

## **Tender Details**

**Tender No:** SCL/PS5/2018E0100501

**Tender Date:** 08/05/2018

**Purchase Entity:** Pur\_Entity5

## **Tender Notice**

SEMI-CONDUCTOR LABORATORYE-procurement Tender no. SCL/PS5/2018E00100501, SEMI CONDUCTOR LABORATORY (SCL) invites ONLINE offers in TWO part system through e-tender portal <https://eprocure.isro.gov.in> for Supply Installation, Testing and Commissioning of Lighting Management system, Light Fixtures, UPS system, wiring and associated work in Auditorium Building at Semi-Conductor Laboratory (SCL S.A.S Nagar Mohali (Punjab) as per detailed specification and BOQ attached in tender document.

Tender Documents can be downloaded from 09.05.2018 at 1101 hours. to 11.06.2018 up to 1030 hours. The vendors need to get enrolled in the e-tender portal to access tender and submit their offer online. Vendors need to have Digital Signature Certificate as detailed on our e-portal and corporate e-mail ID to register on the above portal. Only online tenders will be accepted. No Manual/Postal/courier/e-mail/fax tender will be entertained. Please note Tender fee shall not be applicable for tenders submitted on-line through this portal.

Vendors interested to participate in this e-Tender are required to register themselves as vendors, if not already registered, in our e-procurement portal <https://eprocure.isro.gov.in> by downloading plugins and help demos listed on the home page of the e procurement link mentioned above to complete the vendor registration process. They can seek help from help desk 0091-20-25315555/9167969601 (Email:support.isro@nextenders.com) also the home page of e procurement portal may be accessed for any technical help for registration and subsequent process. Vendors may please note that without registering in our E-procurement portal they will not be able to quote for this tender.

## **Tender Attachments**

### **Technical Write-up/Drawings**

#### **Attachment - I:**

IDT0016960000000000isro05401.pdf

#### **Attachment - II:**

#### **Attachment - III:**

#### **Attachment - IV:**

#### **Attachment - V:**

### **Instructions to Tenderers (PT)**

Instructions to Tenderers (PT)1. Interested tenderers may, at their option, login to <http://eprocure.isro.gov.in> and submit offers as per details of notification

2. This being a two part tender -Technical and Commercial part separate, the Technical part should not contain Pricing information. The tenders containing Price details in Technical part will be treated as unsolicited offers and rejected.

3. Request for the extension of the due date will not be considered.

4. SCL reserves the right to accept or reject any / or all the tenders in part or full without assigning any reasons thereof. The bidder is at liberty to seek information related to bidding conditions, bidding process and/or rejection of its bid.

5. In this tender either the Indian Agent on behalf of the Principal/OEM or the Principal/OEM itself can bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of their principals shall provide necessary latest authorization letter obtained from their Principals/Manufacturers in their bid.

6. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the tender for the same item. If submitted, all offers submitted by the said agent shall be excluded from the procurement process.

7. The tenders of vendors who have not agreed to furnish Security Deposit or Performance Bank Guarantee as sought vide this tender shall be excluded from the procurement process.

8. The tenders of bidders where the validity of the tender is shorter than the period specified in the tender enquiry shall be excluded from the procurement process.

9. Late tenders, delayed tenders, fax quotations and e-mail quotations are not considered.

Bids submitted other than EGPS mode shall not be considered.

10. SCL reserves the right to verify all claims made by the bidder.

11. SCL reserves the right to change any milestone date of the tendering activity / tender schedule.

12. Tender which is not submitted in terms of instructions mentioned herein is liable to be rejected.

13. If tender opening date happens to be a public holiday, tender will be opened on the next working day and interested bidders may depute their representatives to attend the Tender Opening, with proper authorization.

14. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

15. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

16. It is to be noted that the drawings, specifications, end-use, etc., given by the purchaser, are confidential and shall not be disclosed to any third party.

17. Prices are required to be quoted according to the units indicated in the tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

18. The quote should indicate quantity wise unit rate separately which have to be filled online. The Prices are to be mentioned both in figures as well as in words. The taxes, duties etc. are to be calculated and indicated in the column provided in online forms explicitly.

19. Bidders are expected to comply with commercial and other terms and conditions given in vendor specified terms of this tender. In case of any deviation, the reasons thereof should be clearly specified in the vendor specified terms column.

20. All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the unraced technical offer bidder are advised not to quote any rate with BOQ provide in technical specification document .21. Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his bid. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. 22. The tenderer should provide, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser during evaluation of tender.

23. Subletting and Assignment: The contractor/supplier cannot sublet, transfer or assign the order/Contract or any part thereof or interests therein or benefit or advantage thereof in any manner

whatsoever, to any other party save with the previous written consent of the purchaser. Such consent by the purchaser, however, shall not relieve or discharge the contractor/supplier from any obligation, duty or responsibility under the Purchase Order/ Contract.

24. The contractor/supplier shall indemnify the purchaser against Workmen Compensation Act.

25. The authority of the person submitting the tender, if called for, should be produced.

26. The bids shall be opened as per schedule indicated in the Tender in the presence of the bidders/their authorized representatives who may like to attend the tender opening against presentation of Authorization letter. Due to any breakdown in server/link, bid opening will be continued on the following dates.

The schedule of opening of Price bids shall be intimated separately to the technically qualified bidders only.

#### 27. PROCEDURE FOR EVALUATION OF TENDERS:

##### Technical Evaluation Criteria:

Vendor meeting the eligibility criteria and basic technical specifications mentioned in SCL Tender shall be considered to be technically qualified.

##### Evaluation of Price Bids

The following elements shall be considered for evaluation of Priced Commercial offer:

a. Price quoted by the bidder in the price bid template for meeting the functionalities given in the Tender and Technical Specifications sheet. Bid shall be evaluated on overall cost basis. b. Charges for installation, testing and commissioning if any in case quoted separately.

c. Compliance with the Payment Terms prescribed in this tender document. In the event, the bidder offers Payment Terms stringent than SCL prescribed Payment Terms, the bid of the bidder shall be loaded based on Base Rate of SBI prevailing on the date of opening of price bids.

d. In the event of the bidder seeking a Confirmed Letter of Credit, the bidders bid shall be loaded at the rate 0.5 percent of the LC value towards confirmation charges.

e. In the event of the bidder requiring SCL to bear bank charges outside India (foreign bank charges), the bidders bid shall be loaded at the rate 0.5percent of the LC value towards bank charges outside India.

28. The bid should contain the following information:-

a. Agency Commission: Bidders are required to provide the following information in respect of their authorised Indian Agent, if any, alongwith technical bid as the same is mandatory as is required for consideration of the bid. Name, Address, Telephone no. , fax no., email of the Indian Agent including the contact person. A letter from the Manufacturer/supplier in the current date certifying that the said

Indian Agent is their authorised Indian Agent and also indicating the responsibilities/role of the Indian Agent under the proposed purchase. Renumeration/service charges payable to the Indian Agent under the proposed purchase. The amount of agency commission included in the price and payable to Indian Agent of the contractor shall be paid directly to the Indian Agents by the Purchasers in equivalent in Indian rupees on the basis of an invoice from him applying TT buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. The payment will be released to the Indian Agents within 30 days from the date of acceptance of the goods.

b. Details of any technical service, if required for erection, assembly, commissioning and demonstration.

29. The FOB/FCA prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer country.

30. The details of Import License will be furnished in the Purchase Order.

31. Instruction/operation manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents/correspondence should be in English Language only.

32. Part shipment is not allowed unless specifically agreed to by us.

33. As far as possible, stores should be dispatched by Indian Flagged Vessels/ Air India or through any Agency nominated by us.

34. Eligibility Criteria:

only those contractors meeting the below mentioned eligibility criteria are eligible to participate in the tender.

1. Contractors should have satisfactorily executed at-least one (1) works of value not less than Rs. 40.90 lacs or two (2) works of value not less than Rs. 30.68 laksh or three (3) works of value not less than Rs.20.45 lakh during the last 7 (seven) years. Similar Work shall mean electrical works inter-alia involving illumination, power distribution etc. To ascertain eligibility for the work, the participating bidder shall enclose copy (ies) of the detailed purchase order(s)/ work orders and their completion certificate(s), evidencing satisfactory completion of similar works issued by the respective clients /organisations. Completion certificate for works issued by private parties shall be supported by TDS.

2. Average Annual financial turnover during the last three (3) years ending 31st March 2017 should not be less than Rs.15.34 lakh.

3. The contractor should not have incurred any loss in more than two years during the last five (5) financial years ending 31st March, 2017.

4.A solvency certificate of minimum solvency of Rs.20.45 lakh from a Scheduled Commercial bank issued not earlier than 6 months from the last date of submission of tender.

5.The contractor should possess valid license of Class "A" Category Electrical Contractor issued by the Central or State Licensing Authority.

6.Bidder to provide certificate copy from Chartered Accountant for the Annual Financial turnover and balance sheet showing profit and loss.

7.Rates quoted by the bidder for various items of the work shall include all Taxes including GST etc. as applicable.

#### 35. RECOVERY OF SUM DUE:

Whenever any claim for the payment of whether liquidated or not, money arising out of or under this Contract against the Contractor the purchaser shall be entitled to recover such sum by appropriating in part or whole the security deposited by the Contractor if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor then the balance or the total sum recoverable as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly if the purchaser has or makes any claim whether liquidated or not against the Contractor under any other Contract with the purchaser the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

#### 36. LANGUAGE AND MEASURES:

All documents pertaining to the Contract including specification schedule notice correspondence operating and maintenance instructions drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

#### 37. TECHNICAL DOCUMENTATION:

The Contractor shall provide installation, operation maintenance and programming manual. All documentation shall be in English language.

#### 38. CONTRACTORS DEFAULT LIABILITY:

The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder:

a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

In the event the Purchaser terminates the Contract in whole or in part as provided in this tender document, the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 24 until such reasonable time as may be required for the final supply of stores.

A) If this Contract is terminated as provided in this tender document, the Purchaser in addition to any other rights provided in this Article may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores

drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.

B) In the event the Purchaser does not terminate the Contract as provided in this tender document, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in this tender document until the stores are accepted.

## Bid Templates

### PART A : GENERAL SPECIFICATION

#### Item Specifications

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	Intent of Specification :(a). The technical scope of the project includes supply, installation, testing and commissioning of all material as per detailed technical specifications (Part B of specifications,Annexure 1-7) and Bill of Quantities for electrical works envisaged to be carried out in the ongoing project of construction of Auditorium Building at Semi-Conductor Laboratory (SCL), S.A.S. Nagar, Mohali (Punjab). (b).Specification includes receiving, unloading, storage, insurance, in-plant transportation of all			



	<p>equipment &amp; accessories covered under this specification and BOQ.(c). The work shall be carried out by the selected vendor (contractor) as per the specifications spelled out in Part-B of specifications,Annexure 1-7 of the tender specifications following CPWD specifications and relevant IS codes.(d). The work shall be executed by the contractor as per the Approved for Construction (AFC) Drawings. The contractor will prepare working drawings complying with the technical specifications, the tender drawings as well as the Bill of quantities, and integrate wiring/cabling system for optimal space utilization/ management as part of the detailed engineering, and submit the drawings to SCL for its approval. SCL</p>			
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	<p>shall review the drawings and comments, if any, shall be incorporated in the same by the Contractor. The approved drawings (to be called as the Approved for construction or AFC drawings) shall be the drawings for implementation by the Contractor.(e). Payment for the work shall be made on the basis of actual work done and the accepted rates for various items in the Bill of Quantities.(f). The Auditorium Building is under construction. Internal wiring and power distribution work in the Auditorium Building is being undertaken by SCL under a separate Contract. Internal works, Acoustic work (walls and ceiling) and Audio-Visual (AV) work in the auditorium will also taken- up by SCL under separate contracts</p>			
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	<p>in due course..The works under the scope of this tender shall be undertaken by the contractor in close co-ordination with the progress of civil works (including interiors and Acoustic works) and on-going electrical works. In the event of delay in these said works (electrical and civil works), due to any unforeseen reason(s), the contractor shall continue to carry out the work in sync with the progress of the said works. Suitable extension of time will be given to facilitate completion of the work. There shall be no compensation payable to the contractor on account of extension of time, if any, for completion of the work.(g). The Contractor may conduct site visit to SCL to have a fair assessment of the work</p>			
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	involved.			
2	<p>General Design Consideration:A). System configuration:(i).Voltage Supply: 400V ± 10%(ii).Frequency :50Hz ± 5%(iii).No of Phase and grounding: 3 Phase &amp; Solidly ground earth(iv).Power Distribution: A.C., 3 Phase 4 wire for 3 Phase system, 1 Phase 3 wire system for 1 Phase system.(v).Fault Level : 36kA at incomer of 40kVA UPS Maintenance by pass panel and all switchgear shall be rated for 36kA or more.B). Code &amp; Standards: All electrical equipment and accessories to be furnished, installed and commissioned under scope of these specifications shall be designed, manufactured, tested and installed in accordance with relevant</p>			

	Indian Standard Specifications (ISS), Indian electricity rules and any other applicable regulations.			
3	Period of Completion:The time allowed for supply installation, testing and commissioning of the entire work shall be Five (5) months to be reckoned from the 7th day of issue of purchase order by SCL.			
4	Drawing, Data and Manuals:Following drawing /documents shall be submitted at the time of acceptance of the system.(a). Electrical single line diagrams and as built diagram for completes electrical system.(b). Maintenance by pass panel Single line diagrams, GA drawings and as built diagram for complete 40kVA UPS system(c). Layout drawing with			

	<p>dimension of all equipment's including UPS, Battery cabinet and battery bank arrangements(d). Layout drawing with dimension of all electrical equipment's under the bidder's scope.(e). Make, type and catalogue of LED Fixture, lighting management system, Power Cables, wire and related accessories along with technical leaflets, data sheets, etc. to be provided by the contractor. The contractor shall offer recommended makes mentioned in Annexure-7.(f). Equipment data sheets furnishing guaranteed performance figure for each type of equipment's.(g). Test certificates, test results for each type of equipment.(h). Checks list and test to be conduct during erection, testing &amp;</p>			
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	<p>commissioning of the individual equipment's.(i). On successful completion of the entire work, the Contractor shall provide 'As Built' drawings for all the Systems executed under the Contract. Three (03) sets of hard copies and one (01) set in soft copy (CD/DVD) in Auto-CAD format shall be provided to SCL for its record and reference. Contractor shall also provide instruction / Operation manual(s) and maintenance manuals for the all equipment.</p>			
5	<p>Deviation:(a). Contractor to clearly mention the deviation in the specification, if bidder wishes to deviate from the specification.(b). All such deviation shall be clearly mentioned on the deviation sheets and submitted with the</p>			

	<p>offer.(c). Unless such deviations are recorded in the deviation sheets and submitted with the offer, it will be assumed that the offer is made in conformity with this specification in all respects.(d). The deviations shall be evaluated by SCL and acceptance of the same shall be the sole discretion of SCL.</p>			
6	<p>Quantity variation:The quantities indicated against each item in the Bill of Quantities (BOQ) are indicative and are for the purpose of bidding only. Variation in quantities upto + 25% shall be carried out by the contractor on the agreed/Purchase Order (PO) rates and terms &amp; conditions as in the Purchase Order (PO). In case of contract items</p>			



	<p>which exceed the said limit of +25%, the contractor may claim revision of rates supported by proof analysis and if the rate claimed in excess of the rate specified in the bill of quantities, SCL's engineer-in-charge of the work shall after giving consideration to the analysis of rates submitted by the contractor determine the rates on the basis of market rates and the contractor shall be paid in accordance with the rates so determined. The Contractor's profit &amp;OH shall be factored in the rate analysis@15%.</p>			
7	<p>Extra Items:In case of extra items (that are completely new and are in addition to the items contained in the contract), the contractor may claim rates supported by proper analysis and SCL's</p>			

	<p>engineer-in-charge of the work shall after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of market rates and the contractor shall be paid in accordance with the rates so determined. The Contractor's profit &amp; OH shall be factored in the rate analysis@15%.</p>			
8	<p>Power supply for installation:Electricity, if available in the premises and spare able, may be provided to the contractor by Department only at the single point subject to the following conditions: -(a) The Contractor has to make his own arrangement to tap Electricity from a 3 phase/single phase supply from location decided by Engineer-in-charge. Free</p>			

	electricity supply will be made available.			
9	Safety:In the course of the work, personnel working in the system at site should take utmost care for their safety and work purely at individuals/ party's risk.SCL will not be responsible for any untoward accidents for the party's working personnel. The vendor/ firm/party shall clear all waste material and left out material from the site after completion of work at his cost. The party/firm shall treat all materials obtained during the work at site as SCL property and such materials shall be handed over to SCL, vendor shall execute the work as per applicable safety standards and codes.			
10	Storage/ site office space:			

	Contractor shall be provided a lockable room within SCL premises for storage space and site office.			
11	Eligibility Criteria:Only those contractors meeting the below mentioned eligibility criteria are eligible to participate in the tender.			
11.1	Contractors should have satisfactorily executed at-least one (1) work of value not less than Rs. 40.90 lakh or two (2) works of value not less than Rs. 30.68 lakh or three (3) works of value not less than Rs. 20.45 lakh during the last 7 (seven) years. 'Similar Work' shall mean electrical works inter-allia involving illumination, power distribution etc. To ascertain eligibility for the work, the participating bidder shall enclose copy			

	(ies) of the detailed purchase Order(s)/work orders and their completion certificate(s), evidencing satisfactory completion of similar works issued by the respective clients/organisations. Completion certificate for works issued by private parties shall be supported by TDS.			
11.2	Average Annual financial turnover during the last three (3) years ending 31st March 2017 should not be less than Rs.15.34 Lakh.			
11.3	The contractor should not have incurred any loss in more than two years during the last five (5) financial years ending 31st March 2017.			
11.4	A solvency certificate of minimum solvency of Rs. 20.45 Lakh from a Scheduled Commercial			

	bank issued not earlier than 6 months from the last date of submission of tender.			
11.5	The Contractor should possess valid license of Class 'A' Category Electrical Contractor issued by the Central or State Licensing Authority.			
11.6	Bidder to provide certified copy from chartered accountant for the Annual Financial turnover and balance sheet showing profit and loss.			
11.7	Rates quoted by the bidders for various items of the work shall include all Taxes including GST etc. as applicable.			
NOTE:1. The contractor shall carry out the work in co-ordination with the other contractors engaged by SCL for various works for the Auditorium				

<p>Building.2. Various materials/systems etc. procured by the selected Contractor for incorporation in the work shall be only of RFP specified Makes/Manufacturers of various materials / systems. Submittals of the same shall be submitted by the contractor for SCL review and approval.</p>				
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**PART B : Technical specifications Annexure 1 : Internal Wiring**

**Item Specifications -I**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	The electrical wiring installations and other accessories shall comply latest IS: 732 (part-II) 1983 and National Electric Code-1985.			
2	The word concealed means it involves cutting of floor /wall and making the same good after laying the conduit/Metal raceway as per the enclosed drawings by the contractor as required.			
3	The contractor shall provide all necessary components, fixing materials, accessories and interconnections as per standard practice.			
4	Track lighting (in exhibition hall) will be generally located on the			



	ceiling. Locations of the tracks are indicated as TR-1 to TR-6 in the lighting scheme. Wiring for the same will be done from existing MCBDB to the fixture.			
5	Scope includes termination of wire, ferruling, dressing, cable tie etc. as required.			

**PART B : Technical specifications Annexure 2: Luminaries**

**Item Specifications -II**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	The scope comprises of supply and installation of LED light fittings suitable for operation on 230V, single phase, AC supply. The fitting shall be supplied with all fixing material such as brackets, nuts, bolts etc. as required for installation of fittings with the following specifications:			
a).	Voltage range shall be: 110V to 270V.			
b).	LED shall be of high power, white LED with suitable optics/lenses (for increase in area of illumination).			
c).	Lumen output is not less than 100 lumens per watt.			

d). Power factor shall be more than 0.90.e). Driver efficiency shall be more than 90%.				
f).Fitting shall be efficient heat dissipative designed for heat sink.g). Housing shall be high grade aluminium die cast.				
h). Cover for the luminaries - toughened glass.i). Beam angle- beam pattern with high spreads using quality lenses and reflectors, beam angle is more than 120°.				
j). Heat sink temperature raise above ambient is less than 15 °C				
2	Special Conditions: a). Luminaries makes (Brand) shall be mentioned in Technical Bid along with complete technical details.			
b). The LED light fitting and its driver unit etc. shall				

have warranty for a period of 5 years from the date of installation and commissioning.				
c). Make of Driver for Dimming Light: Helvar/B.A.G/Philips/Osram				
d). Make of fixture: Philips, GE, Trilux, K-lite (For façade Lighting only)				
e). LED MAKES: NICHIA / CREE / PHILIPS LUMILED / OSRAM.				
f). Make of Lighting Management system: CLIPSAL(Schneider)/Lutron /Philips				

**PART B : Technical specifications Annexure 3: Lighting Management System**

**Item Specifications -III**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	Lighting Management system includes supply installation testing commissioning of lighting management system components which includes Channel relay module, Channel Analogue Dimming module, PC interface unit with USB port, Surge Protection Device, MCCB/RCCB etc. as specified in BOQ. The scope is not limited to the item mentioned in the BOQ but shall also include any other item required for smooth commissioning of the works of lighting management system and the same shall be deemed to be included in the quoted rates of the Contractor.			

2	Contractor shall engage an Authorized System Integrator of Lighting Management system for smooth implementation of the system.			
3	The quoted rates shall also include imparting necessary training to SCL Personnel for the Lighting Management system.			

**PART B : Technical specifications Annexure 4 : 1 x 40 kVA UPS system:**

**Item Specifications -IV**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	Scope: The UPS system consists of On-line double conversion (one no. 40 KVA) independent UPS system. In case of the failure of the UPS the load shall be automatically passed on to the by-pass (normal supply) through static bypass switch without any break and Stand-alone type Maintenance bypass panel for providing normal supply without any break during UPS maintenance.			
2	System Description:The system should consist of the following major components:a) Auto Manual Bypass operation provision with Mechanical/static bypass switch and shall be of No			

	<p>break transfer type during operation bypass arrangement. b) Maintenance bypass panel to carry out maintenance activities on UPS system Converter for battery charging.c) Solid state static PWM Inverters utilizing IGBT technology.d) 12Vsealed high rate discharge maintenance free valve regulated lead acid battery bank (VRLA) along with battery cabinet. e) Converter input, bypass input and system battery breaker/contactactor, inverter output breaker/contactactor and static bypass switch with primary breaker/contactactor, converter input and system input fuses etc.f) Maintenance bypass panel to carry out maintenance activities on UPS system.</p>			
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3	<p>Modes of Operation: The system should be designed to operate continuously at rated capacity. a) Normal operation: The load shall be connected to the mains supply and the chargers shall charge the battery as required and in case of failure of the commercial supply the load shall be transferred to the inverters and the battery bank. b) Battery Operation: In the event of commercial A.C failure, the inverter shall derive the input from the system battery without any break. c) Recovery charge: Subsequent to restoration of commercial A.C. Power, the recharging the battery system shall be carried in boost /trickle charge as required without any interruption. d) Bypass supply (Static bypass switch): In the event of inverter failure, the critical</p>			
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	<p>load shall be transferred to bypass source via the static switch without interruption of power to the critical load provided. Manual re-transfer arrangement shall be made in the system to transfer the load from bypass to inverter without any break after attending the fault in the system.e) Bypass supply (Mechanical bypass switch): UPS shall be equipped with manually operated mechanical bypass switch (MBS) in case of minor preventive maintenance or minor repair has to be performed on the UPS, load shall be powered from bypass source through Mechanical bypass switch. The power shall be transferred from inverter to normal bypass and Maintenance bypass or vice versa without interruption by manual</p>			
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	<p>operation. f) Maintenance by-pass Panel: In case of comprehensive maintenance or repair has to be performed on the UPS, load shall be powered from bypass source through maintenance by pass panel(MBP), however during power transfer from inverter to MBP or vice versa the load shall be transferred without interruption by manual operation. After transferring the load to maintenance bypass, UPS system shall be free from all aspects i.e. switching OFF, switching ON, attending faults etc.NOTE: Mechanical bypass Switch and Maintenance by pass panel shall be protected by a door locked with key.</p>			
4	<p>Technical Specifications:a). Input (Charger / Converter):• Input</p>			

	<p>voltage: 415V, A.C. + 15%,-25%• Input frequency: 50 HZ +/- 5%• Power factor at rated load: 0.95b). D.C. Characteristics:•Battery type : Sealed high rate discharge maintenance free Valve Regulated Lead Acid (VRLA)• Total VAH capacity of offered battery bank system shall be equivalent to 30720 or better.• Float charge voltage: 2.25 Volt per cell• End of battery voltage : 1.70 volts per cell•Voltage stability of the rectifier :+/- 1%• Ripple voltage (with battery disconnected) : Less than 1%• Battery charging cycle : Boost/float charging with current limit &amp;boost time limiter• Charging time : 8-10Hrs• Vendor shall specify DC bus voltage, DC current at 100% load and Life span of battery along with the bid.• Vendor shall specify Weight and Dimensions of</p>			
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	<p>the offered Battery cabinet system along with lifespan of battery c). Input (Bypass):</p> <ul style="list-style-type: none"> <li>• Configuration : 3 Phase, 4 wire</li> <li>• Input voltage : 415V +/- 15%</li> <li>• Frequency: 50 HZ +/- 5%</li> <li>• Over load on bypass static switch : 100% rated current continuous : 10 times rated current for 20ms</li> <li>• No break transfer: UPS system shall have logic circuit to sensing the following conditions and transfer the loads from module to bypass without break.</li> <li>• Inverter output under Voltage/ over voltage</li> <li>• Overload beyond the capability of the Inverter.</li> <li>• D.C. Circuit under voltage or over voltage.</li> </ul> <p>d). Output (Inverter):</p> <ul style="list-style-type: none"> <li>• Configuration: 3 Phase, 4 wire</li> <li>• Output rating : 40 kVA</li> <li>• Load power factor : 0.8 lag to unity</li> <li>• Voltage : 415V</li> </ul>			
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	<p>Output frequency :50Hz•  Static output voltage  variation : +/- 1%• Voltage  regulation: &amp;#61656;+/-  1% for unbalanced load  &amp;#61656;DC input voltage  varies fromdesigned Max.  to Min.• Manually  adjustable Output Voltage  : +/-5% of nominal  voltage• Frequency : +/-  0.01 HZ with by pass  Unsynchronized  operation• Synchronizing  range with bypass : +/-  5%(Selectable at Various  levels)• Over load  &amp;#61656;110% for 60  minutes &amp;#61656;125%  for 10 minutes  &amp;#61656;150% for 1  minute• Total harmonic  distortion: Less than 5 %  THD • Efficiency (Total  system): Better than 93%•  Duty Cycle : Continuous•  Waveform : Sinusoidal•  Crest factor: Shall be 3:1  or better• UPS shall have  Built -in /External isolation</p>			
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	<p>transformer e).</p> <p>Environment:• Operating Temperature : 0 to 40 Deg. C• Relative Humidity : 5% to 95% Maximum• Altitude : up to 1000 mtrs Sea level). Mimic Display:• Mains available• Rectifier operative• Inverter operation• Battery voltage OK• Bypass supply OK• Load on bypass• Load on inverter• Fault Codes etc. • Boost/Float chargingg). Efficiency and Heat Losses:Vendor to specify the efficiency at 100%, 75%, 50% and 25% loading along with No load and Full load Heat losses.</p>			
5	<p>Alarms:The UPS must be equipped with a lighted operating status indicator along with small buzzer able to immediately indicate the following operating conditions:• Inverter OFF/ failed•</p>			

	<ul style="list-style-type: none"> <li>Rectifier OFF / failed•</li> <li>Emergency Stop•</li> <li>Over temperature•</li> <li>Over load•</li> <li>Output frequency not synchronized with the input•</li> <li>Load on bypass</li> </ul>			
6	<p>Metering:To select and monitoring the following through LED/ LCD display:-</p> <ul style="list-style-type: none"> <li>• Output voltage•</li> <li>Output Current•</li> <li>Output Frequency•</li> <li>Battery voltage•</li> <li>Battery charge /discharge current•</li> <li>Input voltage, current frequency</li> </ul>			
7	<p>Protection:The UPS shall have following protection but not limited to standard protection but shall also include important protection required for smooth operation of the UPS system.</p> <ul style="list-style-type: none"> <li>• Overload•</li> <li>Short circuit•</li> <li>Input low voltage•</li> <li>Output over voltage•</li> <li>Battery overcharging•</li> <li>Battery over discharging</li> </ul>			



8	UPS shall comply with applicable EMI standards and vendor shall submit factory test certificates complying with CE, ISO 9001 & ISO 14001 etc..			
9	Noise level at a distance of 1Mtr shall be less than 70dBA			
10	Vendor shall provide UPS Make, Model, dimensions and Weight along with the bid.			
11	Appropriate rating Fuse link/Circuit Breaker protection for input and the static bypass switches			
12	UPS cabinet shall be composed of a free standing Power Coated GI/MS steel type enclosure complying with IP 20 or more.			
13	Cable entry should be from the Top/ bottom of			

	the cabinet.			
14	Inter Cell connectors should be of lead coated Copper Strip/copper flexible cable and all links should carry maximum discharge current when UPS is on full load.			
15	A powder coated battery cabinet of IP- 10 or better standard with sufficient ventilation shall be provided to house the batteries.			
16	Vendor shall submit battery calculation and AH capacity for SCL evaluation and acceptance of the same shall be the sole discretion of SCL.			
17	Vendor shall depute OEM's representative or engage Authorized system integrator dealer for its installation and commission.			

18	<p>Scope of Installation:Scope includes installation of supplied UPS module , battery bank system,battery cabinets, inter connections, Power and controlcabling, Termination, Glanding, Power Earthing starting from Maintenance bypass panel shall be in the scope of vendor and other associated works forsmooth operation of the system as per the requirement of SCL.</p>			
19	<p>SCL Scope: SCL shall supply and installation of input and outputcables fromMaintenance by-pass Panel.Internal cabling fromMaintenance by pass panel to UPS/Battery/static by pass etc. shall be supplied and install by the Vendor.</p>			

**PART B : Technical specifications Annexure 5: Earthing**

**Item Specifications -V**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	The earthing shall involve:Providing coil/spiral earthing using 8 SWG 'GI' wire for street light pole etc. 'GI' wire buried to a minimum depth of 1.5m, with excavation, refilling and connecting GI wire to pole using GI bolt and nut.			

**PART B : Technical specifications Annexure 6: Cables, wire, conduit, earthing, Switchboards, Switches/Sockets etc.**

**Item Specifications -VI**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	Cables shall be copper conductor, PVC/XLPE insulated, extruded PVC inner sheath, strip/wire armored and overall PVC outer sheathed 1.1 KV grade, as per IS 7098 (Part I)			
2	The cables shall be laid in ground and in trays/clamped to wall depending on actual site conditions.			
3	Lying of 1.1 KV grade, XLPE insulated, and overall sheathed, stranded aluminium conductor, flat strip/wire armoured cables in ground/hard soil/soft soil shall be carried out 750 mm below ground level. Scope shall include transportation of			

	<p>cable to site, excavation of earth, laying the cable and covering with sand and placing the bricks on sides and top, refilling the earth and providing cable router/joint markers complete as per government specifications.</p>			
4	<p>End terminations for 1.1KV grade, PVC/XLPE insulated armoured/unarmoured, copper conductor cable shall include supply of cable gland, lugs, ferruling, neoprene bushes and other materials and tools required complete with terminal connections, earthing of glands and as required and as directed by EIC.</p>			
5	<p>Wire: The scope includes the Supply and installation of FRLS, 1.1 kV grade, ISI marked, PVC insulated, single core, stranded Copper conductor cable</p>			

	confirming to IS: 694 (with latest amendments) of different size quantity & Specification as per the BOQ for power distribution and lighting etc. as per the requirement.			
6	Conduit: The scope includes the Supply and installation of 20/25 mm dia, ISI Mark, 2mm thick, Electrical grade PVC Conduit of different size quantity & Specification as per the BOQ for power distribution, lighting modification, heaters and lighting etc. as per the requirement. Flexible conduit shall be GI.			
7	Earthing: The scope includes the Supply and providing earthing material for light fixtures as per the requirement, Specification and quantities as per the BOQ.			

<p>Note: The conduit laying drawings as per the actual site condition are to be prepared (as per the guidelines of the system supplier) by the contractor and submitted to EIC for clearance.</p>				
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**PART B : Technical specifications Annexure 7 : Approved Make List**

**Item Specifications -VII**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Remarks
1	Lighting Management Systems: CLIPSAL (Schneider)/Lutron/Philips			
2	Make of fixture: Philips, GE, Trilux, K-lite (For façade Lighting only)			
3	Make of Driver for Dimming Light: Helvar/B.A.G/Philips/Osram			
4	LED MAKES: NICHIA / CREE / PHILIPS LUMILED / OSRAM			
5	UPS: APC /VERTIV /RIELLO /SOCOMEK			
6	SMF Batteries: Exide/AMCO/Amara Raja/Panasonic			
7	Power/Control cables:Finolex /Havells /			

	KEI/ Polycab/RPG/LAPP			
8	Switchgear: Schneider/Siemens/ABB			
<p>Note: if vendor intends to use the item whose make is unspecified, before installation of the same vendor shall submit the make of the item for SCL review and acceptance of the same shall be the sole discretion of SCL.</p>				

## Vendor Specified Terms

Description	Vendor Terms
<p>1. Definitions:</p> <p>a) The term Purchaser shall mean the Director, Semi Conductor Laboratory or his successors or assignees.</p> <p>b)The term Contractor shall mean the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractors Successors, representatives heirs executors and administrators unless excluded by the Contract.</p> <p>c) The term Purchase Order/Contract shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant machinery Software or equipment or part thereof.</p> <p>d) The term Stores shall mean all that the Contractor agrees to supply under the Contract as specified in the Purchase Order including its installation, testing and commissioning as per the specifications.</p>	
<p>2. GST:</p> <p>Purchaser is entitled to concessional GST of 5% as per Ministry of Finance Department of Revenue, Notification No. 47/2017 Integrated Tax (Rate) both dated 14th November 2017 respectively and would accordingly issue Exemption Certificate in favour of the contractor quoting in Indian Rupees. The bidder should take note of the same</p>	

<p>while quoting the prices in Indian Rupees.&lt;br&gt;</p>	
<p>3. For imported materials, Purchaser is entitled to issue Customs duty exemption certificate (CDEC) to the contractor under customs notification no.51/96 dated 23.07.1996 and subsequent amendments to enable the contractor to avail off the benefit of concessional rate of customs duty under this notification. CVD under this notification is nil. In addition to the above CDEC any documentary support requested by the contractor from the purchaser for customs clearance of goods against the above CDEC shall be provided by the purchaser.</p> <p>(Purchaser will provide Customs Duty Exemption Certificate in case of Import Orders/ imported supplies/ High Sea Sales).</p>	
<p>4 . PRICES:</p> <p>Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.</p>	
<p>5. DELIVERY SCHEDULE/PERIOD OF COMPLETION:</p> <p>The time allowed for supply installation testing and commissioning of the entire works shall be 05 (Five) months to be reckoned form the 7th day of issue of purchase order by SCL.</p>	
<p>6. SECURITY DEPOSIT:</p> <p>a) On acceptance of the tender, the Contractor shall submit security deposit for ten percent (10 percent) of the value of the Contract within</p>	

<p>15 days from the date of purchase order. If the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores contracted at the cost and risk of the Contractor.</p> <p>b) Security Deposit shall be submitted through Demand Draft /Bankers Cheque/ fixed deposit receipt or Bank Guarantee from any of the Scheduled Banks executed on non-judicial stamp paper of appropriate value, and shall be valid for a period of sixty (60) days beyond the date for completion of the Purchase Order/Contract.</p> <p>c) In case the contractor fails to furnish the security deposit within the specified date or extended due date, the Purchase Order/Contract shall be cancelled, and the EMD, if any, made earlier shall be forfeited, and, in addition appropriate penal action may also be considered.</p> <p>d) After the Purchase Order/Contract is successfully executed in all respects, the Bank Guarantee towards Security Deposit may be discharged and retained amount and / or EMD refunded to vendors.</p> <p>e) In the event of non-execution of the Purchase order/Contract or breach of any terms and conditions of the Purchase Order, the Security Deposit shall be forfeited.</p>	
<p>7. Warranty :</p> <p>The Contractor shall provide for the tendered equipment comprehensive warranty for parts as well as labour for a period of 12 months from the date of successful installation, commissioning and testing of the equipment at Purchasers site at no extra charges against</p>	

<p>any manufacturing defect/faulty workmanship. In case any defect arises during warranty period, the Contractor should replace/rectify the same at its own cost at site/works.</p> <p>The LED light fitting and its driver unit etc. shall have warranty for a period of (05) Five years from the date of installation and commissioning.</p>	
<p>8. Warranty Replacements:</p> <p>All replacement parts during the warranty period shall be supplied by the Contractor, free of cost on DDP (Delivery Duty paid) basis with freight and insurance upto Purchaser site at S A S Nagar Punjab and customs duty applicable in India to the Contractor account including compliance with the customs procedure in India. The indigenous replacement parts, if any, shall be supplied by the Contractor free of cost on F O R Purchaser site at S A S Nagar Punjab basis.</p>	
<p>9. TERMS OF PAYMENT IN CASE OF OVERSEAS SUPPLIERS:</p> <p>Being a Department of the Government of India the normal terms of payment are by Sight Draft. However other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon. The payment shall be remitted as under:</p> <p>90% of the value of the materials supplied shall be paid within 30 days of the receipt of the materials at purchaser site and the balance 10% amount along with 100% installation charges shall be payable on successful installation, commissioning and acceptance of the entire project at Purchasers site against a Performance Bank Guarantee .</p>	

<p>All LC extension charges in the LC referred to above beyond the agreed upon delivery period or the amendments to be made in the LC for reasons attributable to the Contractor shall be to the Contractor account.</p> <p>In the event of the Contractor not being able to provide the Performance Bank Guarantee the payment of balance 10 percent amount shall be made after the expiry of the warranty period.</p> <p>Indian agent remuneration/service charge shall be payable by the Purchaser directly to the Indian agent in Indian Rupees based on T T buying rate of exchange prevailing on the date of placement of purchase order within 30 days of acceptance of equipment at purchaser site.</p> <p>The Sight Draft/Letter of Credit will be operative on presentation of the under mentioned documents :</p> <ul style="list-style-type: none"><li>a) Original Bill of Lading / Airway Bill</li><li>b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts if any and Agency Commission separately.</li><li>c) Packing List showing individual dimensions and weight of packages.</li><li>d) Country of Origin Certificate in duplicate wherever applicable.</li><li>e) Test Certificate.</li><li>f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are</li></ul>	
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<p>guaranteed as per the specifications asked for by the Purchaser.</p> <p>g) Warrantee and guarantee Certificate/s as applicable.</p>	
<p>10. TERMS OF PAYMENT IN CASE OF INDIGENOUS SUPPLIER[S]:</p> <p>The payment shall be remitted as under:</p> <p>90% of the value of the materials supplied shall be paid within 30 days of the receipt of the materials at purchaser site and the balance 10% amount along with 100% installation charges shall be payable on successful installation, commissioning and acceptance of the entire project at Purchasers site against a Performance Bank Guarantee .</p> <p>In the event of the Contractor not being able to provide the Performance Bank Guarantee the payment of balance 10% amount shall be made after the expiry of the warranty period.</p> <p>While the purchaser bank charges shall be borne by the purchaser, the contractor shall bear the bank charges payable to his banker including the charges towards advising/amendments/ commissions etc.</p>	
<p>11. VALIDITY:</p> <p>The tender must be valid for a minimum period of 120 days from the date of opening of Technical bid and 90 days after opening of Price bid.</p> <p>The tender where the validity period is shorter than the period specified in the tender enquiry shall be excluded from the procurement process.</p>	
<p>12. Quantity Variation:</p>	



<p>The quantities indicated against each items in the Bill of Quantities (BOQ) are indicative and are for the purpose of bidding only. Variation in quantities up to +25 percent shall be carried out by the contractor on the agreed/Purchase order (PO) rates and terms &amp; conditions as in the purchase order (PO).</p>	
<p>13. GUARANTEED TIME DELIVERY :</p> <p>The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.</p>	
<p>14. Extra Items:</p> <p>In case of extra items (that are completely new and are in addition to the items contained in the contract), the contractor may claim rates supported by proper analysis and purchaser engineer-in charge of the work shall after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of market rates and the contractor shall be paid in accordance with the rates so determined. The contractor(s) profit &amp; OH shall be factored in the rate analysis @ 15%.</p>	
<p>15. MODE OF DESPATCH:</p> <p>Stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser whose contact details shall be indicated in the purchase order.</p>	
<p>16. PORT OF ENTRY:</p> <p>IGI Airport New Delhi.&lt;br&gt;</p>	

<p>17. CONSIGNEE:</p> <p>Purchase and Stores Officer (Stores),</p> <p>Semi Conductor Laboratory</p> <p>Sector 72 S.A.S. Nagar (Mohali) Punjab</p> <p>India 160 071.</p>	
<p>18. SHIPPING MARKS:</p> <p>The mark on the shipping documents such as invoice bill of lading and on the packages should be as follow: &lt;brPURCHASE ORDER NO.</p> <p>DATED</p> <p>GOVERNMENT OF INDIA</p> <p>DEPARTMENT OF SPACE</p> <p>SEMI-CONDUCTOR LABORATORY</p> <p>DESTINATION: SECTOR 72 S A S NAGAR (MOHALI) PUNJAB INDIA.</p>	
<p>19. INSTALLATION AND COMMISSIONING :</p> <p>Installation commissioning and demonstration of performance of the tendered stores as per Purchaser tendered specifications shall be carried out by the Contractor at Purchaser site at S A S Nagar Punjab India.</p> <p>The Contractor shall provide in advance guidelines for preparation of the installation site and list of items to be supplied by Purchaser during</p>	

<p>installation.</p> <p>On receipt of intimation from the Purchaser the Contractor shall depute its engineer(s) to Purchaser site within two weeks to carry out installation and commissioning and will demonstrate the functionality of the tendered equipment to Purchaser specifications as per mutually agreed acceptance procedure. The Contractor shall be responsible for any loss/damages sustained due to delay on the part of the Contractor to send its engineer for installation and commissioning.</p> <p>Failure to commission the tendered equipment successfully shall entitle Purchaser to full refund of the payment made and the interest thereon. Decision regarding successful installation and commissioning shall rest solely with the Purchaser.</p>	
<p>20. REPLACEMENT :</p> <p>If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.</p>	
<p>21. REJECTION:</p> <p>In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications the purchaser</p>	

<p>shall either reject the stores or request the Contractor in writing to rectify the same. The Contractor, on receipt of such notification shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so the purchaser may at his option either :</p> <p>a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor or</p> <p>b) terminate the Contract for default as provided in this tender document.</p>	
<p>22. EXTENSION OF TIME :</p> <p>If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government fires floods epidemics quarantine restriction strikes freight embargoes etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.</p>	
<p>23. DELAY IN COMPLETION/LIQUIDATED DAMAGES:</p> <p>If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof the purchaser shall recover from the Contractor as liquidated damages a sum of one half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only</p>	

<p>when all their component parts are also delivered. If certain components are not delivered in time the stores will be considered as delayed until such time as the missing parts are delivered. Delivery of stores shall be complete on Installation commissioning Testing and Acceptance.</p>	
<p><b>24. INSPECTION AND ACCEPTANCE TEST:</b></p> <p>The Purchasers representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractors premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchasers representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractors premises.</p> <p>Such inspection examination and testing shall not release the Contractor from the obligations under this Contract.</p> <p>For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance labour material, electricity fuel and instruments as may be required or as may be reasonably needed by the purchasers representative to carry out the tests efficiently.</p> <p>When the stores have passed the specified test the purchaser representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test/s certificates to the purchaser as may be required.</p>	
<p><b>25. ADDRESS OF INDIAN AGENT: if any:</b></p>	

26. PACKING:

a) The Contractor wherever applicable shall pack and crate all stores for sea /air/road shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road rail air or sea. The Contractor shall be held responsible for all damages due to improper packing.

b) The Contractor shall ensure that each box / unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c) The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d) The Contractor shall give complete shipment information concerning the weight size content of each packages etc.

e) Trans shipment of equipment shall not be permitted except with the written permission of the purchaser.

f) Apart from the despatch documents negotiated through Bank the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air consignments:

i) Commercial Bill of Lading / Air Way Bill / Post parcel Receipt. (Two non negotiable copies)

<p>ii) Invoice (3 copies)</p> <p>iii) Packing List (3 copies)</p> <p>iv) Test Certificate (3 copies)</p> <p>v) Certificate of Origin wherever applicable.</p> <p>The Contractor shall also ensure that one copy of the packing list is enclosed in each case.</p>	
<p>27. ARBITRATION:</p> <p>If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question dispute or difference and the same shall be referred to the adjudication of two arbitrators one to be nominated by purchaser other by a Contractor and in the event of any difference of opinion the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However the venue of such arbitration should be in India.</p> <p>In case of dispute arises with domestic/Indian suppliers the applicable Arbitration procedure shall be as per Indian Arbitration &amp; Conciliation Act, 1996.</p>	
<p>28. Any Other Term:</p>	

**Supporting Documents from Vendor**

**Attachment - I:**

**Attachment - II:**

**Price Bid Form**

Item Description	Slab Range	Qty	UOM	Currency	Unit Price	Total Price
Supply of 45W LED square recessed luminaire with constant current electronic driver Suitable for operation on 230V, single phase, AC supply with extruded aluminim white powder coated housing comprising high power white or warm white LEDs and confirm to IS 10322 / Part 5 / Sec1: 1987.The fitting shall be	-	42	Each	-	-	-



<p>supplied with all fixing material such as brackets, nuts, bolts etc. as required, detailed specifications as per attached annexure 2 and general specification. Make of fixture: Trilux/Philips/GE Make of Driver: Helvar/B.A.G/Phillips/Osram</p>						
<p>Supply of solid state high brightness SMD LED Chips of 14.4 W per Mtr flexible strip, Supply with minimum 60 LED per meter, View angle 120 degree, IP20 with separate electronic driver for installation as</p>	-	450	MTR	-	-	-

<p>Cove lighting suitable for operation on 230V, single phase, AC supply. The fitting shall be supplied with necessary accessories, detailed specifications as per attached annexure 2 and general specification. Make of fixture: Trilux/Philips/GE Make of Driver: Helvar/B.A.G/Phillips/Osram</p>						
<p>Supply of EXIT LED light sign board with battery backup for minimum two hours. LED suitable for operation on 230V, single phase, AC supply</p>	-	14	Each	-	-	-

<p>fixed on wall,The fitting shall be supplied with all fixing material such as brackets, nuts, bolts etc. as required, detailed specifications as per attached annexure 2 and general specification.Mak e:Eaton/Mule lighting/Prolite/Ke nall/Dual lite.</p>						
<p>Supply of 33W LED circular recessed mounted down lighter comprising constant current electronic driver suitable for 0-10 V Analog dimming with white powder coated die cast aluminium housing</p>	-	84	Each	-	-	-

<p>comprising high power white or warm white LEDs Suitable for operation on 230V, single phase, AC supply. The fitting shall be supplied with all fixing material such as brackets, nuts, bolts etc.detailed specifications as per attached annexure 2 and general specification. Make of fixture:Trilux/Philips/GE Make of Driver:Helvar/B.A.G/Phillips/Osrama . required.</p>						
<p>Supply of wiring accessories for 2x2.5 wiring along with 1x2.5sq.mm earth wire of</p>	-	150	MTR	-	-	-

<p>1.1KV grade 2.5 Sqmm FRLS PVC insulated single core stranded unarmoured copper conductor cable conforming to IS:694 in 20mm dia,2 mm thick, electrical grade PVC conduit along with necessary accessories required for concealed in wall /floor /run on false ceiling as per the requirement detailed as per annexure 1. Make of wire: Havells/KEI/LAPP/Finolex/Polycab.</p>						
<p>Supply of wiring accessories for 4x1.5 wiring along with 1x1.5sq.mm earth wire of</p>	-	500	MTR	-	-	-

<p>1.1KV grade 1.5 Sqmm FRLS PVC insulated single core stranded unarmoured copper conductor cable conforming to IS:694 in 20mm dia,2 mm thick, electrical grade PVC conduit along with necessary accessories required for concealed in wall /floor /run on false ceiling as per the requirement detailed as per annexure 1. Make of wire: Havells/KEI/LAPP/Finolex/Polycab.</p>						
<p>Supply of Cat 6 cable The cable shall bear ISI certification Make:</p>	-	900	MTR	-	-	-

Commscope/Schn eider/Molex/Siem on.						
Supply of of 12 Channel relay module for Lighting Management system similar to CLIPSAL L5512 RVF or equivalent along with required accessories suitable for fixing in 4ROW 56 Module flexy DB detailed specifications as per attched annexure 3.. Make:CLIPSAL SCHNEIDER/LUTR ON/PHILIPS.	-	3	Set	-	-	-
Supply of 4 Channel Analogue Dimming module with 0-10V output	-	8	Set	-	-	-

<p>2 Nos for Lighting Management system similar to CLIPSAL L5504AMP or equivalent along with required accessories suitable for fixing in 4ROW 56 Module flexy DB detailed specifications as per attached annexure 3. Make:CLIPSAL SCHNEIDER/LUTRON/PHILIPS.</p>						
<p>Supply of PC interface unit with USB port for Lighting Management system similar to CLIPSAL 5500PCU or equivalent along with required accessories</p>	-	2	Set	-	-	-



suitable for fixing in 4ROW 56 Module flexy DB detailed specifications as per attached annexure 3. Make:CLIPSAL SCHNEIDER/LUTRON/PHILIPS.						
Supply of 20 mm flexible GI conduit along with accessories conduit shall bear ISI mark.	-	1000	MTR	-	-	-
Supply of 0.5kA rating Surge Protection Device for lighting control along with required accessories suitable for fixing in 4ROW 56 Module flexy DB detailed specifications as	-	2	Set	-	-	-

per attached annexure 3. Make:CLIPSAL SCHNEIDER/LUTRON/PHILIPS.						
Supply of 16 A FP RCBO with 30mA leakage current tripping sensitivity for incomer. along with required accessories suitable for fixing in 4ROW 56 Module flexy DB. Make:Legrand/Schneider/ABB/Hager.	-	1	No.	-	-	-
Supply of 6 gang glass fascia with with 6 special buttons for light dimming , scene selection and with IR cut-out or window for sensing signals from hand held IR	-	3	Set	-	-	-

remote Fascia with necessary 2 module metal sheet box for mounting, necessary interconnections etc. (Equivalent to CLIPSAL E5086F-IR-GF+SP-E5086NL or equivalent)detailed specifications as per attached annexure 3.Make:CLIPSAL SCHNEIDER /LUTRON/PILIPS.						
Supply of 36W LED square recessed mounted down lighter comprising constant current electronic driver suitable for 0-10 V Analog dimming with white powder coated	-	26	Each	-	-	-

die cast aluminium housing comprising high power white or warm white LEDs Suitable for operation on 230V, single phase, AC supply. The fitting shall be supplied with all fixing material such as brackets, nuts, bolts etc. detailed specifications as per attached annexure 2 and general specification. Make of fixture: Trilux/Philips/GE Make of Driver: Helvar/B.A.G/Phillips/Osram . required.						
Supply of 45W LED square	-	26	Each	-	-	-

<p>recessed mounted  down lighter  comprising  constant current  electronic driver  suitable for 0-10 V  Analog dimming  with white  powder coated  die cast  aluminium  housing  comprising high  power white or  warm white LEDs  Suitable for  operation on  230V, single  phase, AC supply.  The fitting shall be  supplied with all  fixing material  such as brackets,  nuts, bolts etc.  detailed  specifications as  per attached  annexure 2 and  general  specification.</p>						
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Make of fixture:Trilux/Philips/GE Make of Driver:Helvar/B.A.G/Phillips/Osram . required.						
Supply of 70W MH adjustable recessed mounted down lighter suitable for 70W MH CDM lamps including lamp and electronic ballast Suitable for operation on 230V, single phase, AC supply. The fitting shall be supplied with all fixing material such as brackets, nuts, bolts etc. as required detailed specifications as per attached annexure 2 and general specification. and	-	6	Each	-	-	-

similar to Philips MBS0731+ballast or equivalent.Make of fixture:Trilux/Philips/GE.						
Supply of adjustable 38W LED outdoor 45 degree beam spot light With Die cast aluminium housing, comprising High power white/warm white LEDs, constant current electronic driver with all necessary materials for fixing on wall/column/roof etc., similar to K-LITE LUCIDIA KL-7242-CW/WW-45 or equivalent detailed	-	4	Each	-	-	-

specifications as per attached annexure 2 and general specification. Make:Trilux,Philips/GE/K-LITE						
Supply of adjustable 3W LED outdoor 45 degree beam bush light With Die cast aluminium housing, comprising High power white/warm white LEDs, constant current electronic driver with ground spike for fixing in ground,similar to K-LITE TRIOSCAPE KL-6998-CW/WW or equivalent detailed specifications as per attached	-	8	Each	-	-	-



annexure 2 and general specification. Make:Trilux/Philips/GE/K-LITE						
Supply of 2 x 45W LED outdoor adjustable 50 degree beam facade light comprising High power white/warm white LEDs, constant current electronic driver with short pole for installation on ground including necessary fixing materials. similar to K-LITE ASTON KL-6789-CW/WW-50 or equivalent detailed specifications as per attached annexure 2 and general	-	4	Each	-	-	-

specification. Make:Trilux/Philips/GE/K-LITE						
Supply of 3C x 2.5 Sq.mm, of 1.1 KV grade, XLPE insulated, and overall sheathed, stranded copper conductor, flat strip/wire armoured cables. confirming to IS 7098 Part -1.The cable shall bear ISI certification mark.Make:HAVells/KEI/Polycab/RPG/Finolex.	-	200	MTR	-	-	-
Supply of 40 kVA Online UPS Operating on 415V, 50 Hz, 3 phase input and 3 phase output, battery charger,with minimum	-	1	Set	-	-	-

<p>30720VAH or better SMF battery bank , with battery cabinet, DC MCCB, Maintenance by pass panel, interconnecting cables etc., complete with necessary interconnection etc. , detailed specification as per attached Annexure-4. Make:APC/VERTIV /RIELLO/SOCOME C.</p>						
<p>Supply of 6 A SP MCB for outgoing feeders along with required accessories for fixing in Lighting DB. Make:Legrand/Sc hneider/ABB/Hag</p>	-	24	No.	-	-	-

er.						
Supply of outdoor in ground narrow beam LED uplighter With Die cast aluminium housing, stainless steel cover plate, toughened glass, comprising High power white/warm white LEDs, constant current electronic driver similar to K-LITE KL-6464-CW/WW or equivalent detailed specification as per annexure 2 and general specification. Make:Trilux/Philips/GE/K-LITE	-	10	Each	-	-	-
Supply of 25 A FP RCBO with 30mA leakage current tripping sensitivity	-	1	No.	-	-	-

for incomer. along with required accessories suitable for fixing in 4ROW 56 Module flexy DB. Make:Legrand/Schneider/ABB/Hager.						
Supply of infrared hand held 8 button remote compatible for the dimming system. similar to CLIPSAL 5088TX or equivalent detailed specifications as per attached annexure 3. Make:CLIPSAL SCHNEIDER /LUTRON/PILIPS.	-	2	Each	-	-	-
Installation of 45W LED square recessed luminaire along	-	42	Each	-	-	-

with required accessories as per the requirement and detailed specifications as per attached annexure 2 and general specification.						
Installation of SMD LED Chips of 14.4 W per Mtr flexible strip along with required accessories as per the requirement, detailed specifications as per attached annexure 2 and general specification.	-	450	MTR	-	-	-
Installation of EXIT LED light sign board along with required accessories including battery	-	14	Each	-	-	-

interconnections as per the requirement, detailed specifications as per attached annexure 2 and general specification.						
Installation of 33W LED circular recessed mounted down lighter comprising constant current electronic driver suitable for 0-10 V Analog dimming along with required accessories as per the requirement including inter connections, detailed specifications as per attached annexure 2 and general	-	84	Each	-	-	-

specification.						
Installation, testing and commissioning of 6 gang glass fascia with with 6 special buttons for light dimming scene selection and with IR cut-out/window for sensing signals from hand held IR remote Fascia with necessary 2 module metal sheet box for mounting, including necessary interconnections etc,as per the requirement.Detailed specifications as per attached annexure 3.	-	3	Set	-	-	-
Installation, testing and	-	2	Each	-	-	-



<p>commissioning of infrared hand held 8 button remote compatible for the aforementioned dimming system. along with required accessories as per the requirement including inter connections. Detailed specifications as per attached annexure 3.</p>						
<p>Installation of 36W LED square recessed mounted down lighter comprising constant current electronic driver suitable for 0-10 V Analog dimming along with required accessories as per the requirement including inter</p>	-	26	Each	-	-	-

connections. Detailed specifications as per attached annexure 2 and general specification.						
Installation of 45W LED square recessed mounted down lighter comprising constant current electronic driver suitable for 0-10 V Analog dimming along with required accessories as per the requirement including inter connections.Detailed specifications as per attached annexure 2 and general specification.	-	26	Each	-	-	-
Installation of	-	60	MTR	-	-	-

<p>SMD LED Chips of 4.8 W per Mtr flexible strip, along with required accessories as per the requirement including inter connections. Detailed specifications as per attached annexure 2 and general specification.</p>						
<p>Installation of outdoor in ground LED narrow beam uplighter along with required accessories including inter connections,civil work as per the requirement.Detail ed specifications as per attached annexure 2 and general</p>	-	10	Each	-	-	-

specification.						
Installation of adjustable 38W LED outdoor 45 degree beam spot light along with required accessories including inter connections,civil work as per the requirment.Detail ed specifications as per attached annexure 2 and general specification.	-	4	Each	-	-	-
Installation of adjustable 3W LED outdoor 45 degree beam spot light along with required accessories including inter connections,civil work as per the requirment.Detail	-	8	Each	-	-	-

ed specifications as per attached annexure 2 and general specification.						
Installation of 2 x 45W LED outdoor adjustable 50 degree beam facade light along with required accessories including inter connections,civil work as per the requirment.Detail ed specifications as per attached annexure 2 and general specification.	-	4	Each	-	-	-
Installation, testing and commissioning of 40 kVA Online UPS detailed specifications as per attched	-	1	Set	-	-	-

annexure-4.						
Laying of 3C x 2.5 Sq.mm, of 1.1 KV grade, XLPE insulated, and overall sheathed, stranded copper conductor, flat strip/wire armoured cables. in ground/hard soil/soft soil 750 mm below ground level, including transportation of cable to site, excavation of earth, laying the cable and covering with sand and placing the bricks on sides and top, refilling the earth and providing cable router/joint markers complete as per	-	200	MTR	-	-	-

specifications.						
Installation, Programming, Testing and commissioning of 12 Channel relay module for Lighting Management system in existing 4row 56 modules DB along with required accessories as per the requirment including inter connections. Detailed specifications as per attached annexure 3.	-	3	Set	-	-	-
Installation, Programming, Testing and commissioning of 4 Channel Analogue Dimming module	-	8	Set	-	-	-

<p>with 0-10V output: 2 Nos for Lighting Management system in existing 4row 56 modules DB along with required accessories as per the requirement including inter connections.Detail ed specifications as per attached annexure 3.</p>						
<p>Installation, Programming, Testing and commissioning of PC interface unit with USB port for Lighting Management system along with required accessories as per the requirement including inter connections.Detail</p>	-	2	Set	-	-	-



ed specifications as per attached annexure 3.						
Installation, Programming, Testing and commissioning of 0.5kA rating Surge Protection Device for lighting control in existing 4row 56 modules DB along with required accessories as per the requirment including inter connections.Detail ed specifications as per attached annexure 3.	-	2	Set	-	-	-
Installation, Programming, Testing and commissioning of 16 A, FP RCBO with 30mA leakage current	-	1	No.	-	-	-

tripping sensitivity for incomer. in existing 4row 56 modules DB along with required accessories as per the requirment including inter connections.Detail ed specifications as per attached annexure 3.						
Installation, Programming, Testing and commissioning of 6 A, SP MCB for outgoing in existing 4row 56 modules DB along with required accessories as per the requirment including inter connections.Detail ed specifications as per attached annexure 3.	-	24	No.	-	-	-

<p>Installation of wiring accessories for 2x2.5 wiring including installation of 20mm dia conduit and drawing of 2x2.5 sq.mm and 1x2.5sq.mm earth wires in conduit along with fixing accessories ,civil works as per the requiremnt.Detail ed specifications as per attached annexure 1.</p>	-	150	MTR	-	-	-
<p>Installation of wiring accessories for 4x1.5 wiring including installation of 20mm dia conduit and drawing of 4x1.5 sq.mm and 1x1.5sq.mm earth wires in conduit along with fixing accessories ,civil</p>	-	500	MTR	-	-	-

works as per the requiremnt.Detail ed specifications as per attached annexure 1.						
Installation of 20 mm flexible GI conduit using associated accessories above false ceiling. gland etc. and fixing the same above false ceiling from cable tie for pulling wiring from existing conduits.	-	1000	MTR	-	-	-
Installation of CAT 6 cable along with required accessories for lighting management system as per the requirement.	-	900	MTR	-	-	-
Installation of 70W MH adjustable	-	6	Each	-	-	-

recessed mounted down lighter suitable for 70W MH CDM lamps including lamp and electronic ballast along with all fixing material such as brackets, nuts, bolts etc. as per the requirement. Detailed specifications as per attached annexure 2 and general specification.						
Installation of 25 A FP RCBO with 30mA leakage current tripping sensitivity for incomer in existing 4row 56 modules DB along with required accessories as per the requirement	-	1	No.	-	-	-

including inter connections.						
Supply of SMD LED Chips of 4.8 W per Mtr flexible strip with minimum 60 LED per meter,View angle 120 degree,IP20 with separate electronic driver for installation as Cove lighting suitable for operation on 230V, single phase,AC supply. The fitting shall be supplied with necessary accessories. as required. Detailed specifications as per attached annexure 2 and general specification. Make of	-	60	MTR	-	-	-

fixture:Trilux/Philips/GE Make of Driver:Helvar/B.A.G/Phillips/Osram						
Supply of outdoor end termination for 3Cx2.5sq.mm cable of 1.1KV grade, PVC/XLPE insulated armoured/unarmoured, copper conductor cable including supply of necessary accessories along with terminal connections, earthing of glands.Make: Hex/3M/dowell/HMI	-	52	Each	-	-	-
Supply of 8 SWG GI wire For coil/spiral earthing of street light pole etc. along with	-	4	Each	-	-	-

required accessories.						
Installation of outdoor end termination for 3Cx2.5sq.mm cable along with required accessories such as cable glands,lugs, neoprene bushes,nuts, bolts, etc. as per the requirment.	-	52	Each	-	-	-
Installation of 8 SWG GI wire along with required accessories as per the requirment including inter connections. "GI" wire buried to a minimum depth of 1.5m, with excavation, refilling and connecting GI	-	4	Each	-	-	-



wire to pole using GI nuts and bolts.						
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Break-up of other taxes and other costs should be specified in respective narration columns.

Sum of these Break-up values should be specified in respective value columns.

**Supporting Documents from Vendor (Commercial)**

**Document attachment with price bid**

**Attachment - I:**

**Attachment - II:**