathon Electric				

J.E(E)

Correction.....
Deletion.....
Insertion.....

a	300 mm min 960 RPM fresh air fan	100	Each	3881	388100
b	450 mm min 960 RPM fresh air fan	50	Each	4886	244300
47	Supply and fixing of 600 mm size heavy duty oscillating type Air circulator fan, suitable for operation on 230 Volt, 50 Hz. AC supply complete with wall mounting bracket, front and rear guard set etc. and required of Usha/Bajaj/Almonard or approved equivalent as reqd.	40	nos.	11002	440080
48	Supplying of following electrical accessories suitable for existing different type fitting/switch box etc. as required.				
a	Tube Starter	2000	Each	12	24000
b	40/36 W Electronic Ballast	1500	Each	203	304500
c	36/40 W Fl. Tube	2000	Each	81	162000
d	Lamp to replace HID/CFL lamps in existing 70 watt HPSV fittings Force Core 27W/3000lm E27 along with holder	100	Each	975	97500
e	18 W CFL 4 Pin LED Crompton	100	Each	130	13000
f	Insulated tape 10 mtr 3M LT	2000	Each	41	82000
g	3.15/4 mfd Fan Capacitor	600	Each	49	29400
h	2.5 mfd Fan Capacitor	250	Each	41	10250
i	HT tape for joints 3M	80	Each	163	13040
j	Call Bell fish type	100	Each	65	6500
k	18 W PLL 4 Pin LED	1000	Each	325	325000
49	Rewinding of 1200/1400 mm ceiling fans with super enamelled copper wire including inspection of fan suspension arrangement and tightness of nuts and bolts, cotter pin, rubber reel and replacement of the same wherever found defective during inspection for safe running of fan i/c cleaning the fan with detergent i/c less for old dismantle complete etc as required. (Dismantled copper wire should be retained by the firm, rate quoted accordingly)	500	Nos.	678	339000
50	Rewinding of 300/450 mm exhaust fan including inspection of fan fixing arrangement and tightness of nuts and bolts i/c cleaning the fan with detergent i/c less for old dismantle complete etc as required.	100	Nos.	951	95100
51	Providing and fixing of pole mounted box (250x200x105mm) size made out of (SMC) sheet moulded compound dust and whether proof (Sintex make GSJB-2520)	400	Nos.	1651	660400
52	Supplying and fixing 3mm thick phenolic laminated sheet suitable for existing switchboards, complete as required.	20	sq mtr	1500	30000

J.E(E)

Correction.....
Deletion.....
Insertion.....

53	Supplying and replacement of fully automatic Star Delta Staters for 30-40 HP Motor having relay Range 20 -33 Amp. in the existing panel board for Motor/Pump etc as reqd. MU-G30 Make or L&T equivalent	5	Each	11768	58840
54	Supplying and replacement of fully automatic DOL for 10 HP Motor having relay Range 15 -20 Amp. in the existing panel board for Motor/Pump etc as reqd.	10	Each	7894	78940
55	Taking out of submersible / monoblock-submersible pump set from the existing bore well with the help of chain pulley and tripod stand along with GI pipe i/c replacement of gaskets, nut-bolts and lowering the same after repairing etc. complete as reqd.	20	per job	3364	67280
56	Rewinding of following capacity 3 phase multi-stage submersible / monoblock-submersible Pump-set with suitable size water proof copper conductor wire i/c turning & polishing of shaft, replacement of GM bearing bush, thrust bush, thrust plate etc. i/c buy back of dismantle to contractor i/c connection, testing etc as reqd.				
a	10 HP	10	job	14937	149370
b	7.5 HP	10	job	13275	132750
c	5 HP	10	job	11564	115640
d	2 HP to 4 HP	15	job	7577	113655
57	Rewinding of burnt out 30 HP 3 Phase Motor with super enamelled copper wire i/c varnishing and replacement the gland Dori, ,Bearing ,Oil Seal and making Coupling alinement and re-installation the same i/c cartage of the Motor from site to workshop to site i/c connection testing re-installation etc complete as reqd. i/c buy back of dismantle to contractor	5	job	20874	104370
58	Rewinding of burnt out 7.5 HP 3 Phase Motor pump with super enamelled copper wire i/c varnishing and replacement the gland Dori, , Bearing ,Oil Seal and making Coupling alinement and re-installation the same i/c cartage of the Motor from site to workshop to site i/c connection testing re-installation etc complete as reqd. i/c buy back of dismantle to contractor	5	job	10966	54830
59	Servicing of 7.5 HP 3 Phase Motor with Pump i/c varnising, greasing, oiling and making Coupling alinement and re-installation the same at site.	10	Job	1561	15610
60	Supplying and replacement of 3-phase DOL submersible starter in the existing panel / fixing on the wall surface suitable for upto 5 to 10 HP pump-set i/c drilling holes, connections, testing & dismantling the existing one etc. as required.	10	job	5989	59890

J.E(E)

Correction.....
Deletion.....
Insertion.....

61	Supplying and fixing of 1.5 HP Single Phase Mono submersible pump set with Motor for operation complete as required (Make : KP4032 in Kirloskar/KSB). For Priming purpose in Two Nos. of Pump Sets	5	Each	31420	157100
62	Supplying and fixing of 7.5 HP, 14-stage Borewell submersible pump set capable of delivering 120-160 LPM at a head of 124-108 mtrs directly coupled with submersible electric motor suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply complete as required (Make : Kirlosker KS6B - 0830 / equivalent make in KSB).	2	each	59075	118150
63	Supplying and fixing of 10 HP, 16-stage Borewell submersible pump set capable of delivering 120-160 LPM at a head of 146-128 mtrs directly coupled with submersible electric motor suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply complete as required (Make : Kirlosker KS6B - 1030+/ Crompton Model / equivalent make in KSB).	2	each	66454	132908
64	Supplying / Fixing of 8 mm dia steel rope 'D' shackle along with pump motor, G.I. Pipe in the borewell etc. as reqd. (USHA MARTIN/Mahadev)	10	each	65	650
65	Supplying and fixing of 3 x 4 sq.mm flat submersible cable etc. as reqd. (Finolex, Polycab, Plaza make)	200	meter	175	35000
66	Servicig and overhauling of 3 Phase 440 V ACB Air Circuit breaker 800 Amp - 2000 Amp. ,overhauling isolating the ACB from supply line complete cleaning of contact with petrol and cleaning powder , checking of the shunt trip oil ,under voltage coil, NO and NC contacts , Wiring, adjustment of Contact gaps, and tightening of all nut and bolts keys, checking of spring action and its release, Cluster Contact Dismantling, SIC Contact Dismantling, Pole Assembly Dismantling, Repairing, Cleaning & Re-Assembling of all parts of ACB etc.	69	each	2550	175950
67	Servicig and overhauling of 11 KV HT VCB/OCB 630 Amp - 1200 Amp. , overhauling isolating the OCB from supply line complete cleaning of contact with petrol and cleaning powder ,adjustment of Contact gaps, and tightening of all nut and bolts keys, checking of spring action and its release, Repairing, Cleaning & Re-Assembling of all parts of OCB.	9	each	5400	48600

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

68	Calibration of Over Current and Earth fault relay cleaning of wiring system calibration with secondary injection test kit setting of tripping according to the Load complete with testing and commissioning as reqd.	9	per job	2500	22500
69	Supplying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade etc as required.				
a	2C x 10 sqmm	1000	Meter	185	185000
b	4C x 25 sqmm	1000	Meter	346	346000
c	3.5C x 35 sq.mm.	450	Meter	427	192150
d	3.5C x 50 sq.mm.	500	Meter	566	283000
e	3.5C x 70 sq.mm.	500	Meter	760	380000
f	3.5C x 95 sq.mm.	600	Meter	949	569400
g	3.5C x 120 sq.mm.	200	Meter	1181	236200
h)	3.5C x 185 sq.mm.	500	Meter	1740	870000
i	3.5C x 240 sq.mm.	250	Meter	2215	553750
j	3.5C x 300 sq.mm.	500	Meter	2695	1347500
70	Supplying and laying of following size 3 Core,11 KV (UE) Aluminium Conductor, Conductor screen with Extruded Semi Conducting Compound, XLPE insulated, insulation Screening with Extruded Semi Conducting Compound in combination with Copper Tape, Cores Laid up, inner sheath of PVC, Galvanised Steel Flat Strip Armoured and overall PVC Sheathed Cable Conforming to IS 7098/(part-II) 1985 in the existing masonry duct/ Cable alley/ loops/existing cable tray/angle iron frames etc as required.				
a	3.5 x 300 Sqmm	50	mtr	4000	200000
71	Dehydration of transformer oil of using dehydration machine to reach the dielectric strengths to the desired level (min 50KV/mm) etc as reqd.	5000	litre	10	50000
72	Tracing and locating of underground LT cable fault by means of fault location sensing machine including pointing out the exact place of fault complete etc. as required at site.	20	Per job	17727	354540
73	Tracing and locating of underground HT cable fault by means of fault location sensing machine including pointing out the exact place of fault complete etc. as required at site.	6	Per job	23636	141816
74	High pot testing of 11 KV HT bus bar all poles i/c checking connection with cable main & Transformer etc. as reqd.	10	Job	9800	98000

J.E(E)

Correction.....
Deletion.....
Insertion.....

75	Supplying of following capacity Fire Extinguisher at various location in DTU Campus as per direction of Engineer-in- Charge (Life Guard /Omax/Minimax with ISI Marked)					
a	ABC 6 kg	100	each	6225		622500
b	CO2 4.5 kg	100	each	10700		1070000
76	Taking out of following capacity/type fire extinguishers from the various floors fixed on hanging stand, removing the old gas/other extinguisher material from the cylinder at site hydraulic pressure at work shop and refilling the new gas/cartridge/other extinguishing material reqd. i/c pasting stickers, reinstallation of cylinder at their position etc as reqd.					
a	CO2 type fire extinguishers 4.5 k.g. capacity	300	each	1250		375000
b	CO2 type fire extinguisher 22.5 kg capacity	20	each	6111		122220
c	ABC type fire extinguishers 4.5 k.g. Capacity	100	each	742		74200
d	ABC type fire extinguishers 6 k.g. Capacity	100	each	1104		110400
77	Dismantling/Installation of Enclosure of Bus Duct from Transformer to LT Panel, removal of Dust, Tightening of Nut Bolts of Each Joint replacement of Nut Bolts with HT Nut Bolts wherever required, checking of all insulators and there support, Replacement of Insulators wherever required. Tightening of Enclosure Plate with replacement of Hardware wherever required.	100	Meter	5500		550000
78	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-In-Charge.	5	Cum	754		3770
79	Charges for gas cutting machine with LPG and Oxygen gas for cutting the dusted MS nuts and bolts with operator	5	shift	550		2750
80	Charges for chain pulley block, fitter/welding grade and tripod for lifting and working of the sluice valve from the chamber along with accessories tools as required by In charge	5	shift	1650		8250
81	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 coarse sand)	5	Cumtr	4451		22255

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

82	Supplying and replacing Kirloskar or equivalent make ISI marked specification 150mm dia sluice valve with flanges (Class PN 1.6) complete with non rising bronze/ss spindle with , hand wheel including the cost of dismantling of existing sluice valve and installation of steel sluice valve , providing and fixing rubber insertion, nuts bolts, washers etc. testing commissioning etc all complete as per direction of E-In-Charge	2	each	22550	45100
83	Making of M.S Dead Flange for closing of main body from top to make hole by gas cutter at site and rubber packing, nut bolts to closed the main body of sluice valve to make leak proof arrangement in line so that pumping cannot be disturbed	5	Job	1000	5000
84	Dismantling of 150mm dia sluice valve flap from the nut & spindle & upper dome each part.	5	Job	750	3750
85	Replacement of Bronze nut as per sample of 150mm dia sluice valve	10	No	2500	25000
86	Replacement of S.S. Spindle of single collar dia with machining, threading, collar and making square head for hand wheel for 150mm dia sluice valve	10	No	2900	29000
87	Assembling of 150mm dia sluice valve by fixing of sluice valve flape with the help of rubber packing, nut bolts. greasing etc. and gland dori with gland plate and closing of complete.	5	No	2000	10000
88	Supplying of DLP plastic trunking without flexible cover and without other accessories on existing wall of following size etc. as reqd. (Make: Legrand)				
a	105 mm x 50 mm	100.0	mtrs	808.0	80800
b	32 mm x 20 mm	50.0	mtrs	132.0	6600
c	85 mm cover	100.0	mtrs	365.0	36500
89	Supplying of following size modular of following switch and sockets in base & cover plate for modular switches in existing 105 x 50 mm DLP trunking etc as reqd.(Legrand make)				
a	15 A Switch	100.0	Nos.	335.0	33500
b	6 pin 15/16 amp socket outlet	100.0	Nos.	444.0	44400
90	Supplying of following sizes modular base & cover plate for 105 x 50 mm DLP trunking etc as reqd. (Legrand make)				
a	6 module J.E(E)	50.0	Nos.	48.4	2418

Correction.....
Deletion.....
Insertion.....

Total	34542727
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Correction.....
Deletion.....
Insertion.....

LIST OF APPROVED MAKES FOR ELECTRICAL INSTALLATION WORK		
S.No.	Description	Makes
1	MS conduit (ISi Marked)	BEC/AKG/NIC
2	MS Conduit accessories (ISi marked)	RAMA/ AKG / BEC/NIC
3	Modular Plate ,Modular Switch/ Sockets, TV Socket outlet, Telephone socket outlet, Lan socket outlet, GI Boxes, Fan Regulator, Industrial Socket Outlet(ISI marked)	Legrand(Myrus)/MK (Wrapround) /Schneider (Zendelo)/Northwest (Stylus)/ Crabtree (Athena)/Simon
4	1.1 KV Grade PVC insulated FRLS single core cable/wire (ISi Marked)	RRKabel/Polycab/Finolex
5	PVC conduit with accessories (ISI marked)	Precision/ AKG/BEC
6	TV cable/Telephone cable	Finolex/Polycab /RR Kabel /Havells/
7	Telephone Tag Blocks	Krone Type (German)/Pouyet/D-Link
8	Moulded Case Circuit Breaker (MCCB)	Siemens (3VA)/ Legrand (DPX3)/ Schneider (Compact NSX)/ L&T (D-Sine)
9	MCB / Distribution Boards/ Isolator/ ELCB /RCCB	Legrand/ ABB/ L&T
10	Lighting Conductor/Protection & Earthing System	JMV/ABB /Nimbus
11	Cable Tray (Factory Fabricated)	Legrand/OBO/KME
12	Floor Race Ways System	Legrand /OBO/MK /Schneider Electric
13	UPS system	APC/Emerson/ Numeric
14	LED Light Fixture	Wipro/Philips /Havells
15	LED makes in LED fittings	Nishia/Cree/Philips Ltd.
16	Ceiling Fan/Wall Fans/Exhaust Fans/ Pedestal Fans	Almonard/ Alstom/Crompton/Usha
17	External Lighting/ Lighting Fixtures	Wipro/Osram/Philips/Havells
18	External lighting Pole	Bajaj/Volmount/BPP/Schneider
19	High Mast Pole	Phillips/ Bajaj/ BPP/Volmount
20	Occupancy Sensor	Phillips /Wipro/GE/Finder
21	RJ-45 Modular Socket with Plate	Schneider/ Siemon/ Systimax
22	Ploycarbonate Junction Box	Sintex/MK/Legrand/Hensel/Neptune
23	H.T. Panel	ABB/Alstom/Schneider/Siemens
24	Transformer	ABB/Schneider/Crompton/Kirloskar/Siemens/Alstom (Areva)
25	Diesel Engine	Cummins/Perkins/ Caterpillar/KOEL/Volvo Penta/Sudhir
26	Alternator	KOEL/Stamford/Leroy Somer/Kohler/Perkins/Sterling & Wilson/Sudhir
27	Anti-vibration mountings	Dunlop/Resistoflex/Easy Flex/Kanwar

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

28	SMF Lead Acid Battery	Exide /Okaya /Amron /Amco /Cummins
29	Exhaust MS Pipes	Jindal (Hissar) /TATA/ Hindustan
30	Steel Structure	Sail/ Tisco/Jindal/ISTM
31	Ball Valve (Fuel)	Audco /Leader/ Sant
32	Insulation Mats /Rubber Mats	Jyoti/Maruti/ Agni/Howeil/Fire hut
33	GI Pipe	TATA Steel/Jindal (Hissar)/Sail
34	Bus Duct/Rising Main/ Tap off Box	Legrand/Schneider/L&T/C&S
35	MV Panel/ LT Panel/Feeder Pillar	Neptune/ Tricolite/C&S/SPC(Electrotech)/Risha Power Control
36	Rubber Gaskets	CIC/Varuna/Jyoti/Agni
37	Selector Switch's	L&T /Kaycee/AE/Salzer /Siemens
38	ACB's	L&T (Upower)/Siemens (3 WL)/ Schneider (Masterpact-NW)/ Legrand (DMX3)/ ABB (EMAX)
39	VCB's	Siemens/ L&T /Schneider/ ABB
40	LED Indication Lamps/Push button	Schneider Electric/ Siemens/L& T/Conserve/C&S
41	APFC/Capacitor Panel	/ABB/L&T/Siemens
42	Capacitors	Epcos/L&T/BCH/Neptune
43	CT's /PT's	Automatic Electric/ L&T/ Neptune
44	Electronic Digital Meters (A/V/PF/Hz/KW/KWH) with LED Display	Schneider Electric/Neptune/L&TSecure/
45	Automatic Transfer Switch	ASCO/Cummins/L&T/ ABB/Socomec
46	SPD (Surge Protector)	Mersen/Eaton/Weidmuller/LPI/ERICO/Indelac/ABB
47	Earth Leakage Protection relay/Aux. Relay /APFC Relay/PLC	L&T/Schneider /Legrand /C&S /Neptune/ Siemens
48	Digital Astra Timer	L&T/Schneider /Legrand /C&S /Neptune/ Siemens
49	Power Contactor / Aux. Contactor (Model to be compelled with System)	L&T/Schneider /Legrand /C&S /Neptune/ Siemens
50	Single Phase Preventer	L&T/Schneider /Legrand /C&S /Neptune/ Siemens
51	XLPE Aluminium/copper Conductor Armoured LT cables upto 1100 V Grade(ISI Marked)	Havells/Polycab/ Grandley/Finolex
52	AL. Conductor XLPE HT Cable (ISI Marked)	Polycab/Havells/National/Finolex/Universal
53	End Termination/ Brass compression gland	Dowell's/Comet/Raychem/Gripwell/ ABB
54	HDPE Pipe (ISI Marked)	Rex/ Duraline/Tirupati/GF
55	Jointing Kit /Cable Gland /Lugs /Thimbles /Compression Glands (HT/LT)	Comet /Dowells/Raychem /Gripwell /ABB/ Jainson/Denson
56	Water Pumps /Fire Pump/Dewatering Pump/Sewerage Pump/ Drainage Pump	Kirloskar/Harrison/Mather & Platt/ Grundfoss/Willo / DP Holand/Arm Strong
57	Electrical Motors	Siemens/Kirloskar/NGEF/ABB

J.E(E)

Correction.....
Deletion.....
Insertion.....

58	'C' Class Heavy Duty M.S. Pipe	TATA /Jindal (Hissar) /SAIL
59	Starters	L&T/Siemens/Schneider
60	Pressure switch	Indfoss/Switzer/System sensor/Plotter
61	Single headed Hydrant (Internal/External) /Fire Brigade inlet/Short branch pipe /shut off nozzle/Suction Collecting Head	Superex/Padmini/Newage/Safefire/LifeGuard/Safex/Getech/Ome x/Minimex/Suprex
62	Rubber pipe for hose reel	Superex/Maruti/Newage/Saf efire/Life Guard/Suprex/Padmini
63	RRL Hose(ISI Marked)/ First Aid Hose Reel/ Hose drum/ Hose Cabinet	Superex /Newage /Padmini /Safefire/ Life Guard
64	Anti Vibration Mounting/Vibration Eliminator Connectors/Metallic Expansion Bellows	Resisto Flex/ Easy Flex/ D.Wren/ Dunlop/ Kan wal
65	Flow Switch	System Sensor/ Plotter/ Johnson Control/Honeywell /Rapid Cool
66	Air Vessel	Padmini/ Chawla Fire/ Getech/Newage
67	Sluice Valve/Butterfly Valve/Non Return Valves/Check Valve/ Ball Valve/Y Strainer/Air Release Valves/Landing Valve/Orifice Plate	DRP/Cim/AIP/C&R/Emerald/Advance/Valtree /Kirloskar
68	Sprinklers (UL Listed)	Tyco/HD/G Tech
69	Fire Extinguisher	Life Guard /Ceasefire /Minimax /Safex / Newage/Safe Fire
70	Synthetic Enamel Paints /Primer	Asian/Berger/Nerolac/ICI
71	Pressure Gauge	Danfoss/ H-Guru/ Fiebig/ Emerald
72	Sprinkler flexible connection pipe	Newage/Youngjin/Flexhead

J.E(E)

Correction.....
Deletion.....
Insertion.....

LETTER OF TRANSMITTAL

[On the Letterhead paper of the Tenderer, or partner Responsible Including full Postal address, telephone no., fax no. and E-Mail and address]

No.....

Date.....

To,

Chief Project Officer
 Delhi Technological University
 Shahbad Daulatpur,
 Delhi-110042

Name of Work: - RMO various Electrical and Mechanical works (Internal and External) at DTU, Bawana Road, Delhi during 2023-24

Sir,

Having examined the details given in press Notice and bid document for the above work, I/We hereby submit the relevant information.

1. I / We hereby certify that all the statements made and information supplied in the enclosed forms A,B,C&D (As applicable) and accompanying statement are true and correct.
2. I/We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.

I/We submit the requisite certified Net Worth certificate and authorize the Executive Engineer, Delhi Technological University Shahbad Daulatpur, Delhi to approach the certified CA issuing the Net Worth certificate to confirm the correctness thereof. I/We also authorize Executive Engineer, Delhi Technological University Shahbad Daulatpur, Delhi.

3. To approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/We submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

S.No.	Name of Work	Certificate from

The firm should upload letter of transmittal on separate sheet duly stamped and signed. Incase above space is in sufficient.

Enclosures:

Seal of bidder
 Date of submission

SIGNATURE(S) OF BIDDERS (S)

J.E(E)

Correction.....
 Deletion.....
 Insertion.....

FINANCIAL INFORMATION

I. Financial Analysis –

(a) Details to be furnished duly supported by figures in balances sheet / profit & loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

(b) The information supplied shall be the annual turnover on construction work of the bidder in term of the amount billed to client for each year for work in progress or completed.

Financial Year	2021-22	2020-21	2019-20	2018-19	2017-18
Gross Annual turnover on Construction works					
Profit / Loss **					

II. Financial arrangements for carrying out the proposed work.

III. Net Worth Certificate issued by certified CA of the bidder in the prescribed Form "B-1".

* Amount to be filled in all columns ** Loss to be shown in with (-) sign

Signature of Bidder(s).

Signature of Chartered Accountant with Seal.

FORM 'B'

FORM OF BANKER'S CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that M/s / Sh..... having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement upto a limit of Rs.....(Rupees.....).
.....).

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.
(Signature)

For the Bank NOTE:-

- (1) Banker's certificates should be on letter head of the Bank.
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

FORM 'C'

DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED DURING THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DAY OF SUBMISSION OF TENDERS

S. No.	Name of work / project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / Arbitration cases pending / in progress with details *	Name and address / telephone number of officer to whom reference may be made	Whether the work was done on back to back basis Yes/ No
1	2	3	4	5	6	7	8	9	10

DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS UNDER EXECUTION

S. No.	Name of work / project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Upto date %age progress of work	Slow progress if any & reasons thereof.	Name and address / telephone number of officer to whom reference may be made	Remarks i/c grant of extension of Time with/without levy detail
1	2	3	4	5	6	7	8	9	10

J.E(E)

 Correction.....
 Deletion.....
 Insertion.....

PERFORMANCE REPORT OF WORKS REFERRED TO IN FORM "C"

1. Name of Work/Project & Location
2. Agreement No.
3. Estimated Cost
4. Tendered Cost
5. Value of Actual work done
(For the purpose of amount of similar work, cost component of EI 2013 Work)
6. Date of Start
7. Date of Completion
 - (i) Stipulated Date of Completion
 - (ii) Actual Date of Completion
8. Amount of Compensation levied for delayed completion, if any.
9. Amount of Reduced Rates Items, if any.
10. Performance Report

i) Quality of Work	Very Good/Good/Fair/Poor
ii) Financial Soundness	Very Good/Good/Fair/Poor
iii) Technical Proficiency	Very Good/Good/Fair/Poor
iv) Resourcefulness	Very Good/Good/Fair/Poor
v) General Behavior	Very Good/Good/Fair/Poor

Dated :**Executive Engineer or Equivalent
Address & Phone No. :**

J.E(E)

Correction.....
Deletion.....
Insertion.....

**Form of Performance Security (Guarantee)
Bank Guarantee Bond**

1. In consideration of the Delhi Technological University (hereinafter called 'The Government) having offered to accept the terms and conditions of the proposed agreement between _____ and (hereinafter called 'the said contractor(s) for the work "as per NIT" (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs.....(Rupees _____ only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

We, _____ (hereinafter referred to as "the Bank") hereby undertake (indicate the name of the Bank) to pay to the Government an amount not exceeding Rs. _____ (Rupees _____ only) on demand by the Government.

2. We, _____ do hereby undertake to pay the amounts due and payable

Under this guarantee without any demure, merely on a demand from the Government stating that the amount claimed as required to meet the recoveries due or likely to be from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs _____ (Rupees _____ only)

3. We, the said bank further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractors) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.

4. We, _____ further agree that the guarantee herein contained shall (indicate the name of the Bank) remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. We, _____ further agree with the Government that the Government (indicate the name of the Bank) shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms & conditions of the said agreement or to extend time of performance by the said Contractor (s) from time or the postpone for any time or from time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms & conditions relating to the said agreement and we shall not be relieved from our liability by reason of any

such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. We _____ lastly undertake not to revoke this guarantee except (indicate the name of the Bank) with the previous consent of the Government in writing.

J.E(E)

Correction.....
Deletion.....
Insertion.....

8. This guarantee shall be valid upto _____ unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs _____ (Rs _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the _____ day of _____ for _____ (indicate the name of the Bank)

J.E(E)

Correction.....
Deletion.....
Insertion.....