

**ThangalKunjuMusaliarCollege ofEngineeringKaricode,  
Kollam**

**ThangalKunjuMusaliar College of Engineering, TKMC P.O., Karicode, Kollam-  
691005 Kerala**

**TEQIP Cell contact No. 0474-2712022, 2712024, 2713129, 2713126Fax No.0474-  
2712023**

**BID REFERENCE NO: TEQIP-II/KL/KL1G15/86**

**NATIONAL COMPETITIVE BIDDING**

**FOR**

**PROCUREMENT OF EQUIPMENT**

**UNDER  
TECHNICAL EDUCATION QUALITY  
IMPROVEMENT PROGRAMME PHASE II  
(TEQIP II)**

**(A WORLD BANK ASSISTED PROJECT)  
CREDIT NO. - CR. 4685-0 IN**

**NATIONAL COMPETITIVE BIDDING FOR**  
**THE SUPPLY OF Campus Wi-Fi**

BID REFERENCE : TEQIP-II/KL/KL1G15/86

DATE OF COMMENCEMENT OF SALE OF BIDDING DOCUMENT : DATE 26.02.2014 TIME: 10:00 Hrs

LAST DATE FOR SALE OF BIDDING DOCUMENT : DATE 29.03.2014 TIME: 11:00 Hrs

LAST DATE AND TIME FOR RECEIPT OF BIDS : DATE 29.03.2014 TIME 13:00 Hrs

TIME AND DATE OF OPENING OF BIDS : DATE 29.03.2014 TIME 16:00 Hrs

PLACE OF OPENING OF BIDS : **TEQIP-II OFFICE,  
ThangalKunjuMusaliar College of Engineering, TKMC  
P.O., Karicode, Kollam- 691005 Kerala**

ADDRESS FOR COMMUNICATION : **The Principal,  
ThangalKunjuMusaliar College of Engineering, TKMC  
P.O., Karicode, Kollam- 691005 Kerala**

**SECTION I: INVITATION FOR BIDS (IFB)**

**NATIONAL COMPETITIVE BIDDING FOR**  
**THE SUPPLY OF Campus Wi-Fi**

**SECTION I. INVITATION FOR BIDS (IFB)**

Date: **08.02.2014**

Credit No.: **Cr. 4685-0 IN**

IFB No.: **TEQIP-II/KL/KL1G15/86**

1. The Government of India has received a Credit (Cr. 4685-0 IN) from the International Development Association in various currencies towards the cost of project Technical Education Quality Improvement Programme [TEQIP]-Phase II (TEQIP II) and it is intended that part of the proceeds of this credit will be applied to eligible payments under the contracts for which this Invitation for Bids is issued.
2. The **Principal, Thangal Kunju Musaliar College of Engineering, Karicode, Kollam** now invites sealed bids from eligible bidders for supply of **Campus wi-fi** listed below:

<b>Sr.No</b>	<b>Item Name</b>	<b>Quantity</b>
1	Wireless controller	1 no
2	Indoor access point	70nos
3	Outdoor access point	3nos
4	Antenna	3nos
5	POE switch	1 no
6	license for 16 APs	4nos
7	1-port PoE adapter	73nos
8	1-Port Mini-GBIC LX Single-mode Fiber Transceiver	4nos
9	Single-mode Media Converter	4nos
10	O. F. Cable :06F Outdoor –Armoured Unitube SM - HDPE Sheath – 1200 Mtr	1 no
11	Cat-6 UTP 24AWG Solid	17 boxes
12	Cat6 UTP 24AWG PATCH CHORD	160nos
13	Jack Cat6 Keystone UTP with Collapsible Shutter-White	160nos
14	Keystone Box Single Port	80nos
15	LIU 24 PORT Rack Mount - Loaded (SC) SM	1 no
16	LIU 6 PORT Rack Mount - Loaded (SC) SM	4nos
17	PIGTAIL SC SM SIMPLEX LENGTH- 1m	48nos
18	PATCH CORD LC-SC SM DUPLEX LENGTH- 2m	4nos
19	PATCH CORD SC-SC SM DUPLEX LENGTH- 2m	4nos
20	Hardware Required for Rack Mounting	10nos

3. Interested eligible Bidders may obtain further information from and inspect the bidding documents at the office of the **TEQIP-II, Thangal Kunju Musaliar College of Engineering, TKMC P.O., Karicode, Kollam- 691005 Kerala, India.**
4. A complete set of bidding documents may be purchased by any interested eligible bidder on the submission of a written application to the above office and upon payment of a non-refundable fee as indicated below in the form of a Demand Draft in favour of **The Principal, TKMCE, payable at Kollam.**

5. The provisions in the Instructions to Bidders and in the General Conditions of contract (GCC) are based on the provisions of the World Bank Standard Bidding Document - Procurement of Goods.
6. The bidding document may be obtained from the office of **TEQIP-II, ThangalKunjuMusaliar College of Engineering, Karicode, Kollam** during office hours namely, from **10:00** hrs to **16:00** hrs, on all working days either in person or by post.
- |     |  |  |
|-----|--|--|
| (a) | Price of bidding document (non-refundable)       | : ₹ 3045   |
| (b) | Postal charges, inland                           | : ₹ 250  |
| (c) | Postal charges, overseas                         | : ₹ 2500   |
| (d) | Date of commencement of sale of bidding document | : <b>Date 26.02.2014 TIME: 10:00 Hrs</b>   |
| (e) | Last date for sale of bidding document           | : <b>Date 29.03.2014 TIME: 11:00 Hrs</b>   |
| (f) | Last date and time for receipt of bids           | : <b>Date 29.03.2014 TIME 13:00 Hours</b>  |
| (g) | Time and date of opening of bids                 | : <b>Date 29.03.2014 TIME 16:00 Hours</b>  |
| (h) | Place of opening of bids                         | : <b>TEQIP-II OFFICE<br/>ThangalKunjuMusaliar College of Engineering, TKMC<br/>P.O., Karicode, Kollam- 691005 Kerala</b> |
| (i) | Address for communication:                       | <b>The Principal,<br/>ThangalKunjuMusaliar College of Engineering, TKMC<br/>P.O., Karicode, Kollam- 691005 Kerala</b>    |
7. All bids must be accompanied by a bid security as specified in the bid document and must be delivered to the above office at the date and time indicated above.
8. Bids will be opened in the presence of Bidders' representatives who choose to attend on the specified date and time.
9. In the event of the date specified for bid receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

**SECTION II: INSTRUCTIONS TO BIDDER**

SECTION II: INSTRUCTIONS TO BIDDERS

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## A. Introduction

### 1. Source of Funds

- 1.1 The Government of India has received a credit from the International Development Association (Here-in-after called as Bank) in various currencies equivalent to USD **300** million towards the cost of **Technical Education Quality Improvement Programme[TEQIP]-Phase II(TEQIP II)** and intends to apply part of the proceeds of this credit to eligible payments under the contracts for which this invitation for Bid is issued.
- 1.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Credit Agreement, and will be subject in all respects to the terms and conditions of that agreement. The Credit Agreement prohibits a withdrawal from the Credit account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Credit Agreement or have any claim to the Credit proceeds.

### 2. Eligible Bidders

- 2.1 This Invitation for Bids is open to all suppliers from eligible source countries as defined in *Guidelines: Procurement under IDA Credits*, May 2004, revised October 2006 hereinafter referred as the *IDA Guidelines for Procurement*, except as provided hereinafter.
- 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.
- 2.3 Government-owned enterprises in the Purchaser's country may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Purchaser.
- 2.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Bank in accordance with ITB Clause 36.1.

### 3. Eligible Goods and Services

- 3.1 All goods and ancillary services to be supplied under the Contract shall have their origin in eligible source countries, defined in the *IDA Guidelines for Procurement* and all expenditures made under the Contract will be limited to such goods and services.
- 3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced or from which the ancillary services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of goods and services is distinct from the nationality of the Bidder.

### 4. Cost of Bidding

- 4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and **The Principal, ThangalKunjuMusaliar College of Engineering,Karicode, Kollam**, hereinafter referred to as "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.



## **B. The Bidding Documents**

### **5. Content of Bidding Documents**

5.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:

- (a) Instruction to Bidders (ITB) ;
- (b) General Conditions of Contract (GCC) ;
- (c) Special Conditions of Contract (SCC) ;
- (d) Schedule of Requirements;
- (e) Technical Specifications;
- (f) Bid Form and Price Schedules;
- (g) Bid Security Form;
- (h) Contract Form;
- (i) Performance Security Form;
- (j) Performance Statement Form;
- (k) Manufacturer's Authorization Form;
- (l) Bank Guarantee for Advance Payment Form;
- (m) Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement.
- (n) Equipment and Quality Control Form.
- (o) Service support details
- (p) Conformity statement

5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

### **6. Clarification of Bidding Documents**

6.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing or by telex or cable or fax at the Purchaser's mailing address indicated in the Invitation for Bids. The Purchaser will respond in writing to any request for clarification of the bidding documents which it receives no later than 15 days prior to the deadline for submission of bids prescribed by the Purchaser. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders which have received the bidding documents.

### **7. Amendment of Bidding Documents**

7.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

7.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing or by cable or by fax, and will be binding on them.

7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

## **C. Preparation of Bids**

### **8. Language of Bid**

8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the translation shall govern.

## **9. Documents Constituting the Bid**

9.1 The bid prepared by the Bidder shall comprise the following components:

- (a) a Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11 and 12;
- (b) documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
- (c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
- (d) bid security furnished in accordance with ITB Clause 15.

## **10. Bid Form**

10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity and prices.

## **11. Bid Prices**

11.1 The Bidder shall indicate on the Price Schedule the unit prices and total bid prices of the goods it proposes to supply under the Contract. To this end, the Bidders are allowed the option to submit the bids for any one or more schedules specified in the 'Schedule of Requirements' and to offer discounts for combined schedules. However, Bidders shall quote for the complete requirement of goods and services specified under each schedule on a single responsibility basis, failing which such bids will not be taken into account for evaluation and will not be considered for award.

11.2 Prices indicated on the Price Schedule shall be entered separately in the following manner:

- (i) the price of the goods, quoted (ex-works, ex-factory, ex-showroom, ex-warehouse, or off-the-shelf, as applicable), including all duties and sales and other taxes already paid or payable:
  - a. on components and raw material used in the manufacture or assembly of goods quoted ex-works or ex-factory; or
  - b. on the previously imported goods of foreign origin quoted ex-showroom, ex-warehouse or off-the-shelf.
- (ii) any Indian duties, sales and other taxes which will be payable on the goods if this Contract is awarded;
- (iii) the price for inland transportation, insurance and other local costs incidental to delivery of the goods to their final destination; and
- (iv) the price of other incidental services listed in Clause 8 of the Special Conditions of Contract.

11.3 The Bidder's separation of the price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Purchaser and will not in any way limit the Purchaser's right to contract on any of the terms offered.

11.4 Fixed Price. Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected, pursuant to ITB Clause 24.

## **12. Bid Currencies**

12.1 Prices shall be quoted in Indian Rupees:

## **13. Documents Establishing Bidder's Eligibility and Qualifications**

- 13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.
- 13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.
- 13.3 The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish to the Purchaser's satisfaction:
- (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized (as per authorization form in Section XII) by the goods' Manufacturer or producer to supply the goods in India.
- [Note: Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturer's for the same item of the schedule in the bid will be treated as non-responsive.]*
- (b) that the Bidder has the financial, technical, and production capability necessary to perform the Contract and meets the criteria outlined in the Qualification requirements specified in Section VI-A. To this end, all bids submitted shall include the following information:
    - (i) The legal status, place of registration and principal place of business of the company or firm or partnership, etc.;
    - (ii) Details of experience and past performance of the bidder on equipment offered and on those of similar nature within the past three years and details of current contracts in hand and other commitments (suggested proforma given in Section XI);

#### **14. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents**

- 14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.
- 14.2 The documentary evidence of the goods and services eligibility shall consist of a statement in the Price Schedule on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.
- 14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of :
- (a) a detailed description of the essential technical and performance characteristics of the goods ;
  - (b) a list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period of two years, following commencement of the use of the goods by the Purchaser; and
  - (c) an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

#### **15. Bid Security**

- 15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount as specified in Section-V - Schedule of Requirements.
- 15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.
- 15.3 The bid security shall be denominated in Indian Rupees and shall:
- (a) at the bidder's option, be in the form of either a certified check, letter of credit, a demand draft, or a bank guarantee from a nationalized/Scheduled Bank located in India or by a reputable banking institution selected by the bidder and located abroad in any eligible country;
  - (b) be substantially in accordance with one of the form of bid security included in Section VIII or other form approved by the Purchaser prior to bid submission;
  - (c) be payable promptly upon written demand by the Purchaser in case any of the conditions listed in ITB Clause 15.7 are invoked;
  - (d) be submitted in its original form; copies will not be accepted; and
  - (e) remain valid for original validity period , or beyond any period of extension subsequently requested under ITB Clause 16.2.
- 15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 above will be rejected by the Purchaser as non-responsive, pursuant to ITB Clause 24.
- 15.5 Unsuccessful bidder's bid securities will be discharged/returned as promptly as possible but not later than 30 days after the expiration of the period of bid validity prescribed by the Purchaser, pursuant to ITB Clause 16.
- 15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the Contract, pursuant to ITB Clause 34, and furnishing the performance security, pursuant to ITB Clause 35.
- 15.7 The bid security may be forfeited:
- (a) if a Bidder (i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or (ii) does not accept the correction of errors pursuant to ITB Clause 24.2; or
  - (b) in case of a successful Bidder, if the Bidder fails:
    - (i) to sign the Contract in accordance with ITB Clause 34; or
    - (ii) to furnish performance security in accordance with ITB Clause 35.

## 16. Period of Validity of Bids

- 16.1 Bids shall remain valid for 90 days after the deadline for submission of bids prescribed by the Purchaser, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- 16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable or telex or fax). The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in ITB Clause 16.3 hereinafter.
- 16.3 In the case of fixed prices contracts, in the event that the Purchaser requests and the Bidder agrees to an extension of the validity period, the contract price, if the Bidder is selected for award shall be the bid price corrected as follows :

The price shall be increased by the **factor (B =10 % per Annum)** for each week or part of a week that has elapsed from the expiration of the initial bid validity to the date of notification of award to the successful Bidder.

16.4 Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

### **17. Format and Signing of Bid**

- 17.1 The Bidder shall prepare two copies of the bid, clearly marking each "Original Bid" and "Copy Bid", as appropriate. In the event of any discrepancy between them, the original shall govern.
- 17.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. The latter authorization shall be indicated by written power-of-attorney accompanying the bid. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons signing the bid.
- 17.3 Any interlineations, erasures or overwriting shall be valid only if they are initialed by the persons or persons signing the bid.
- 17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

### **D. Submission of Bids**

### **18. Sealing and Marking of Bids**

18.1 The Bidders shall seal the original and each copy of the bid in separate inner envelopes, duly marking the envelopes as "original" and "copy". He shall then place all the inner envelopes in an outer envelope.

18.2 **The inner and outer envelopes shall:**

- (a) be addressed to the Purchaser at the following address:

**The Principal**

**ThangalKunjuMusaliar College of Engineering, TKMC  
P.O., Karicode, Kollam- 691005 Kerala**

- (b) bear the Project Name, **Technical Education Quality Improvement Programme[TEQIP]-Phase II** the Invitation for Bids(IFB) title and number **TEQIP-II/KL/KL1G15/86**, and a statement **"Do not open before 16:00 Hrs on 29.03.2014."**

18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".

18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

18.5 Telex, cable or facsimile bids will be rejected.

### **19. Deadline for Submission of Bids**

19.1 Bids must be received by the Purchaser at the address specified under ITB Clause 18.2 (a) no later than the time and date specified in the Invitation for Bids (Section I). In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received upto the appointed time on the next working day.

19.2 The Purchaser may, at its discretion, extend this deadline for submission of bids by amending the bid documents in accordance with ITB Clause 7, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

### **20. Late Bids**

- 20.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser, pursuant to ITB Clause 19, will be rejected and/or returned unopened to the Bidder.

## **21. Modification and Withdrawal of Bids**

- 21.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification or withdrawal is received by the Purchaser prior to the deadline prescribed for submission of bids.
- 21.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of ITB Clause 18. A withdrawal notice may also be sent by telex or cable or fax but followed by a signed confirmation copy, post marked not later than the deadline for submission of bids.
- 21.3 No bid may be modified subsequent to the deadline for submission of bids.
- 21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to ITB Clause 15.7.

## **E. Bid Opening and Evaluation of Bids**

### **22. Opening of Bids by the Purchaser**

- 22.1 The Purchaser will open all bids, in the presence of Bidders' representatives who choose to attend, at **16:00Hrs** on **29.03.2014** and in the following location:

**TEQIP –II OFFICE,  
ThangalKunjuMusaliar College of Engineering,  
TKMC P.O., Karicode, Kollam- 691005 Kerala**

The Bidders' representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for the Purchaser, the Bids shall be opened at the appointed time and location on the next working day.

- 22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.
- 22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.
- 22.4 The Purchaser will prepare minutes of the bid opening.

### **23. Clarification of Bids**

- 23.1 During evaluation of bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted.

### **24. Preliminary Examination**

- 24.1 The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order. Bids from Agents, without proper authorization from the manufacturer as per Section XII, shall be treated as non-responsive.
- 24.1.1 Where the Bidder has quoted for more than one schedule, if the bid security furnished is inadequate for all the schedules, the Purchaser shall take the price bid into account only to the extent the bid is secured. For this

purpose, the extent to which the bid is secured shall be determined by evaluating the requirement of bid security to be furnished for the schedule included in the bid (offer) in the serial order of the Schedule of Requirements of the Bidding document.

- 24.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the supplier does not accept the correction of errors, its bid will be rejected and its bid security may be forfeited.
- 24.3 The Purchaser may waive any minor informality or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 26, the Purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 7), Warranty (GCC Clause 15), Force Majeure (GCC Clause 25), Limitation of liability (GCC Clause 29), Applicable law (GCC Clause 31), and Taxes & Duties (GCC Clause 33) will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 24.5 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

## **25. Deleted**

## **26. Evaluation and Comparison of Bids**

- 26.1 The Purchaser will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24 for each schedule separately. No bid will be considered if the complete requirements covered in the schedule is not included in the bid. However, as stated in Para 11, Bidders are allowed the option to bid for any one or more schedules and to offer discounts for combined schedules. These discounts will be taken into account in the evaluation of the bids so as to determine the bid or combination of bids offering the lowest evaluated cost for the Purchaser in deciding award(s) for each schedule.
- 26.2 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) in the case of goods manufactured in India or goods of foreign origin already located in India, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
  - (b) any allowance for price adjustment during the period of execution of the Contract, if provided in the bid.
- 26.3 Deleted.
- 26.4 The Purchaser's evaluation of a bid will take into account, in addition to the bid price (Ex-factory/ex-warehouse/off-the-shelf price of the goods offered from within India, such price to include all costs as well as duties and taxes paid or payable on components and raw material incorporated or to be incorporated in the goods, and Excise duty on the finished goods, if payable) and price of incidental services, the following factors, in the manner and to the extent indicated in ITB Clause 26.5 and in the Technical Specifications:
- (a) cost of inland transportation, insurance and other costs within India incidental to the delivery of the goods to their final destination;
  - (b) delivery schedule offered in the bid;
  - (c) deviations in payment schedule from that specified in the Special Conditions of Contract;
  - (d) the cost of components, mandatory spare parts and service;

- (e) the availability in India of spare parts and after-sales services for the goods / equipment offered in the bid;
- (f) the projected operating and maintenance costs during the life of the equipment; and
- (g) the performance and productivity of the equipment offered.

26.5 Pursuant to ITB Clause 26.4, one or more of the following evaluation methods will be applied:

(a) *Inland Transportation, Insurance and Incidentals:*

- (i) Inland transportation, insurance and other incidentals for delivery of goods to the final destination as stated in ITB Clause 11.2 (iii).

The above costs will be added to the bid price.

(b) *Delivery Schedule:*

- (i) The Purchaser requires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements. The estimated time of arrival of the goods at the project site should be calculated for each bid after allowing for reasonable transportation time. Treating the date as per schedule of requirements as the base, a delivery "adjustment" will be calculated for other bids at 2% of the ex-factory price including excise duty for each month of delay beyond the base and this will be added to the bid price for evaluation. No credit will be given to earlier deliveries and bids offering delivery beyond 2 months of stipulated delivery period will be treated as unresponsive.

(c) *Deviation in Payment Schedule:*

**Deleted**

(d) *Cost of Spare Parts:*

**Deleted**

(e) *Spare Parts and After Sales Service Facilities in India:*

The cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.

(f) *Operating and Maintenance Costs:*

**Deleted**

(g) *Performance and Productivity of the Equipment:*

**Deleted**

**27. Deleted.**

**28. Contacting the Purchaser**

28.1 Subject to ITB Clause 23, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded. If the bidder wishes to bring additional information to the notice of the purchaser, it should do so in writing.

28.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.



## **F. Award of Contract**

### **29. Postqualification**

- 29.1 In the absence of prequalification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid meets the criteria specified in ITB Clause 13.3 (b) and is qualified to perform the contract satisfactorily.
- 29.2 The determination will take into account the Bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13, as well as such other information as the Purchaser deems necessary and appropriate.
- 29.3 An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform the contract satisfactorily.

### **30. Award Criteria**

- 30.1 Subject to ITB Clause 32, the Purchaser will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

### **31. Purchaser's right to vary Quantities at Time of Award**

- 31.1 The Purchaser reserves the right at the time of Contract award to increase or decrease by up to 15 percent of the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

### **32. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids**

- 32.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders.

### **33. Notification of Award**

- 33.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable/telex or fax, to be confirmed in writing by registered letter, that its bid has been accepted.
- 33.2 The notification of award will constitute the formation of the Contract.
- 33.3 Upon the successful Bidder's furnishing of performance security pursuant to ITB Clause 35, the Purchaser will promptly notify the name of the winning bidder to each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.
- 33.4 If, after notification of award, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Purchaser. The Purchaser will promptly respond in writing to the unsuccessful Bidder.

### **34. Signing of Contract**

- 34.1 At the same time as the Purchaser notifies the successful bidder that its bid has been accepted, the Purchaser will send the bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 34.2 Within 21 days of receipt of the Contract Form, the successful bidder shall sign and date the Contract and return it to the Purchaser.

### 35. Performance Security

- 35.1 Within 21 days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents or in another form acceptable to the Purchaser.
- 35.2 Failure of the successful bidder to comply with the requirement of ITB Clause 34.2 or ITB Clause 35.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest evaluated bidder or call for new bids.

### 36 Corrupt or Fraudulent Practices

- 36.1 It is the Bank's policy that Borrowers (including beneficiaries of Bank loans), as well as Bidders, Suppliers, and Contractors, and their agents (whether declared or not), personnel, subcontractors, sub-consultants, service providers and suppliers under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts<sup>1</sup>. In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) "corrupt practice"<sup>2</sup> means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
- (ii) "fraudulent practice"<sup>3</sup> means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
- (iii) "collusive practice"<sup>4</sup> means a scheme or arrangement between two or more Bidders, with or without the knowledge of the borrower, designed to establish bid prices at artificial, non competitive levels; and
- (iv) "coercive practice"<sup>5</sup> means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- (v) "Obstructive practice" is
- (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and /or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under sub – clause 36.1 (e) below.

- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

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<sup>1</sup> In this context, any action taken by a bidder, supplier, contractor, or any of its personnel, agents, subcontractors, sub-consultants, service providers, suppliers and/or their employees to influence the procurement process or contract execution for undue advantage is improper.

<sup>2</sup> "Another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>3</sup> "Party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

<sup>4</sup> "Parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non- competitive levels.

<sup>5</sup> "Party" refers to a participant in the procurement process or contract execution.

- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur;
- (d) will sanction a firm or an individual, at any time, in accordance with prevailing Bank's sanctions procedures<sup>6</sup>, including by publically declaring such firm or individual ineligible, either indefinitely or for a stated period of time, (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>7</sup> subcontractor, consultant, manufacturer or supplier, or service provider of and otherwise eligible firm being awarded a Bank-financed contract; and
- (e) will have the right to require that a provision be included in Bidding Documents and in contracts financed by a Bank loan, requiring Bidders, Suppliers, and Contractors and their sub-contractors to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

36.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 24.1 (c) of the General Conditions of Contract.

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<sup>6</sup> A firm or an individual may be declared ineligible to be awarded a Bank-financed contract upon completion of the Bank's sanctions proceedings as per its sanctions procedures, including inter alia: (i) temporary suspension in connection with an ongoing sanctions proceeding; (ii) cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks; and (iii) the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption.

<sup>7</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which either has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder's pre-qualification application or the bid; or (ii) appointed by the Borrower.

**SECTION III: GENERAL CONDITIONS OF CONTRACT**

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## General Conditions of Contract

### **1. Definitions**

1.1 In this Contract, the following terms shall be interpreted as indicated:

- (a) "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;
- (c) "The Goods" means all the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract;
- (d) "Services" means services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training and other obligations of the Supplier covered under the Contract;
- (e) "GCC" means the General Conditions of Contract contained in this section.
- (f) "SCC" means the Special Conditions of Contract.
- (g) "The Purchaser" means the organization purchasing the Goods, as named in SCC.
- (h) "The Purchaser's country" is the country named in SCC.
- (i) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
- (j) "The World Bank" means the International Bank for Reconstruction and Development (IBRD) or the international Development Association (IDA).
- (k) "The Project Site", where applicable, means the place or places named in SCC.
- (l) "Day" means calendar day.

### **2. Application**

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

### **3. Country of Origin**

3.1 All Goods and Services supplied under the Contract shall have their origin in the member countries and territories eligible under the rules of the World Bank as further elaborated in SCC.

3.2 For purposes of this Clause "origin" means the place where the Goods are mined, grown or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.

### **4. Standards**

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

## **5. Use of Contract Documents and Information**

- 5.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
- 5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

## **6. Patent Rights**

- 6.1 The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

## **7. Performance Security**

- 7.1 Within 21 days of receipt of the notification of contract award, the Supplier shall furnish performance security in the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 7.3 The Performance Security shall be denominated in Indian Rupees and shall be in one of the following forms:
  - (a) A Bank guarantee or irrevocable Letter of Credit, issued by a nationalized/scheduled bank located in India or a bank located abroad acceptable to the Purchaser, in the form provided in the bidding documents or another form acceptable to the Purchaser; or
  - (b) A cashier's check, certified check, or demand draft.
- 7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 30 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC.

## **8. Inspections and Tests**

- 8.1 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. SCC and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.
- 8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data - shall be furnished to the inspectors at no charge to the Purchaser.
- 8.3 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.
- 8.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.

8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

## **9. Packing**

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions ordered by the Purchaser.

## **10. Delivery and Documents**

10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in the Notification of Award. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.

## **11. Insurance**

11.1 The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in SCC.

## **12. Transportation**

12.1 Deleted.

12.2 Deleted.

12.3 Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within India defined as Project site, transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the Supplier, and the related cost shall be included in the Contract Price.

12.4 Deleted

## **13. Incidental Services**

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) performance or supervision of the on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance and/or repair of the supplied Goods.

13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.



## **14. Spare Parts**

- 14.1 As specified in the SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:
- (a) such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
  - (b) In the event of termination of production of the spare parts:
    - (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
    - (ii) following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

## **15. Warranty**

- 15.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Purchaser's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for 12 months after the Goods or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for 18 months after the date of shipment from the place of loading whichever period concludes earlier, unless specified otherwise in the SCC.
- 15.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without cost to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from ex-works or ex-factory or ex-showroom to the final destination.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **16. Payment**

- 16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in the SCC.
- 16.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the Purchaser but in no case later than sixty (60) days after submission of the invoice or claim by the Supplier.
- 16.4 Payment shall be made in Indian Rupees.

## **17. Prices**

- 17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Purchaser's request for bid validity extension, as the case may be.

## **18. Change Orders**

18.1 The Purchaser may at any time, by written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipping or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

## **19. Contract Amendments**

19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

## **20. Assignment**

20.1 The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

## **21. Subcontracts**

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

21.2 Subcontracts must comply with the provisions of GCC Clause 3.

## **22. Delays in the Supplier's Performance**

22.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Schedule of Requirements.

22.2 If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.

22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

## **23. Liquidated Damages**

23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified

in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.

#### **24. Termination for Default**

24.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 22; or
- (b) if the Supplier fails to perform any other obligation(s) under the Contract.
- (c) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 34, in competing for or in executing the Contract.

24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

#### **25. Force Majeure**

25.1 Notwithstanding the provisions of GCC Clauses 22, 23, 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

25.2 For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

#### **26. Termination for Insolvency**

26.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

#### **27. Termination for Convenience**

27.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

27.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
- (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

## **28. Settlement of Disputes**

28.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

28.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

28.2.1 Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

28.2.2 Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

28.3 Notwithstanding any reference to arbitration herein,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

(f) the Purchaser shall pay the Supplier any monies due the Supplier.

## **29. Limitation of Liability**

29.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,

(a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and

(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

## **30. Governing Language**

30.1 The contract shall be written in English language. Subject to GCC Clause 30, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

## **31. Applicable Law**

31.1 The Contract shall be interpreted in accordance with the laws of the Union of India.

## **32. Notices**

32.1 Any notice given by one party to the other pursuant to this Contract shall be sent to other party in writing or by cable, telex or facsimile and confirmed in writing to the other Party's address specified in SCC.

32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

## **33. Taxes and Duties**

33.1 Deleted.

33.2 Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

### 34. Fraud and Corruption

34.1 It is the Bank's policy that Borrowers (including beneficiaries of Bank loans), as well as Bidders, Suppliers, and Contractors, and their agents (whether declared or not), personnel, subcontractors, sub-consultants, service providers and suppliers under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts<sup>8</sup>. In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) "corrupt practice"<sup>9</sup> means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
  - (ii) "fraudulent practice"<sup>10</sup> means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
  - (iii) "collusive practice"<sup>11</sup> means a scheme or arrangement between two or more Bidders, with or without the knowledge of the borrower, designed to establish bid prices at artificial, non competitive levels; and
  - (iv) "coercive practice"<sup>12</sup> means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
  - (v) "Obstructive practice" is
    - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and /or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
    - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under sub – clause 34.1 (e) below.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;
- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur;

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<sup>8</sup> In this context, any action taken by a bidder, supplier, contractor, or any of its personnel, agents, subcontractors, sub-consultants, service providers, suppliers and/or their employees to influence the procurement process or contract execution for undue advantage is improper.

<sup>9</sup> "Another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>10</sup> "Party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

<sup>11</sup> "Parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non- competitive levels.

<sup>12</sup> "Party" refers to a participant in the procurement process or contract execution.

- (d) will sanction a firm or an individual, at any time, in accordance with prevailing Bank's sanctions procedures<sup>13</sup>, including by publically declaring such firm or individual ineligible, either indefinitely or for a stated period of time, (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>14</sup> subcontractor, consultant, manufacturer or supplier, or service provider of and otherwise eligible firm being awarded a Bank-financed contract; and
- (e) will have the right to require that a provision be included in Bidding Documents and in contracts financed by a Bank loan, requiring Bidders, Suppliers, and Contractors and their sub-contractors to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 24.1 (c) of the General Conditions of Contract.

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<sup>13</sup> A firm or an individual may be declared ineligible to be awarded a Bank-financed contract upon completion of the Bank's sanctions proceedings as per its sanctions procedures, including inter alia: (i) temporary suspension in connection with an ongoing sanctions proceeding; (ii) cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks; and (iii) the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption.

<sup>14</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which either has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder's pre-qualification application or the bid; or (ii) appointed by the Borrower.

## **SECTION IV: SPECIAL CONDITIONS OF CONTRACT**

### **SECTION IV: SPECIAL CONDITIONS OF CONTRACT**

#### **TABLE OF CLAUSES**

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## Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the General Conditions is indicated in parentheses.

### 1. Definitions (GCC Clause 1)

- (a) The Purchaser is The Principal, **ThangalKunjuMusaliarCollege ofEngineering,Karicode, Kollam**
- (b) The Supplier is : .....

### 2. Country of Origin (GCC Clause 3)

All countries and territories as indicated in Section XIV of the bidding documents, "Eligibility for the Provisions of Goods, Works, and Services in Bank-Financed Procurement".

### 3. Performance Security (GCC Clause 7)

- 3.1 Within 21 days after the Supplier's receipt of Notification of Award, the Supplier shall furnish Performance Security to the Purchaser for an amount of 5% of the contract value, valid upto 60 days after the date of completion of performance obligations including warranty obligations.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.

- 3.2 Substitute Clause 7.3 (b) of the GCC by the following:

A cashier's cheque or banker's certified cheque or crossed demand draft or pay order drawn in favour of **The Principal ,ThangalKunjuMusaliar College of Engineering,Karicode, Kollam [Purchaser]**.

- 3.3 Substitute Clause 7.4 of the GCC by the following:

The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including the warranty obligation, under the contract.

- 3.4 Add as Clause 7.5 to the GCC the following:

In the event of any contract amendment, the Supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 60 days after the completion of performance obligations including warranty obligations.

### 4. Inspection and Tests (GCC Clause 8)

The following inspection procedures and tests are required by the Purchaser:

(i) The inspection of the Goods shall be carried out to check whether the Goods are in conformity with the technical specifications attached to the contract and shall be in line with the inspection/test procedures laid down in the Technical Specifications and the General Conditions of contract. Following broad test procedure will generally be followed for inspection and testing of machine.

- The supplier will dispatch the goods to the ultimate consignee after internal inspection testing along with the supplier's inspection report and manufacturer's warranty certificate.
- The purchase will test the equipment after completion of the installation and commissioning at the site of the installation.
- For site preparation, the supplier should furnish all details to the purchaser sufficiently in advance so as to get the works completed before receipt of the equipment.

- Complete items/ accessories as specified in Section V should be supplied, installed and commissioned properly by the supplier prior to commencement of performance test.

(ii) The acceptance test will be conducted by the purchaser/their consultant or any other person nominated by the purchaser, at its option. There shall not be any additional charges for carrying out acceptance tests. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified.

(iii) In the event of the equipment failing to pass the acceptance test, a period not exceeding four weeks will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser.

Add the following new GCC Clauses:

**GCC 8.6 Manuals and Drawings**

8.6.1 Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals together with drawings of the goods and equipment. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.

8.6.2 The manuals and drawings shall be in the ruling language (English) and in such form and numbers as stated in the contract.

8.6.3 Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals and drawings have been supplied to the Purchaser.

**GCC 8.7 For the System & Other Software the following will apply:**

The Supplier shall provide complete and legal documentation of hardware, all sub-systems, operating systems, compiler, system software and the other software. The Supplier shall also provide licensed software for all software products, whether developed by it or acquired from others. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

**GCC 8.8 Acceptance Certificates:**

8.8.1 On successful completion of acceptability test, receipt of deliverables etc, and after the purchaser is satisfied with the working of the equipment, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the equipment.

**5. Packing (GCC Clause 9)**

Add as Clause 9.3 of the GCC the following:

Packing Instructions : The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink, the following:

i) Project ii) Contract No. iii) Country of Origin of Goods iv) Supplier's Name, and v) Packing list reference number.

**6. Delivery and Documents (GCC Clause 10)**

Upon delivery of the Goods, the supplier shall notify the purchaser and the insurance company by cable/telex/fax the full details of the shipment including contract number, railway receipt number and date, description of goods, quantity, name of the consignee etc. The supplier shall mail the following documents to the purchaser with a copy to the insurance company:

- (i) 4 Copies of the Supplier invoice showing contract number, goods' description, quantity, unit price, total amount;
- (ii) Railway receipt/acknowledgment of receipt of goods from the consignee(s);
- (iii) 4 Copies of packing list identifying the contents of each package;
- (iv) Insurance Certificate ;

- (v) Manufacturer's/Supplier's warranty certificate;
- (vi) Inspection Certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vii) Certificate of Origin.

The above documents shall be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

#### **7. Insurance ( GCC Clause 11)**

For delivery of goods at site, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destinations) on "All Risks" basis including War Risks and Strikes.

#### **8. Incidental Services (GCC Clause 13)**

The following services covered under Clause 13 shall be furnished and the cost shall be included in the contract price:

- a. Performance of the onsite assembly, commissioning and start-up of the equipment.
- b. Furnishing the detailed operation and maintenance manuals for each items of the supply at each location.
- c. Training the purchaser personnel at the suppliers office or other facility, in the installation and operation of the equipment.
- d. Maintenance and repair of the equipment at each location during the warranty period including supply of all spares. This shall not relieve the supplier of any warranty obligation under this contract.

#### **9. Spare Parts (GCC Clause 14)**

Add as Clause 14.2 to the GCC the following:

Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods, such as gaskets, plugs, washers, belts etc. Other spare parts and components shall be supplied as promptly as possible but in any case within six months of placement of order.

#### **10. Warranty (GCC Clause 15)**

- (i) G.C.C. Clause 15.2:

In partial modification of the provisions, the warranty period shall be **12** months from date of acceptance of Goods or 18 months from the dates of Shipment, whichever occurs earlier. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall at its discretion either:

- (a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4 ;

- (ii) Substitute Clause 15.4 of the GCC by the following:

“Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever, shall lie on the Purchaser for the replaced parts/goods thereafter.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months.”

(iii) GCC Clauses 15.4 and 15.5:

The period for correction of defects in the warranty period is 10 days.

The supplier shall guarantee a 98% uptime of the system.

If the system gives continuous trouble, more than 3 times in one month during the warranty period, the supplier shall replace the system with new system without any additional cost to the purchaser.

#### **Maintenance service**

- i) Free maintenance services shall be provided by the Supplier during the period of warranty .
- ii) The maximum response time for maintenance complaint from any of the destinations specified in the Schedule of Requirements (i.e. time required for supplier’s maintenance engineer to report at the installation after a request call/telegram is made or letter is written) shall not exceed 24 hours.
- iii) It is expected that the average downtime of the item will be less than half the maximum downtime (i.e.defined as number of days for which an item of equipment is not usable because of inability of the supplier to repair it as mentioned in the form of technical details. In case an item is not usable beyond the stipulated maximum downtime the supplier will be required to arrange for an immediate replacement of the same till it is repaired. Failure to arrange for the immediate repair/replacement will be liable for a penalty of Rs. 500 per day per item. The amount of penalty will be recovered from the Performance Security guarantee during warranty period.

#### **11. Payment (GCC Clause 16)**

Payment for Goods and Services shall be made in Indian Rupees as follows:

- (i) *Advance Payment:* No advance payment.
- (ii) *On Delivery:* **0%**
- (iii) *On Final Acceptance:* **100% (Hundred Percent) of the Contract Prices** shall be paid to the supplier within 30 days after the date of the acceptance certificate issued by the Purchaser’s representative for the respective delivery.

#### **12. Prices (GCC Clause 17)**

17.1 Prices payable to the supplier as stated in the contract shall be firm during the performance of the contract.

#### **13. Sub-contracts (GCC Clause 21)**

Add at the end of GCC sub-clause 21.1 the following:

Sub-contract shall be only for bought-out items and sub-assemblies

#### **14. Liquidated Damages (GCC Clause 23)**

14.1 For delays :

GCC Clause 23.1 -- The applicable rate is 0.05% per week and the maximum deduction is 5% of the contract price.

#### **15. Settlement of Disputes (Clause 28)**

The dispute settlement mechanism to be applied pursuant to GCC Clause 28.2.2 shall be as follows:

- (a) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Indian Council of Arbitration.
- (b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Indian Council of Arbitration.
- (c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the Indian Council of Arbitration both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the Indian Council of Arbitration making such an appointment shall be furnished to each of the parties.
- (d) Arbitration proceedings shall be held at **Kollam** India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.
- (f) Where the value of the contract is Rs. 10 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely the Indian Council of Arbitration.

**16. Notices (Clause 32)**

For the purpose of all notices, the following shall be the address of the Purchaser and Supplier.

Purchaser : **The Principal,  
ThangalKunjuMusaliar College of Engineering,  
TKMC P.O., Karicode, Kollam- 691005 Kerala**

Supplier: (To be filled in at the time of Contract signature)

.....  
.....  
.....  
.....

**17. Supplier shall regularly intimate progress of supply, in writing, to the Purchaser as under:**

- Quantity offered for inspection and date;
- Quantity accepted/rejected by inspecting agency and date;
- Quantity dispatched/delivered to consignees and date;

- Quantity where incidental services have been satisfactorily completed with date;
- Quantity where rectification/repair/replacement effected/completed on receipt of any communication from; consignee/Purchaser with date
- Date of completion of entire Contract including incidental services, if any; and
- Date of receipt of entire payments under the Contract  
(in case of stage-wise inspection, details required may also be specified).

**18. Right to use defective equipment:**

If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the equipment proves to be unsatisfactory, the Purchase shall have the right to continue to operate or use such equipment until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation

**19. Supplier Integrity:**

The supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state-of-the-art methods and economic principles and exercising all means available to achieve the performance specified in the Contract.

**20. Supplier's Obligations:**

The Supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities. The Supplier will abide by the job safety measures prevalent in India and will free the Purchaser from all demands or responsibilities arising from accidents or loss of life the cause of which is the Supplier's negligence. The Supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated. The Supplier is responsible for managing the activities of its personnel or subcontracted personnel and will hold itself responsible for any misdemeanors. The Supplier will treat as confidential all data and information about the Purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Purchaser.

**21. Patent Rights:**

In the event of any claim asserted by a third party of infringement of copyright, patent, trademark or industrial design rights arising from the use of the Goods or any part thereof in the Purchaser's country, the supplier shall act expeditiously to extinguish such claim. If the supplier fails to comply and the Purchaser is required to pay compensation to a third party resulting from such infringement, the supplier shall be responsible for the compensation including all expenses, court costs and lawyer fees. The Purchaser will give notice to the supplier of such claim, if it is made, without delay.

**22. Hardware Installation:**

The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between hardware units and connecting to power supplies. The Supplier will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.

**23. Hardware Maintenance:**

The Supplier will accomplish preventive and breakdown maintenance activities to ensure that all hardware execute without defect or interruption for at least 98% uptime for 24 hours a day, 7 days a week of operation of the machine (to modify as considered appropriate for each case) worked on a quarterly basis. If any critical component of the entire configuration is out of service for more than three days, the Supplier shall either immediately replace the defective unit or replace it at its own cost. The Supplier will respond to a site visit and commence repair work on the equipment within 24 hours of being notified of equipment malfunction.

**24. Technical Documentation:**

The Technical Documentation involving detailed instruction for operation and maintenance is to be delivered with every unit of the equipment supplied. The language of the documentation should be English.

## SECTION V: SCHEDULE OF REQUIREMENTS

### SCHEDULE OF REQUIREMENTS

Brief Description	Quantity with unit	Delivery Schedule	Bid Security INR
Wireless controller	1 no	Delivery in 60 days from the date of award of contract at T.K.M college of Engineering, Kollam-5	57660
Indoor access point	70nos		
Outdoor access point	3nos		
Antenna	3nos		
POE switch	1nos		
license for 16 APs	4nos		
1-port PoE adapter	73nos		
1-Port Mini-GBIC LX Single-mode Fiber Transceiver	4nos		
Single-mode Media Converter	4nos		
O. F.Cable06F Outdoor – Armoured Unitube SM - HDPE Sheath – 1200 Mtr	1no		
Cat-6 UTP 24AWG Solid	17 boxes		
Cat6 UTP 24AWG PATCH CHORD	160nos		
Jack Cat6 Keystone UTP with Collapsible Shutter-White	160nos		
Keystone Box Single Port	80nos		
LIU 24 PORT Rack Mount - Loaded (SC) SM	1 no		
LIU 6 PORT Rack Mount - Loaded (SC) SM	4nos		
PIGTAIL SC SM SIMPLEX LENGTH- 1m	48nos		
PATCH CORD LC-SC SM DUPLEX LENGTH- 2m	4nos		
PATCH CORD SC-SC SM DUPLEX LENGTH- 2m	4nos		
Hardware Required for Rack Mounting	10nos		



## SECTION VI - TECHNICAL SPECIFICATIONS

SL.NO	ITEM NAME	DETAILED SPECIFICATION	REMRKS
1.	Wireless Controller	<p>2-Port 10/100/1000Base-T, 2 GE SFP Combo Ports, 32 AP License by default, Maximum 128 AP License.</p> <p><b><u>Common Physical parameters</u></b></p> <ul style="list-style-type: none"> <li>• Controller should have 2 X 10/100/1000Base-T &amp; 2 X Gigabit combo SFP ports for Ethernet connectivity.</li> <li>• Should have console port for management access.</li> <li>• Should Support IPv6.</li> <li>• Device should be 19" Rack mountable with 1U height.</li> <li>• Device should power on using 100 to 240V AC, 50/60 Hz power supply.</li> <li>• The device should work in a temperature range of 0° to 45° C.</li> <li>• The storage temperature of the unit should be -40° to 70° C.</li> <li>• The device should work in non-condensing humidity range of 5% to 90%</li> <li>• The device should be able to store in non-condensing humidity range of 5% to 90%</li> </ul> <p><b><u>Wireless Features</u></b></p> <ul style="list-style-type: none"> <li>• The device should support Max. WLAN ID up to 4096</li> <li>• The device should manage maximum 128 Access Points</li> <li>• The device should be able to support 16384 manageable STA.</li> <li>• The device should support CAPWAP v6.</li> <li>• The device should support CAPWAP Tunnel NAT Traversal</li> <li>• The device should support following RF resource management features <ul style="list-style-type: none"> <li>○ CAPWAP v6</li> <li>○ RF Resource Monitoring</li> <li>○ Dynamic Channel Allocation</li> <li>○ Transmit Power Control</li> <li>○ Dead Zone Detection and Recovery</li> </ul> </li> <li>• The device should support load sharing by traffic &amp; station number.</li> <li>• It should also support station limit based on SSID.</li> <li>• The device should support enabling &amp; disabling of RADIO at regular.</li> <li>• The device should support below access point operations modes <ul style="list-style-type: none"> <li>○ Normal</li> <li>○ Monitor</li> <li>○ Hybrid</li> </ul> </li> <li>• The device should detect rogue AP &amp; AD-HOC device detection &amp; should perform countermeasures for maximum security.</li> <li>• The device should support following IDS attack detection <ul style="list-style-type: none"> <li>○ Flooding attack</li> <li>○ Weak IV attack</li> <li>○ Spoof attack detection</li> </ul> </li> <li>• The device should support Layer 2 user isolation.</li> <li>• The device should provide following frame filtering functions <ul style="list-style-type: none"> <li>○ White List</li> <li>○ Static Black List</li> <li>○ Dynamic Black List.</li> </ul> </li> <li>• The device should provide following wireless security features <ul style="list-style-type: none"> <li>○ Link Authentication - Open system authentication/Shared key authentication</li> <li>○ Access Authentication - PSK/802.1x.</li> <li>○ Encryption Mode - Plain text/WEP/TKIP/CCMP(AES).</li> <li>○ Key Negotiations mechanism - WPA/RSN(WPA II).</li> </ul> </li> <li>• The device should support Data Forwarding in Split MAC mode &amp; Local MAC mode.</li> <li>• The device should perform a QoS function using Rate Limiting based on – WLAN, Access Point &amp; STA.</li> <li>• The device should support Fair Scheduling.</li> <li>• The device should support eight mobility groups, each with 24 members &amp; each mobility group should support a mobility list of 72 members.</li> <li>• The device should support 1 Master AC &amp; 6 Slave AC.</li> <li>• The device should support AP Failover priority of 1 to 4.</li> <li>• The device's roaming disconnection time should be ≤ 50 ms.</li> <li>• The device should support following High Availability Mode</li> </ul>	

- 1 + 1 Active / Active mode.
- 1 + 1 Active / Standby mode.
- N + 1 mode.
- The User Service Interruption Time during Active/Standby Switchover should be  $\geq 60$  ms.
- The device should support Local forwarding.
- The device should support Centralized Authentication Through WEB Authentication & 802.1X.
- The device should support Rim Intelligent Perception Technology (RIPT).
- The device should support STA RSSI limit from 0 to 100.
- The device should support Idle STA time out of 60 to 86400 seconds.
- The device should support Average STA Rate limit of 1Mbps to 130 Mbps.
- The device should support adjustment of Transmit Power of beacon and probe Response.
- The device should generate entry in Syslog server with cause of STA disconnection.

**Layer 2 Characteristics**

- The device should have 64K MAC address table.
- It should also support 1K Static Address & 1K filtering address.
- The device should support Jumbo Frame Length of 1518K.
- The Ethernet interface should support following features / parameters.
  - Jumbo Frame support of 1518K.
  - Full & Half Duplex Mode
  - IEEE 802.1p
  - IEEE 802.1Q
  - Flow Control
- The device should support 4094 VLANs & allowed VLAN ID range of 1 to 4094.
- It should also support port based VLAN.
- The device should support following versions of Spanning Tree Protocol.
  - IEEE 802.1d STP
  - IEEE 802.1w RSTP
  - Standard 802.1s MSTP
  - Number of STP Instance – 64.

**Layer 3 Characteristics**

- The device should support following ARP features / parameters
  - ARP capacity of 8K.
  - ARP Entry Aging
  - Gratuitous ARP
  - ARP Proxy
- The device should support 2000 IP Addresses Set for Each Layer 3 Interface.
- The device should support IPv4 Routing Table Capacity of 24K.
- The device should support Static Routing Table Capacity of 1K.
- It should also support PING, Traceroute& ECMP.
- The device should support following IPv6 features / Parameters.
  - IPv6 Transparent Transmission
  - IPv6 Routing Table Capacity – 256
  - ICMPv6
  - Neighbour Discovery
  - Configuring Local Addresses Manually
  - Creating Local Addresses Automatically
  - IPv6 Ping
  - IPv6 Traceroute
  - Static IPv6 Routing Table Capacity
  - Manually Configured IPv6 Tunnel
  - Automatic 6to4 Tunnel
  - ISATAP
- The device should support OSPFv2

- It should also support Static Black Hole Route.

**Security Features**

- The device should support 16K access control entries applicable on the incoming interface.
- Device should support advance security features like QR-Code and SMS authentication
- The device should support 16K access control entries applicable on the outgoing interface.
- The device should support 16K access control entries applicable on both incoming & outgoing interface.
- The device should support following types of Access Control List
  - Standard IP ACL
  - Extended MAC ACL
  - Extended IP ACL
  - Expert ACL
- The device should support following Radius functions.
  - EXEC Authorization
  - Designated Source IP
- The device should support following 802.1x functions.
  - Dynamic ACL Assignment
  - MAC Authentication Bypass
  - Designation of Radius Server Based on WLAN
  - VLAN hopping
- The device should support following 802.1x client
  - 802.1x clients in handsets/laptops with iOS 3.x/4.x or Android 2.x/3.x operating systems.
- The device should support HTTP redirection.
- The device should support WEB portal for User Authentication.
- It should also support Active / Standby Portal.
- The device should provide accounting based on Duration & Traffic.
- The device should support following security / preventing functions in case of network attach or malicious traffic for uninterrupted functioning of the device.
  - IP Source Guard
  - CPU protection Policies
  - ARP Guard
  - ICMP Guard
  - DHCP Guard

**Network Management and Operation Maintenance**

- The device should support Console & Telnet login mode with Max. of 36 Telnet sessions.
- The device should support following protocols.
  - SSH v1.5 / v2.0
  - TFTP Client
  - NTP Server / Client
  - DHCP Server / Client
  - DNS Client
  - SNMP v1/v2/v3
  - RMON
- The device should support DHCP snooping functions as below.
  - Option 82
  - Trust Port
  - IP & MAC binding Database
  - It should support IP & MAC binding entries
- Device should have support for Syslog & Debug

		<ul style="list-style-type: none"> <li>• The device should support UDP helper</li> <li>• The device should support WiFi Multimedia Standard WMM.</li> <li>• The device should support WEB Management &amp; Network Management Platform</li> </ul> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b></p> <p><b>Warranty: Minimum 12 months</b></p>	
2	AccessPoint-Indoor	<p>Dual-radio, Dual-band, X-sense Smartantenna, Supports 802.11a/n and 802.11b/g/n, 2 Spatial Stream, Fat/Fit modes, WAPI, GE Uplink Copper Ports, Supports PoE and Local Power Supply.</p> <p><b>Hardware Features</b></p> <ul style="list-style-type: none"> <li>• The device should be Wi Fi certified Concurrent Dual band Access Point supporting 802.11a/b/g/n.</li> <li>• The device should have array antennae technology.</li> <li>• The device should have 16 built in antennae's.</li> <li>• The device should support 65000 or higher signal paths.</li> <li>• The device should support upto 300 signal path switch overs in less than 1 ms.</li> <li>• The device should support operation of both band (2.4 GHz &amp; 5 GHz) simultaneously.</li> <li>• The device should be usable as "Thin" or "Fat" Access Point.</li> <li>• The device should have 10/100/1000Base-T Ethernet port &amp; console port for management.</li> <li>• The device should be 802.3af (PoE) capable.</li> <li>• The device should have built-in Kensington compatible security lock.</li> <li>• The device should support data rate upto 600 Mbps</li> <li>• The device should provide following modulation techniques: <ul style="list-style-type: none"> <li>○ OFDM <ul style="list-style-type: none"> <li>▪ BPSK@6/9 Mbps</li> <li>▪ QPSK@12/18 Mbps</li> <li>▪ 16-QAM@24 Mbps</li> <li>▪ 64-QAM@48/54 Mbps</li> </ul> </li> <li>○ DSSS <ul style="list-style-type: none"> <li>▪ DBPSK@1 Mbps</li> <li>▪ DQPSK@2 Mbps</li> <li>▪ CCK@5.5/11 Mbps</li> </ul> </li> <li>○ MIMO-OFDM <ul style="list-style-type: none"> <li>▪ MCS 0-15</li> </ul> </li> </ul> </li> <li>• The device should have following receiving sensitivity: <ul style="list-style-type: none"> <li>○ 11b: -96dBm (1Mbps), -91dBm (5.5Mbps), -89dBm (11Mbps)</li> <li>○ 11a/g: -91dBm (6Mbps), -85dBm (24Mbps), -80dBm (36Mbps), -74dBm (54Mbps)</li> <li>○ 11n: -88Bm@MCS0, -70dBm@MCS7, -89dBm@MCS8, -68dBm@MCS15</li> </ul> </li> <li>• The device should have Transmit Power of ≤100mw or 20dBm per radio.</li> <li>• The device should support following environmental factors: <ul style="list-style-type: none"> <li>○ Operating temperature: -10°C to +50°C</li> <li>○ Storage temperature: -40°C to +70°C</li> <li>○ Operating humidity: 5% to 95% (non-condensing)</li> <li>○ Storage humidity: 5% to 95% (non-condensing)</li> </ul> </li> <li>• The device should support IP41 Standard.</li> <li>• The device should support safety standard GB4943 and EN/IEC 60950-1.</li> </ul>	

- The device should support following EMC standards:
  - GB9254
  - EN301 489
- The device should support EN 62311 health standard.
- The device should be Wi-Fi Alliance Certified.

**Software Features**

- The device should support 256 number of stations per AP.
- The device should support 32 SSID Virtual APs.
- The device should provide option to disable SSID broadcast.
- It should support Configuring the authentication mode, encryption mechanism, and VLAN attributes for each Virtual AP.
- The device should support WDS mode.
- The device should support Remote Intelligent Perception Technology (RIPT).
- The device should support intelligent identification of terminals & should do load balancing based on the number of clients or traffic.
- The device should provide option to restrict possible number of STAs connect per SSID or Radio.
- It should also provide option to restrict bandwidth per STA/SSID/AP.
- The device should give preference to 5Ghz band in band selection.
- The device should have following security features:
  - PSK, Web, and 802.1x authentication
  - Data encryption
    - WPA (TKIP)
    - WPA2 (AES)
    - WPA-PSK
    - WEP (64 or 128 bits)
  - 2D barcode authentication.
  - SMS authentication.
  - PEAP authentication.
  - Data frame filtering
    - Whitelist
    - Static blacklist
    - Dynamic blacklist
  - User isolation
  - Rogue AP detection and countermeasure
  - Dynamic ACL assignment
  - RADIUS
  - CPU Protection Policy (CPP)
  - Network Foundation Protection Policy (NFPP)
- The device should support Static & Dynamic routing for IPv4.
- The device should support Multicast to Unicast conversion.
- The device should have following IPv6 features
  - CAPWAP tunnel
  - ICMP
  - Static or Dynamic IP address.
  - IPv6 tunnel
  - ISATAP
- The device should support SNMP v1/v2/v3
- It should also support following protocols
  - WEB
  - FTP
  - TFTP
  - SSH
  - Telnet
- The device should detect any fault & should provide alarm for the same.
- The device should show statistics & Logs.

		<p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b></p> <p><b>Warranty: Minimum 12 months</b></p>	
3	Outdoor Wireless Access Point	<p>Dual-channel Dual-band, 2x2 MIMO, 802.11a/n and 802.11b/g/n, Fat/Fit Mode, IP66</p> <ul style="list-style-type: none"> <li>• Shall provide at least one 10/100/1000BASE-T port and one combo 1000BASE-X(SFP, LC) port for uplink connection</li> <li>• Shall support management console port use RJ-45 connector</li> <li>• Shall support 802.11a/n (compatible with 802.11a mode) and 802.11b/g/n (compatible with 802.11b/g mode)simultaneously</li> <li>• Shall provide maximum access bandwidth to 600Mbps (dual-radio)</li> <li>• Shall support 3X3 MIMO type</li> <li>• Shall support local power and PoE(802.3af) power supply</li> <li>• Shall support IP66 for outdoor environment</li> <li>• Shall support a minimum of 32 SSIDs</li> <li>• Shall support auto adjustment for channels and RF power</li> <li>• Shall support WDS (bridging)</li> <li>• Shall support static routing</li> <li>• Shall support ACL</li> <li>• Shall support bandwidth restriction</li> <li>• Shall support SSID hiding</li> <li>• Shall support WPA (TKIP), WPA2 (AES), WPA-PSK, WEP (40/128bit) encryption method</li> <li>• Shall support layer 2 forwarding isolation among wireless users; support multi-SSID isolation</li> <li>• Shall support SNMP v1/v2C/v3, Telnet, TFTP, FTP, HTTPS management</li> <li>• Shall support fat/thin AP and fast inter-AP switchover without reboot of AP</li> <li>• Shall support a priority queue for each user or session.</li> <li>• Shall support WMM (Wi-Fi multimedia) QoS.</li> <li>• Shall support flow classification</li> <li>• Shall support load equilibrium based on the number of users.</li> <li>• Shall support load equilibrium based on user traffic</li> <li>• Shall support security functions including but not limited to layer 2 isolation, anti-ARP attack and rogue AP detection</li> <li>• Shall support unified authentication including but not limited to WEB authentication; support IPAD/IPHONE authentication</li> <li>• Shall support unified network management system which can manage all wired and wireless products</li> </ul> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b></p> <p><b>Warranty: Minimum 12 months</b></p>	
4	Antenna	<p>2.4GHz Outdoor Omni directional Antenna Bundle (One 8dBi Omni directional Antenna, One 2.4GHz Lightning Arrester, One 2m N-N Feeder, One Water-proof Kit, One Grounding Wire).</p> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b></p>	

		<b>Warranty: Minimum 12 months</b>	
5	PoE Managed Switch	<p>24 Ports 10/100/1000Mbps + 4 SFP Managed SmartPro L2+ Switch</p> <p><b><u>Primary Specification</u></b>  Layer 2 switch with minimum 24x10/100/1000 Ethernet ports with 4 SFP slots  Minimum Packet switching capacity of 55 Gbps  Forwarding Rate- minimum 40Mpps  IPV6 Support  802.3ad Support  Packet Memory Buffer -1 MB</p> <p>Secondary Specification  Single IP Management of 32 devices  Minimum 64 MACs per port  Static Routing  Number of VLANS- 4k  Port-based VLAN facility  VLAN tagging to meet IEEE 802.1Q  Voice VLAN  Vlanbassed LBD  Auto-Surveillance based Vlan</p> <p><b>Features</b>  Quality of service(QOS) requirements  Support Class-based queuing with prioritization  IP-Mac Port Binding  Non-blocking wire speed performance  System Management and Administration  Support SNMP protocols of RFC 1157  Security Features  Minimum 48 ACL Profiles  Jumbo Frame Support -10K  DHCP snooping  Mac addressed based ACL  Services and Manageability  LLDP  SNMP v3  Web Interface  SSHv2  HTTP/HTTPS  Configuration backup via FTP/secure copy  OAM  Switch should Support of Power Saving Mode</p> <p style="text-align: center;"><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>	
6	License for 16 APs.	<p>License for 16 APs.  <b>Warranty: Minimum 12 months</b></p>	
7	PoE adapter	<p>1-port PoE adapter (1000Base-T, 802.3af)</p> <p>The cost for Installation, Configuration and customization shall be quoted for</p>	

		as unit price. <b>The cost for Installation, Configuration and customization shall be quoted for as unit price</b> <b>Warranty: Minimum 12 months</b>	
8	Single-mode Fiber Transceiver	1-port mini-GBIC LX Single-mode Fiber Transceiver (up to 10km, support 3.3V power) <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 12 months</b>	
9	Single-mode Media Converter	1000Base-T to 1000Base-LX SC Single-mode Media Converter (10km) <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 12 months</b>	
10	O. F.Cable	O. F.Cable 06F Outdoor –Armoured Unitube SM - HDPE Sheath – 1200 Mtr <b>The cost for Installation, Configuration and customization shall be quoted for as unit price</b> <b>Warranty: Minimum 5years</b>	
11	Cat6 UTP 24AWG Solid	Cat6 UTP 24AWG Solid :305 Mtr <b>The cost for Installation, and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5years</b>	
12	Cat6 UTP 24AWG PATCH CHORD	Cat6 UTP 24AWG PATCH CHORD:1M,Plug 30U' <b>Warranty: Minimum 5years</b>	
13	Jack Cat6 Keystone UTP	Jack Cat6 Keystone UTP with Collapsible Shutter-White <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5years</b>	
14	Keystone Box Single Port	Keystone Box Single Port <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5years</b>	
15	LIU24 PORT Rack Mount	LIU 24 PORT Rack Mount - Loaded (SC) SM <b>Warranty: Minimum 5years</b>  The cost for Installation, Configuration and customization shall be quoted for as unit price.	
16	LIU 6 PORT Rack Mount -	LIU 6 PORT Rack Mount - Loaded (SC) SM <b>The cost for Installation, Configuration and customization</b>	



		<p><b>shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5years</b></p>	
17	PIGTAIL SC SM SIMPLEX	<p>PIGTAIL SC SM SIMPLEX LENGTH- 1m  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5years</b></p>	
18	PATCH CORD LC-SC SM DUPLEX	<p>PATCH CORD LC-SC SM DUPLEX LENGTH- 2m  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>	
19	PATCH CORD SC-SC SM DUPLEX	<p>PATCH CORD SC-SC SM DUPLEX LENGTH- 2m  <b>Warranty: Minimum 5years</b>  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b></p>	
20	Hardware Required for Rack Mounting	<p><b>15 U Rack(1 No):</b>Standard for Racks configuration will be welded frame integrated with side panel and vented top cover with fan mounting provision, Associated Front Glass Door with lock &amp; Key and provision to mount racks on wall and 500 available Depth  <b>Patch Panel :24 Port CAT 6(2 Nos):</b> Exceeds ANSI/TIA-568 Category 6 connecting hardware requirements  • Engineering to provide 110 IDC termination reducing installation time  • Includes both TIA-568A and TIA-568B color wiring diagrams  • Backwards compatible to all lower rated category components  • Fits standard 19" EIA rack mount width  • 1 rack mount space (RMS)  <b>Cable Manger:(2 nos)</b>  <b>Power Distribution Unit(2 Nos)</b>  <b>Hardware kit (3 Nos)</b>  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5years</b></p>	

## **SECTION VI-A : QUALIFICATION CRITERIA**

(Referred to in Clause 13.3(b) of ITB)

1. (a) The bidder should be a manufacturer (OEM) who must have manufactured, tested and supplied the equipment(s) similar to the type specified in the “schedule of requirements” up to at least 5 times the quantity required in any one of the last 3 years. The equipments offered for supply must be of the most recent series models incorporating the latest improvements in design. Further, bidder should be in continuous business of manufacturing products similar to that specified in the schedule of requirements during the last three years prior to bid opening.
  - (b) Bids of bidders, quoting as authorized representative of an equipment manufacturer meeting with the above requirement in full, can also be considered provided.
    - i. The manufacturer furnishes authorization in the prescribed format assuring full guarantee and warranty obligations as per GCC and SCC; and
    - ii. The bidder, as authorized representative, has supplied, installed and commissioned satisfactorily at least 3 times of the quantity similar to the type specified in the Schedule of Requirements in any one of the last three years which must be in satisfactory operation for at least six months on the date of bid opening and must be providing annual maintenance services for the above equipment installations in at least three centers in the country for over one year.
  - (c) The bidder should have a minimum financial turnover of at least Rs. 300 lakhs in one of the last three years excluding current financial year
2. All bids submitted shall also include the following information along with formats under Section XV.
  - i. The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required system and equipments within the specified time of completion after meeting all their current commitments.
  - ii. Details of Service Centres and information on Service support facilities that would be provided after the warranty period [in the Service Support Form given in Section XV/2] Bidder should have established support centre & registered office in Kerala from more than 5 years.
  - iii. Reports on financial standing of the bidder such as profit and loss statements, balance sheets and auditor’s report for the past three years, bankers certificates, etc.
  - iv. VAT Number: Shall be provided with proof.
  - v. The bidder should furnish a conformity statement of the goods and services in the Price Schedule with the Purchaser’s Technical specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the

Technical Specifications with brand name/Product no/Catalog No. per ITB clause 14, in the Format given in Section XV/3 with the documentary evidence of conformity of the goods and services to Bidding Document.

3. Bidder should

- i. have a MAF (manufacturer authorization letter) for the tender.
- ii. have registered office
- iii. be certified partner of the OEM.
- iv. have executed minimum 3 similar projects in Kerala.

4. Notwithstanding anything stated above, the purchaser reserves the right to assess that the Bidder has the financial, technical, and production capability necessary to perform the Contract, if circumstances warrant such an assessment.

**SECTION VII: BID FORM , PRICE SCHEDULE AND DELIVERY**  
**SCHEDULE**

**SECTION VII: BID FORM**

Date : .....  
Credit/Loan No : .....  
IFB No : .....

TO: (Name and address of purchaser)

Gentlemen and/or Ladies :

Having examined the Bidding Documents including Addenda Nos..... [insert numbers], the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver..... (Description of Goods and Services) in conformity with the said bidding documents for the sum of ..... (Total bid amount in words and figures) or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this bid.

We undertake, if our bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to ..... percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this bid for the Bid validity period specified in Clause 16.1 of the Bid Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below :

Amount	Rupees	Purpose of Commission or gratuity
Name and address of agent		

\_\_\_\_\_  
(if none, state "none").

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We understand that you are not bound to accept the lowest or any bid you may receive.

We clarify/confirm that we comply with the eligibility requirements as per ITB Clause 2 of the bidding documents.

Dated this ..... day of ..... 19 .....

\_\_\_\_\_  
(signature)

\_\_\_\_\_  
(in the capacity of)

Duly authorized to sign Bid for and on behalf of

**SECTION VII/2: PRICE SCHEDULE**

Schedule	Sl.No	Item Description	Country of Origin	Quantity with units	Quoted Unit rate in Rs.  (Including Ex-Factory price, excise duty, packing and forwarding, transportation, loading & unloading, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price <b>(A)</b> <b>Rs</b>	Sales and other taxes payable if contract is awarded <b>(B)</b> Rs.
1	1	Wireless controller		1 no			
	2	Indoor access point		70nos			
	3	Outdoor access point		3nos			
	4	Antenna		3nos			
	5	POE switch		1no			
	6	license for 16 APs		4nos			
	7	1-port PoE adapter		73nos			
	8	1-Port Mini-GBIC LX Single-mode Fiber Transceiver		4nos			
	9	Single-mode Media Converter		4nos			
	10	O. F.Cable: 06F Outdoor – Armoured Unitube SM - HDPE Sheath – 1200 Mtr		1 no			
	11	Cat-6 UTP 24AWG Solid		17 boxes			
	12	Cat6 UTP 24AWG PATCH CHORD		160nos			
	13	Jack Cat6 Keystone UTP with Collapsible Shutter-White		160nos			
	14	Keystone Box Single Port		80nos			

15	LIU 24 PORT Rack Mount - Loaded (SC) SM		1 no			
16	LIU 6 PORT Rack Mount - Loaded (SC) SM		4nos			
17	PIGTAIL SC SM SIMPLEX LENGTH- 1m		48nos			
18	PATCH CORD LC-SC SM DUPLEX LENGTH- 2m		4nos			
19	PATCH CORD SC-SC SM DUPLEX LENGTH- 2m		4nos			
20	Hardware Required for Rack Mounting		10nos			

Total bid price (A+B) (in figures):

Total Bid Price (A+B) (in words):

**Signature of Bidder  
Name  
Business Address**

**Place:**

**Date:**

## SECTION VII/3: DELIVERY SCHEDULE

[Please see ITB Clause 26.5 (b)]

Schedule	Item No.	Item Description	Quantity with units	Physical unit (Nos)	Final (Project Site) Destination as specified in BDS	Bidder's offered Delivery date [to be provided by the bidder]
1	1	Wireless controller	1 no		T.K.M.COLLEGE OF ENGINEERING. KOLLAM-5,	
	2	Indoor access point	70nos			
	3	Outdoor access point	3nos			
	4	Antenna	3 nos			
	5	POE switch	1no			
	6	license for 16 APs	4nos			
	7	1-port PoE adapter	73nos			
	8	1-Port Mini-GBIC LX Single-mode Fiber Transceiver	4nos			
	9	Single-mode Media Converter	4nos			
	10	O. F.Cable	1 no			
	11	Cat-6 UTP 24AWG Solid	17 boxes			
	12	Cat6 UTP 24AWG PATCH CHORD	160nos			
	13	Jack Cat6 Keystone UTP with Collapsible Shutter-White	160nos			
	14	Keystone Box Single Port	80nos			
	15	LIU 24 PORT Rack Mount - Loaded (SC) SM	1 no			



16	LIU 6 PORT Rack Mount - Loaded (SC) SM	4nos		
17	PIGTAIL SC SM SIMPLEX LENGTH- 1m	48nos		
18	PATCH CORD LC-SC SM DUPLEX LENGTH- 2m	4nos		
19	PATCH CORD SC-SC SM DUPLEX LENGTH- 2m	4nos		
20	Hardware Required for Rack Mounting	10nos		

Signature of the Bidder \_\_\_\_\_

Business Address \_\_\_\_\_

**Seal of the Bidder**

**SECTION VIII: BID SECURITY FORM**

Whereas .....<sup>1</sup> (*hereinafter called "the Bidder"*) has submitted its bid dated ..... (*date of submission of bid*) for the supply of ..... (*name and/or description of the goods*) (*hereinafter called "the Bid"*).

KNOW ALL PEOPLE by these presents that WE ..... (*name of bank*) of ..... (*name of country*), having our registered office at ..... (*address of bank*) (*hereinafter called "the Bank"*), are bound unto ..... (*name of Purchaser*) (*hereinafter called "the Purchaser"*) in the sum of \_\_\_\_\_ for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_ day of \_\_\_\_\_ 20\_\_.

THE CONDITIONS of this obligation are:

1. If the Bidder
  - (a) withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - (b) does not accept the correction of errors in accordance with the ITB; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity:
  - (a) fails or refuses to execute the Contract Form if required; or
  - (b) fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders;

we undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including forty five (45) days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

.....  
(Signature of the Bank)

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<sup>1</sup> *Name of Bidder*

## SECTION IX: CONTRACT FORM

THIS AGREEMENT made the .....day of....., 20... Between .....(*Name of purchaser*)of .....(*Country of Purchaser*) (hereinafter called "the Purchaser") of the one part and ..... (*Name of Supplier*) of ..... (*City and Country of Supplier*) (hereinafter called "the Supplier") of the other part :

WHEREAS the Purchaser is desirous that certain Goods and ancillary services viz., .....(*Brief Description of Goods and Services*) and has accepted a bid by the Supplier for the supply of those goods and services in the sum of ..... (*Contract Price in Words and Figures*) (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract; and
  - (f) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services which shall be supplied/provided by the Supplier are as under:

SL.NO	BRIEF DESCRIPTION OF GOODS & SERVICES	QUANTITY TO BE SUPPLIED	DELIVERY TERMS	UNIT PRICE	Total Price

**TOTAL VALUE:**

**DELIVERY SCHEDULE:**

**IN WITNESS** whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the

said ..... (For the Purchaser)

in the presence of:.....

Signed, Sealed and Delivered by the

said ..... (For the Supplier)

in the presence of:.....

**SECTION X. PERFORMANCE SECURITY FORM**

To: (Name of Purchaser)  
WHEREAS ..... (Name of Supplier)  
hereinafter called "the Supplier" has undertaken , in pursuance of Contract (Notification of Award)  
No..... dated,..... 20.. to supply.....(Description  
of Goods and Services) hereinafter called "the Contract".

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a  
Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with  
the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a Guarantee:  
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up  
to a total of ..... (Amount of the Guarantee in Words and  
Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in  
default under the Contract and without cavil or argument, any sum or sums within the limit of  
..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show  
grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the .....day of.....20.....

Signature and Seal of Guarantors

.....  
.....  
.....  
Date.....20....  
Address:.....  
.....  
.....

## SECTION XI: PERFORMANCE STATEMENT

[Please see Clause 13.3(b) (ii) of Instructions to Bidders]

### Performa for Performance Statement (for a period of last three years)

Bid No \_\_\_\_\_ Date of opening \_\_\_\_\_ Time \_\_\_\_\_ Hours \_\_\_\_\_

1. Name & Address of the Bidder

2. Classifications

- (i) Manufacturer
- (ii) Authorized Agent
- (iii) Dealer
- (iv) Others (please specify)

3. Plant :

- (a) location
- (b) Description, Type & size of building
- (c) Is property on lease or free hold? If on lease indicate date of expiry of lease in such case

4. VAT Number

5. Turnover of the firm in last three years

2010-11:  
2011-12:  
2012-13

Order placed by (full Address of purchaser)	Order No. and Date	Description and quantity of ordered equipment	Value of the order	Date of delivery		Remarks indicating reasons for late delivery, if any	Has the equipment been satisfactorily functioning? (attach a certificate from the Purchaser/ consignee for at least 5 purchases in Kerala)
				As per contract	Actual		

Signature of the Bidder.....

Business Address.....

**Seal of the Bidder**



## SECTION XII

(Please see Clause 13.3(a) of Instructions to Bidders)

### MANUFACTURERS' AUTHORIZATION FORM\*

No. dated

To

Dear Sir:

IFB No.

We \_\_\_\_\_ who are established and reputable manufacturers of  
*(name and description of goods offered)* having factories at \_\_\_\_\_ *(address of factory)* do  
hereby authorize M/s \_\_\_\_\_ *(Name and address of Agent)* to submit a bid, and sign  
the contract with you for the goods manufactured by us against the above IFB.

No company or firm or individual other than M/s \_\_\_\_\_ are authorized to bid, and conclude  
the contract for the above goods manufactured by us, against this specific IFB. *(This para should be  
deleted in simple items where manufacturers sell the product through different stockists.)*

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract  
and Clause 10 of the Special Conditions of Contract for the goods and services offered for supply by  
the above firm against this IFB.

Yours faithfully,

(Name)

(Name of manufacturers)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person  
competent and having the power of attorney to legally bind the manufacturer. It should be included by the  
Bidder in its bid.

\* Modify this format suitably in case where manufacturer's warranty and guarantee are not applicable for the  
items for which bids are invited.



**SECTION XIII**

**SAMPLE FORM**

**BANK GUARANTEE FOR ADVANCE PAYMENT**

To: \_\_\_\_\_ (*name of Purchaser*)  
\_\_\_\_\_ (*address of Purchaser*)  
\_\_\_\_\_ (*name of Contract*)

Gentlemen:

In accordance with the provisions of the Special Conditions of Contract which amends Clause 16 of the General Conditions of Contract (*name and address of Supplier*) (hereinafter called "the supplier") shall deposit with (*name of Purchaser*) a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of (*amount of guarantee*)\* (*in words*).

We, the (*bank or financial institution*), as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to (*name of Purchaser*) on his first demand without whatsoever right of objection on our part and without his first claim to the Supplier, in the amount not exceeding (*amount of guarantee*)\* (*in words*).

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between (*name of Purchaser*) and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the contract until \_\_\_\_\_

Yours truly,  
Signature and seal : \_\_\_\_\_  
Name of bank  
financial institution :  
Address :  
Date :

\_\_\_\_\_

\* An amount is to be inserted by the bank representing the amount of the Advance Payment.

## **SECTION XIV**

### **Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement.**

**As of March 2000<sup>1</sup>**

For the information of Borrowers and Bidders, and with reference to paragraph 1.6, footnote 9, of the *Guidelines: Procurement under IBRD Loans and IDA Credits*, dated January 1995 (revised January and August 1996 and September 1997, and January 1999), set forth below is a list of countries from which Bidders, Goods and Services are not eligible to participate in procurement financed by the World Bank or IDA<sup>2</sup>.

- Andorra
- Cuba
- Democratic People's Republic of Korea (North Korea)
- Liechtenstein
- Monaco
- Nauru
- Tuvalu

In addition, Bidders, Goods and Services from other countries or territories may be declared ineligible by a provision in the Bidding Documents if the borrower's country has excluded them by a law, an official regulation, or an act of compliance meeting the requirements of paragraph 1.8 (a) of the *Guidelines: Procurement under IBRD Loans and IDA Credits*.

The Loan/Credit Agreement also prohibits a withdrawal from the Loan / Credit Account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. At the present time, this prohibition applies to no country.

Notes:

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1. The most current listing of eligible countries can be viewed on the Public Information Center's Web page at: <http://www.worldbank.org/html/pic/PROCURE.html>. A list of firms debarred from participating in World Bank projects is available at: <http://www.worldbank.org/html/opr/procure/debarr.html>.
2. Any questions regarding this list should be addressed to the Senior Manager, Procurement Policy and Services Group, Operational Core Services Network, The World Bank

**ANNEXURE XV**

**PROFORMA FOR EQUIPMENT AND QUALITY CONTROL EMPLOYED BY THE MANUFACTURER**

BID NO. .... DATE OF OPENING : .....  
NAME OF THE BIDDER :  
.....

(Note : All details should relate to the manufacturer for the items offered for supply)

1. Name & full address of the Manufacturer
2. (a) Telephone & Fax No                      Office/Factory/Works  
(b) Telex No.                                      Office/Factory/Works  
(c) Telegraphic address :
3. Location of the manufacturing factory.
4. Details of Industrial License, wherever required as per statutory regulations.
5. Details of important Plant & Machinery functioning in each dept. (Monographs & description pamphlets be supplied if available).
6. Details of the process of manufacture in the factory.
7. Details & stocks of raw materials held.
8. Production capacity of item(s) quoted for, with the existing Plant & Machinery
  - 8.1 Normal
  - 8.2 Maximum
9. Details of arrangement for quality control of products such as laboratory, testing equipment etc.
10. Details of staff:
  - 10.1 Details of technical supervisory staff in charge of production & quality control.
  - 10.2 Skilled labour employed.
  - 10.3 Unskilled labour employed.
  - 10.4 Maximum No. of workers (skilled & unskilled) employed on any day during the 18 months preceding the date of Tender.
11. Whether Goods are tested to any standard specification? If so, copies of original test certificates should be submitted in triplicate.
12. Are you registered with the Directorate General of Supplies and Disposals, New Delhi 110 001, India? If so, furnish full particulars of registration, period of currency etc. with a copy of the certificate of registration.

.....  
Signature and seal of the Manufacturer

**SECTION XV/2**  
**SERVICE SUPPORT DETAILS**

1. Name & Address of the Bidder Phone	
2. Name & Address of the Manufacture Phone: <b><u>(if Bidder is authorised dealer / agent)</u></b>	
3. Service Facility available during Warranty and AMC period:	
a) Registering of Complaints :	(i) Phone : (ii) Fax : (iii) email : <b><u>(iv) Website :</u></b>
b) Facility available : ..... Hrs per day / .... Days in a week	
c) Maximum time for attending the compliant / : rectifying the fault	
d) Maximum down time for each equipment during repairing / replacement :	
4. Nearest service centre(s) to each of the destination installations Location _____  Phone No. _____  Year of Establishment _____	
5. Details of Organization at Service Centre	
a) Direct / Franchise _____	
b) No. of skilled employees _____	
c) No. of Unskilled employees _____	
d) No. of Engineering employees _____	
e) No. of Administrative employees _____	
f) List of special repair/workshop facilities available _____	
g) The storage space available for spare parts (sq.m.) _____	
h) Value of minimum stock of spares available at all the service centres in respective currency	
i) Value of the modes/types by number of equipment serviced by the centre in the last 2 years _____	

Signature of the Bidder \_\_\_\_\_

Business Address \_\_\_\_\_

**SECTION XV/3**  
**CONFIRMITY STATEMENT**  
[Please see clause 14 of instruction to Bidders]  
Name & Address of the Bidder

Sl. No	Particulars	Technical specification provided by the purchaser	Technical Specification of proposed Equipment	Deviations, if any
1.	Wireless Controller	<p>2-Port 10/100/1000Base-T, 2 GE SFP Combo Ports, 32 AP License by default, Maximum 128 AP License.</p> <p><b>1. <u>Common Physical parameters</u></b></p> <ul style="list-style-type: none"> <li>• Controller should have 2 X 10/100/1000Base-T &amp; 2 X Gigabit combo SFP ports for Ethernet connectivity.</li> <li>• Should have console port for management access.</li> <li>• Should Support IPv6.</li> <li>• Device should be 19” Rack mountable with 1U height.</li> <li>• Device should power on using 100 to 240V AC, 50/60 Hz power supply.</li> <li>• The device should work in a temperature range of 0° to 45° C.</li> <li>• The storage temperature of the unit should be -40° to 70° C.</li> <li>• The device should work in non-condensing humidity range of 5% to 90%</li> <li>• The device should be able to store in non-condensing humidity range of 5% to 90%</li> </ul> <p><b>2. <u>Wireless Features</u></b></p> <ul style="list-style-type: none"> <li>• The device should support Max. WLAN ID up to 4096</li> <li>• The device should manage maximum 128 Access Points</li> <li>• The device should be able to support 16384 manageable STA.</li> <li>• The device should support CAPWAP v6.</li> <li>• The device should support CAPWAP Tunnel NAT Traversal</li> <li>• The device should support following RF resource management features <ul style="list-style-type: none"> <li>○ CAPWAP v6</li> <li>○ RF Resource Monitoring</li> <li>○ Dynamic Channel Allocation</li> <li>○ Transmit Power Control</li> <li>○ Dead Zone Detection and Recovery</li> </ul> </li> <li>• The device should support load sharing by traffic &amp; station number.</li> <li>• It should also support station limit based on SSID.</li> <li>• The device should support enabling &amp; disabling of RADIO at regular.</li> <li>• The device should support below access point operations modes <ul style="list-style-type: none"> <li>○ Normal</li> <li>○ Monitor</li> <li>○ Hybrid</li> </ul> </li> <li>• The device should detect rogue AP &amp; AD-HOC device detection &amp; should perform countermeasures for maximum security.</li> <li>• The device should support following IDS attack detection <ul style="list-style-type: none"> <li>○ Flooding attack</li> <li>○ Weak IV attack</li> <li>○ Spoof attack detection</li> </ul> </li> <li>• The device should support Layer 2 user isolation.</li> </ul>		

		<ul style="list-style-type: none"> <li>• The device should provide following frame filtering functions <ul style="list-style-type: none"> <li>○ White List</li> <li>○ Static Black List</li> <li>○ Dynamic Black List.</li> </ul> </li> <li>• The device should provide following wireless security features <ul style="list-style-type: none"> <li>○ Link Authentication - Open system authentication/Shared key authentication</li> <li>○ Access Authentication - PSK/802.1x.</li> <li>○ Encryption Mode - Plain text/WEP/TKIP/CCMP(AES).</li> <li>○ Key Negotiations mechanism - WPA/RSN(WPA II).</li> </ul> </li> <li>• The device should support Data Forwarding in Split MAC mode &amp; Local MAC mode.</li> <li>• The device should perform a QoS function using Rate Limiting based on – WLAN, Access Point &amp; STA.</li> <li>• The device should support Fair Scheduling.</li> <li>• The device should support eight mobility groups, each with 24 members &amp; each mobility group should support a mobility list of 72 members.</li> <li>• The device should support 1 Master AC &amp; 6 Slave AC.</li> <li>• The device should support AP Failover priority of 1 to 4.</li> <li>• The device's roaming disconnection time should be ≤ 50 ms.</li> <li>• The device should support following High Availability Mode <ul style="list-style-type: none"> <li>○ 1 + 1 Active / Active mode.</li> <li>○ 1 + 1 Active / Standby mode.</li> <li>○ N + 1 mode.</li> </ul> </li> <li>• The User Service Interruption Time during Active/Standby Switchover should be ≥ 60 ms.</li> <li>• The device should support Local forwarding.</li> <li>• The device should support Centralized Authentication Through WEB Authentication &amp; 802.1X.</li> <li>• The device should support Rim Intelligent Perception Technology (RIPT).</li> <li>• The device should support STA RSSI limit from 0 to 100.</li> <li>• The device should support Idle STA time out of 60 to 86400 seconds.</li> <li>• The device should support Average STA Rate limit of 1Mbps to 130 Mbps.</li> <li>• The device should support adjustment of Transmit Power of beacon and probe Response.</li> <li>• The device should generate entry in Syslog server with cause of STA disconnection.</li> </ul> <p>3. <b><u>Layer 2 Characteristics</u></b></p> <ul style="list-style-type: none"> <li>• The device should have 64K MAC address table.</li> <li>• It should also support 1K Static Address &amp; 1K filtering address.</li> <li>• The device should support Jumbo Frame Length of 1518K.</li> <li>• The Ethernet interface should support following features / parameters. <ul style="list-style-type: none"> <li>○ Jumbo Frame support of 1518K.</li> <li>○ Full &amp; Half Duplex Mode</li> <li>○ IEEE 802.1p</li> <li>○ IEEE 802.1Q</li> <li>○ Flow Control</li> </ul> </li> <li>• The device should support 4094 VLANs &amp; allowed VLAN ID range of 1 to 4094.</li> <li>• It should also support port based VLAN.</li> <li>• The device should support following versions of Spanning Tree Protocol. <ul style="list-style-type: none"> <li>○ IEEE 802.1d STP</li> <li>○ IEEE 802.1w RSTP</li> <li>○ Standard 802.1s MSTP</li> <li>○ Number of STP Instance – 64.</li> </ul> </li> </ul>		
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		<p>4. <b><u>Layer 3 Characteristics</u></b></p> <ul style="list-style-type: none"> <li>• The device should support following ARP features / parameters <ul style="list-style-type: none"> <li>○ ARP capacity of 8K.</li> <li>○ ARP Entry Aging</li> <li>○ Gratuitous ARP</li> <li>○ ARP Proxy</li> </ul> </li> <li>• The device should support 2000 IP Addresses Set for Each Layer 3 Interface.</li> <li>• The device should support IPv4 Routing Table Capacity of 24K.</li> <li>• The device should support Static Routing Table Capacity of 1K.</li> <li>• It should also support PING, Traceroute&amp; ECMP.</li> <li>• The device should support following IPv6 features / Parameters. <ul style="list-style-type: none"> <li>○ IPv6 Transparent Transmission</li> <li>○ IPv6 Routing Table Capacity – 256</li> <li>○ ICMPv6</li> <li>○ Neighbour Discovery</li> <li>○ Configuring Local Addresses Manually</li> <li>○ Creating Local Addresses Automatically</li> <li>○ IPv6 Ping</li> <li>○ IPv6 Traceroute</li> <li>○ Static IPv6 Routing Table Capacity</li> <li>○ Manually Configured IPv6 Tunnel</li> <li>○ Automatic 6to4 Tunnel</li> <li>○ ISATAP</li> </ul> </li> <li>• The device should support OSPFv2</li> <li>• It should also support Static Black Hole Route.</li> </ul> <p>5. <b><u>Security Features</u></b></p> <ul style="list-style-type: none"> <li>• The device should support 16K access control entries applicable on the incoming interface.</li> <li>• Device should support advance security features like QR-Code and SMS authentication</li> <li>• The device should support 16K access control entries applicable on the outgoing interface.</li> <li>• The device should support 16K access control entries applicable on both incoming &amp; outgoing interface.</li> <li>• The device should support following types of Access Control List <ul style="list-style-type: none"> <li>○ Standard IP ACL</li> <li>○ Extended MAC ACL</li> <li>○ Extended IP ACL</li> <li>○ Expert ACL</li> </ul> </li> <li>• The device should support following Radius functions. <ul style="list-style-type: none"> <li>○ EXEC Authorization</li> <li>○ Designated Source IP</li> </ul> </li> <li>• The device should support following 802.1x functions. <ul style="list-style-type: none"> <li>○ Dynamic ACL Assignment</li> <li>○ MAC Authentication Bypass</li> </ul> </li> </ul>		
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		<ul style="list-style-type: none"> <li>○ Designation of Radius Server Based on WLAN</li> <li>○ VLAN hopping</li> <li>● The device should support following 802.1x client <ul style="list-style-type: none"> <li>○ 802.1x clients in handsets/laptops with iOS 3.x/4.x or Android 2.x/3.x operating systems.</li> </ul> </li> <li>● The device should support HTTP redirection.</li> <li>● The device should support WEB portal for User Authentication.</li> <li>● It should also support Active / Standby Portal.</li> <li>● The device should provide accounting based on Duration &amp; Traffic.</li> <li>● The device should support following security / preventing functions in case of network attach or malicious traffic for uninterrupted functioning of the device. <ul style="list-style-type: none"> <li>○ IP Source Guard</li> <li>○ CPU protection Policies</li> <li>○ ARP Guard</li> <li>○ ICMP Guard</li> <li>○ DHCP Guard</li> </ul> </li> </ul> <p><b>6. <u>Network Management and Operation Maintenance</u></b></p> <ul style="list-style-type: none"> <li>● The device should support Console &amp; Telnet login mode with Max. of 36 Telnet sessions.</li> <li>● The device should support following protocols. <ul style="list-style-type: none"> <li>○ SSH v1.5 / v2.0</li> <li>○ TFTP Client</li> <li>○ NTP Server / Client</li> <li>○ DHCP Server / Client</li> <li>○ DNS Client</li> <li>○ SNMP v1/v2/v3</li> <li>○ RMON</li> </ul> </li> <li>● The device should support DHCP snooping functions as below. <ul style="list-style-type: none"> <li>○ Option 82</li> <li>○ Trust Port</li> <li>○ IP &amp; MAC binding Database</li> <li>○ It should support IP &amp; MAC binding entries</li> </ul> </li> <li>● Device should have support for Syslog &amp; Debug</li> <li>● The device should support UDP helper</li> <li>● The device should support WiFi Multimedia Standard WMM.</li> <li>● The device should support WEB Management &amp; Network Management Platform</li> </ul> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price</b>  <b>Warranty: Minimum 12 months</b></p> <p>.</p>		
2	AccessPoint-Indoor	Dual-radio, Dual-band, X-sense Smartant Antenna, Supports 802.11a/n and 802.11b/g/n, 2 Spatial Stream,		



		<p>Fat/Fit modes, WAPI, GE Uplink Copper Ports, Supports PoE and Local Power Supply.</p> <p><b>Hardware Features</b></p> <ul style="list-style-type: none"> <li>• The device should be Wi Fi certified Concurrent Dual band Access Point supporting 802.11a/b/g/n.</li> <li>• The device should have array antennae technology.</li> <li>• The device should have 16 built in antennae's.</li> <li>• The device should support 65000 or higher signal paths.</li> <li>• The device should support upto 300 signal path switch overs in less than 1 ms.</li> <li>• The device should support operation of both band (2.4 GHz &amp; 5 GHz) simultaneously.</li> <li>• The device should be usable as “Thin” or “Fat” Access Point.</li> <li>• The device should have 10/100/1000Base-T Ethernet port &amp; console port for management.</li> <li>• The device should be 802.3af (PoE) capable.</li> <li>• The device should have built-in Kensington compatible security lock.</li> <li>• The device should support data rate upto 600 Mbps</li> <li>• The device should provide following modulation techniques: <ul style="list-style-type: none"> <li>○ OFDM <ul style="list-style-type: none"> <li>▪ BPSK@6/9 Mbps</li> <li>▪ QPSK@12/18 Mbps</li> <li>▪ 16-QAM@24 Mbps</li> <li>▪ 64-QAM@48/54 Mbps</li> </ul> </li> <li>○ DSSS <ul style="list-style-type: none"> <li>▪ DBPSK@1 Mbps</li> <li>▪ DQPSK@2 Mbps</li> <li>▪ CCK@5.5/11 Mbps</li> </ul> </li> <li>○ MIMO-OFDM <ul style="list-style-type: none"> <li>▪ MCS 0-15</li> </ul> </li> </ul> </li> <li>• The device should have following receiving sensitivity: <ul style="list-style-type: none"> <li>○ 11b: -96dBm (1Mbps), -91dBm (5.5Mbps), -89dBm (11Mbps)</li> <li>○ 11a/g: -91dBm (6Mbps), -85dBm (24Mbps), -80dBm (36Mbps), -74dBm (54Mbps)</li> <li>○ 11n: -88Bm@MCS0, -70dBm@MCS7, -89dBm@MCS8, -68dBm@MCS15</li> </ul> </li> <li>• The device should have Transmit Power of <math>\leq 100\text{mw}</math> or 20dBm per radio.</li> <li>• The device should support following environmental factors: <ul style="list-style-type: none"> <li>○ Operating temperature: <math>-10^{\circ}\text{C}</math> to <math>+50^{\circ}\text{C}</math></li> <li>○ Storage temperature: <math>-40^{\circ}\text{C}</math> to <math>+70^{\circ}\text{C}</math></li> <li>○ Operating humidity: 5% to 95% (non-condensing)</li> <li>○ Storage humidity: 5% to 95% (non-condensing)</li> </ul> </li> <li>• The device should support IP41 Standard.</li> <li>• The device should support safety standard GB4943 and EN/IEC 60950-1.</li> <li>• The device should support following EMC standards:</li> </ul>		
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		<ul style="list-style-type: none"> <li>○ GB9254</li> <li>○ EN301 489</li> <li>● The device should support EN 62311 health standard.</li> <li>● The device should be Wi-Fi Alliance Certified.</li>   <li><b><u>Software Features</u></b></li> <li>● The device should support 256 number of stations per AP.</li> <li>● The device should support 32 SSID Virtual APs.</li> <li>● The device should provide option to disable SSID broadcast.</li> <li>● It should support Configuring the authentication mode, encryption mechanism, and VLAN attributes for each Virtual AP.</li> <li>● The device should support WDS mode.</li> <li>● The device should support Remote Intelligent Perception Technology (RIPT).</li> <li>● The device should support intelligent identification of terminals &amp; should do load balancing based on the number of clients or traffic.</li> <li>● The device should provide option to restrict possible number of STAs connect per SSID or Radio.</li> <li>● It should also provide option to restrict bandwidth per STA/SSID/AP.</li> <li>● The device should give preference to 5Ghz band in band selection.</li> <li>● The device should have following security features: <ul style="list-style-type: none"> <li>○ PSK, Web, and 802.1x authentication</li> <li>○ Data encryption <ul style="list-style-type: none"> <li>▪ WPA (TKIP)</li> <li>▪ WPA2 (AES)</li> <li>▪ WPA-PSK</li> <li>▪ WEP (64 or 128 bits)</li> </ul> </li> <li>○ 2D barcode authentication.</li> <li>○ SMS authentication.</li> <li>○ PEAP authentication.</li> <li>○ Data frame filtering <ul style="list-style-type: none"> <li>▪ Whitelist</li> <li>▪ Static blacklist</li> <li>▪ Dynamic blacklist</li> </ul> </li> <li>○ User isolation</li> <li>○ Rogue AP detection and countermeasure</li> <li>○ Dynamic ACL assignment</li> <li>○ RADIUS</li> <li>○ CPU Protection Policy (CPP)</li> <li>○ Network Foundation Protection Policy (NFPP)</li> </ul> </li> <li>● The device should support Static &amp; Dynamic routing for IPv4.</li> <li>● The device should support Multicast to Unicast conversion.</li> <li>● The device should have following IPv6 features <ul style="list-style-type: none"> <li>○ CAPWAP tunnel</li> <li>○ ICMP</li> <li>○ Static or Dynamic IP address.</li> <li>○ IPv6 tunnel</li> </ul> </li> </ul>		
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		<ul style="list-style-type: none"> <li>○ ISATAP</li> <li>● The device should support SNMP v1/v2/v3</li> <li>● It should also support following protocols <ul style="list-style-type: none"> <li>○ WEB</li> <li>○ FTP</li> <li>○ TFTP</li> <li>○ SSH</li> <li>○ Telnet</li> </ul> </li> <li>● The device should detect any fault &amp; should provide alarm for the same.</li> <li>● The device should show statistics &amp; Logs.</li> </ul> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
3	Outdoor Wireless Access Point	<p>Dual-channel Dual-band, 2x2 MIMO, 802.11a/n and 802.11b/g/n, Fat/Fit Mode, IP66</p> <ul style="list-style-type: none"> <li>● Shall provide at least one 10/100/1000BASE-T port and one combo 1000BASE-X(SFP, LC) port for uplink connection</li> <li>● Shall support management console port use RJ-45 connector</li> <li>● Shall support 802.11a/n (compatible with 802.11a mode) and 802.11b/g/n (compatible with 802.11b/g mode)simultaneously</li> <li>● Shall provide maximum access bandwidth to 600Mbps (dual-radio)</li> <li>● Shall support 3X3 MIMO type</li> <li>● Shall support local power and PoE(802.3af) power supply</li> <li>● Shall support IP66 for outdoor environment</li> <li>● Shall support a minimum of 32 SSIDs</li> <li>● Shall support auto adjustment for channels and RF power</li> <li>● Shall support WDS (bridging)</li> <li>● Shall support static routing</li> <li>● Shall support ACL</li> <li>● Shall support bandwidth restriction</li> <li>● Shall support SSID hiding</li> <li>● Shall support WPA (TKIP), WPA2 (AES), WPA-PSK, WEP (40/128bit) encryption method</li> <li>● Shall support layer 2 forwarding isolation among wireless users; support multi-SSID isolation</li> <li>● Shall support SNMP v1/v2C/v3, Telnet, TFTP, FTP, HTTPS management</li> <li>● Shall support fat/thin AP and fast inter-AP switchover without reboot of AP</li> <li>● Shall support a priority queue for each user or session.</li> <li>● Shall support WMM (Wi-Fi multimedia) QoS.</li> <li>● Shall support flow classification</li> <li>● Shall support load equilibrium based on the number of users.</li> <li>● Shall support load equilibrium based on user traffic</li> </ul>		

		<ul style="list-style-type: none"> <li>• Shall support security functions including but not limited to layer 2 isolation, anti-ARP attack and rogue AP detection</li> <li>• Shall support unified authentication including but not limited to WEB authentication; support IPAD/IPHONE authentication</li> <li>• Shall support unified network management system which can manage all wired and wireless products</li> </ul> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
4	Antenna	<p>2.4GHz Outdoor Omni directional Antenna Bundle (One 8dBi Omni directional Antenna, One 2.4GHz Lightning Arrester, One 2m N-N Feeder, One Water-proof Kit, One Grounding Wire).</p> <p><b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
5	PoE Managed Switch	<p>24 Ports 10/100/1000Mbps + 4 SFP Managed SmartPro L2+ Switch</p> <p><b><u>Primary Specification</u></b>  Layer 2 switch with minimum 24x10/100/1000 Ethernet ports with 4 SFP slots  Minimum Packet switching capacity of 55 Gbps  Forwarding Rate- minimum 40Mpps  IPV6 Support  802.3ad Support  Packet Memory Buffer -1 MB</p> <p>Secondary Specification  Single IP Management of 32 devices  Minimum 64 MACs per port  Static Routing  Number of VLANS- 4k  Port-based VLAN facility  VLAN tagging to meet IEEE 802.1Q  Voice VLAN  Vlanbassed LBD  Auto-Surveillance based Vlan</p> <p><b>Features</b>  Quality of service(QOS) requirements  Support Class-based queuing with prioritization  IP-Mac Port Binding  Non-blocking wire speed performance  System Management and Administration  Support SNMP protocols of RFC 1157  Security Features  Minimum 48 ACL Profiles  Jumbo Frame Support -10K  DHCP snooping  Mac addressed based ACL  Services and Manageability  LLDP</p>		

		<p>SNMP v3  Web Interface  SSHv2  HTTP/HTTPS  Configuration backup via FTP/secure copy  OAM  Switch should Support of Power Saving Mode  The cost for Installation, Configuration and customization shall be quoted for as unit price.  <b>Warranty: Minimum 12 months</b></p>		
6	License for 16 APs.	<p>License for 16 APs.  <b>Warranty: Minimum 12 months</b></p>		
7	PoE adapter	<p>1-port PoE adapter (1000Base-T, 802.3af)  The cost for Installation, Configuration and customization shall be quoted for as unit price.  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
8	Single-mode Fiber Transceiver	<p>1-port mini-GBIC LX Single-mode Fiber Transceiver (up to 10km, support 3.3V power)  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
9	Single-mode Media Converter	<p>1000Base-T to 1000Base-LX SC Single-mode Media Converter (10km)  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 12 months</b></p>		
10	O. F.Cable	<p>O. F.Cable 06F Outdoor –ArmouredUnitube SM - HDPE Sheath – 1200 Mtr  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5 years</b></p>		
11	Cat6 UTP 24AWG Solid	<p>Cat6 UTP 24AWG Solid :305 Mtr  <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5 years</b></p>		
12	Cat6 UTP 24AWG PATCH CHORD	<p>Cat6 UTP 24AWG PATCH CHORD:1M,Plug 30U'  <b>Warranty: Minimum 5 years</b></p>		

13	Jack Cat6 Keystone UTP	Jack Cat6 Keystone UTP with Collapsible Shutter-White <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
14	Keystone Box Single Port	Keystone Box Single Port <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
15	LIU24 PORT Rack Mount	LIU 24 PORT Rack Mount - Loaded (SC) SM <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
16	LIU 6 PORT Rack Mount -	LIU 6 PORT Rack Mount - Loaded (SC) SM <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
17	PIGTAIL SC SM SIMPLEX	PIGTAIL SC SM SIMPLEX LENGTH- 1m <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
18	PATCH CORD LC-SC SM DUPLEX	PATCH CORD LC-SC SM DUPLEX LENGTH- 2m <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
19	PATCH CORD SC-SC SM DUPLEX	PATCH CORD SC-SC SM DUPLEX LENGTH- 2m <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b> <b>Warranty: Minimum 5 years</b>		
20	Hardware Required for Rack Mounting	<b>15 U Rack(1 No):</b> Standard for Racks configuration will be welded frame integrated with side panel and vented top cover with fan mounting provision, Associated Front Glass Door with lock & Key and provision to mount racks on wall and 500 available Depth <b>Patch Panel :24 Port CAT 6(2 Nos):</b> Exceeds ANSI/TIA-568 Category 6 connecting hardware requirements <ul style="list-style-type: none"> <li>• Engineering to provide 110 IDC termination reducing installation time</li> <li>• Includes both TIA-568A and TIA-568B color wiring diagrams</li> <li>• Backwards compatible to all lower rated category components</li> <li>• Fits standard 19" EIA rack mount width</li> <li>• 1 rack mount space (RMS)</li> </ul> <b>Cable Manger: (2 nos)</b>		

		<b>Power Distribution Unit(2 Nos)</b> <b>Hardware kit (3 Nos)</b> <b>The cost for Installation, Configuration and customization shall be quoted for as unit price.</b>  <b>Warranty: Minimum 5 years</b>		
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What is the minimum downtime you will guarantee on the equipment? (This is defined as the number of days for which an item of equipment is not usable because of inability of the supplier to repair it).

Sr.No	Item Name	No. of day of max down time if applicable
1	Wireless controller	
2	Indoor access point	
3	Outdoor access point	
4	Antenna	
5	POE switch	
6	license for 16 APs	
7	1-port PoE adapter	
8	1-Port Mini-GBIC LX Single-mode Fiber Transceiver	
9	Single-mode Media Converter	
10	O. F.Cable 06F Outdoor –ArmouredUnitube SM - HDPE Sheath – 1200 Mtr	
11	Cat-6 UTP 24AWG Solid	
12	Cat6 UTP 24AWG PATCH CHORD	
13	Jack Cat6 Keystone UTP with Collapsible Shutter-White	
14	Keystone Box Single Port	
15	LIU 24 PORT Rack Mount - Loaded (SC) SM	
16	LIU 6 PORT Rack Mount - Loaded (SC) SM	
17	PIGTAIL SC SM SIMPLEX LENGTH- 1m	
18	PATCH CORD LC-SC SM DUPLEX LENGTH- 2m	
19	PATCH CORD SC-SC SM DUPLEX LENGTH- 2m	
20	Hardware Required for Rack Mounting	

**Note: . If the maximum down time during use in warranty/ maintenance period exceeds the maximum down time as specified in the bid, the supplier should arrange immediate replacement. Failure to arrange for the immediate replacement shall render the supplier liable to a penalty as specified in the special conditions of contract.**

Signature of the Bidder.....

Business Address .....

Seal of the Bidder