



MERU UNIVERSITY OF SCIENCE & TECHNOLOGY
Foundation of innovations

**Supply, Installation, Testing and Commissioning
of
Campus ICT Network Infrastructure
for
Meru University of Science and Technology**

Tender No: MUST/011/2017-2018

March 2018

Issued by:

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

and

KENYA EDUCATION NETWORK (KENET)



CLOSING DATE: Tuesday 3rd April 2018

TIME: 10.30 A.M

Mandatory site visit on Monday 26th March 2018 at 9.00 am

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Open National Tender

Title: *Supply, Installation, Testing & Commissioning of Campus ICT Network Infrastructure to Serve Meru University of Science and Technology*

Tender No: **MUST/011/2017-2018**

1. Meru University of Science and Technology in conjunction with Kenya Education Network (KENET) invites sealed bids from eligible bidders for: *Supply, Installation, Testing and commissioning Campus ICT Network Infrastructure to Serve Meru University of Science and Technology*
2. Financial and Technical Capabilities
 - 2.1. Submission of evidence/documentation of at three (3) similar contracts (in value and complexity) undertaken by the Bidder in the past 3 years.
 - 2.2. In order to be acceptable, these three (3) similar contracts should have incorporated supply of and installation of LAN equipment in a company or institutions campus.
 - 2.3. Supplier must also show that they have the required technical capacity to be dedicated to the project within the required implementation period from the date contract is awarded. Evidence of this must be provided.
 - 2.4. Submission of audited and duly signed balance sheets or, if not required by law of the Applicant's country, other financial statements acceptable to the Purchaser, for the last two years to demonstrate an annual turnover greater or equal to three (3) times the bid price.
3. Interested eligible Bidders may obtain further information from Meru University of Science and Technology and inspect the bidding documents at the address given below from 9.00 a.m. - 1.00 p.m. and 2.00 p.m.- 4.00 p.m. every day excluding weekends and public holidays. A pre-bid meeting which potential bidders may attend will be held on **26th March 2018 at 9.00 AM** at the address below:

Meru University of Science and Technology, Administration Building. Located in Meru County about 13.5Km from Meru Town.
4. The attention of prospective Bidders is drawn to (i) the fact that they will be required to certify in their bids that all software is either covered by a valid license or was produced by the Bidder and (ii) that violations are considered fraud, which can result in ineligibility to be awarded Meru University of Science and Technology contracts.
5. Bids should be submitted in a plain sealed envelope clearly marked:

Ag. VICE CHANCELLOR

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. BOX 972-60200, MERU, KENYA.

BID No: Tender No: MUST/011/2017-2018

Supply, Installation, Testing and commissioning Campus ICT Network Infrastructure to Serve Meru University of Science and Technology

and be hand delivered or mailed so as to reach the above address on or before **Tuesday 3rd April 2018 at 10.30 am East African Time.**

6. The following general conditions should be observed when using this document:
 - 6.1. The Instructions to Bidders (ITB) and the General Conditions of Contract (GCC) should remain unchanged. Any necessary amendments to these sections should be made through the Bid Data Sheets (BDS) and the Special Conditions of Contract (SCC) respectively.
 - 6.2. Specific details to the contracts are furnished in the BDS and the SCC.

Section I. Instructions to Bidders

A. Background and Preliminary Information

Meru University of Science & Technology (MUST) was established by the Kenya Government under Legal Notice No. 103 of 18th July 2008 as a constituent college of Jomo Kenyatta University of Agriculture and Technology (JKUAT). The objective of the University is to play a leading role in the development and expansion of opportunities for higher education and research in Agriculture, Forestry, Mining, Energy, Water and Environmental Science in arid and semi-arid lands. The University aims at becoming a regional leader in the discovery, preservation and dissemination of knowledge in the area of Science and technology and related disciplines.

Meru University of Science and Technology (MUST) is a Public University established under the Universities Act 2012, Laws of Kenya and was given Charter to operate independently with effect from 1st March, 2013.

The University opened its doors as Meru University College of Science and Technology, a constituent College of Jomo Kenyatta University of Agriculture and Technology (JKUAT) in 2009 with 45 Government Sponsored Students to pursue the following initial Degree Courses offered at the University College; Bachelor of Commerce, Bachelor of Business Information Technology and Bachelor of Science in Information Technology.

Responding to market need and strategic positioning, the University has since diversified academic programmes, from above Three (3) to Four (4) Master's Degree Programmes, Thirteen (13) Degree Programmes, Eight (8) Diploma and Five (5) TVET driven Certificate Courses.

B. General

1. Scope of Bid

- 1.1. In support of the Invitation for Bids indicated in the Bid Data Sheet (BDS), the procuring entity as indicated in the BDS, has given a background and preliminary information in the BDS, and hereby issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VI, Technical Specifications.
- 1.2. Throughout these Bidding Documents(a) the term “in writing” means communicated in written form with proof of receipt;(b) if the context so requires, singular means plural and vice versa; and(c) “day” means calendar day.

2. Fraud and Corruption

- 2.1. Bidders are required to observe the highest standards of ethics during the procurement and the execution of contracts for this project named in the BDS. In pursuance of this policy, the procurement entity requires that bidders shall include in bidding documents, provisions against corrupt practices.
- 2.2. The procuring entity defines, for the purposes of these provisions, the terms set forth below as follows:
 - a) “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of unauthorized official in the procurement process or in contract execution, and includes, inter alia, bribery and extortion or coercion which involve threats of injury to person, property or reputation; and
 - b) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of a bidder, and includes collusive practices among bidders or between bidders (prior to or after bid submission) designed to establish bid prices at artificial, noncompetitive levels.

3. Eligible Bidders

- 3.1 A bidder may be a single entity or a combination thereof with a formal intent to enter into an agreement or under an existing agreement in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, unless otherwise specified in the BDS, all parties shall be jointly and severally liable.
- 3.2 Bidders shall provide such evidence of their continued eligibility satisfactory to the procuring entity, as the procuring entity shall reasonably request
- 3.3 If so required in the BDS, the bidder shall demonstrate that it has been duly authorized by the Manufacturer of the Goods to supply, in the procuring entity's country, the goods indicated in its Bid

C. Contents of Bidding Document

4. Sections of Bidding Document

4.1 The Bidding Document consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB Clause 6.

PART 1: Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bid Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. General Conditions of Contract (GCC)
- Section V. Special Conditions of Contract (SCC)

PART 2: Supply Requirements

- Section VI. Technical Requirements
- Section VII. Drawings
- Section VIII. Appendices

PART 3: Supply Requirements

- Section IX. Bidding Forms

4.2 The procuring entity is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the procuring entity.

4.3 The bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

5. Clarification of Bidding Documents and Pre-bid Meeting

5.1 A prospective bidder requiring any clarification of the Bidding Documents shall contact the procuring entity in writing at the procuring entity's address indicated in the BDS. The procuring entity will respond in writing to any request for clarification, provided that such request is received no later than seven(7) days prior to the deadline for submission of bids.

5.2 The procuring entity shall forward copies of its response to all bidders who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the procuring entity deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB Clause 6 and Sub-Clause 20.2.

5.3 The procuring entity shall reply to any clarifications sought by bidders within the timelines defined in the BDS after receiving the request to enable the bidder to make timely submission of its tender.

- 5.4 The procuring entity shall convene a pre-bid meeting on a date and a venue as specified in the BDS.
- 5.5 There shall be a site survey on a date specified in the BDS.

6. Amendment of Bidding Documents

- 6.1. At any time prior to the deadline for submission of bids, the procuring entity may amend the Bidding Documents by issuing addenda.
- 6.2. Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents directly from the procuring entity.
- 6.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB Sub-Clause 20.2

D. Preparation of Bids

7. Cost of Bidding

The bidder shall bear all costs associated with the preparation and submission of its bid, and the procuring entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

8. Language of Bid

- 8.1. The bid, as well as all correspondence and documents relating to the bid exchanged between the bidder and the procuring entity, shall be written in the language specified in the BDS.
- 8.2. Supporting documents and printed literature that are part of the bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the BDS, in which case, for purposes of interpretation of the bid, such translation shall govern.

9. Documents Comprising the Bid

9.1. The Bid shall comprise the following:

- a) Bid Submission Sheet and the applicable Price Schedules in accordance with ITB Clauses 10, 12 and 13;
- b) alternative bids, if permissible, in accordance with ITB Clause 11;
- c) written confirmation authorizing the signatory of the Bid to commit the bidder, in accordance with ITB Clause 18.2;
- d) documentary evidence in accordance with ITB Clause 14 establishing the bidder's eligibility to bid;
- e) documentary evidence in accordance with ITB Clauses 15 and 27, that the Goods and Related Services conform to the Bidding Documents;
- f) Documentary evidence in accordance with ITB Clause 16 establishing the Bidder's qualifications to perform the contract if its Bid is accepted; and any other document required in the BDS.

- g) If required Bid-securing declaration or Bid Security furnished in accordance with ITB clause 23.2
- h) A list of all major items of goods or services that the Bidder proposes to purchase or sub-contract from others (including vendors) for each of the items

10. Bid Submission Sheet and Price Schedules

10.1. The bidder shall submit the Bid Submission Sheet using the form furnished in Section IX, Bidding Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested, which includes:

- a) the Bidding Document and the number of each addenda received;
- b) a brief description of the Goods and Related Services offered;
- c) the total Bid price;
- d) any discounts offered and the methodology for their application;
- e) the period of validity of the Bid;
- f) declaration on gratuities and commissions; and
- g) authorized signature.

10.2 The bidder shall submit the Price Schedules for Goods and Related Services, as appropriate, using the forms furnished in Section IX, Bidding Forms. The Price Schedule Forms shall indicate, as appropriate:

- a) the item number;
- b) a brief description of the Goods or Related Services to be supplied;
- c) quantity;
- d) unit prices;
- e) customs duties and all taxes paid or payable in the procuring entity's country;
- f) total price per item;
- g) subtotals and totals per Price Schedule; and
- h) Authorized signature.
- i) All pages with figures should be signed off by the authorized signatory.

10.3 The bidder shall submit a written confirmation authorizing the signatory of the bid to commit the bidder in the format specified in Section IX, Bidding Forms.

11. Alternative Bids

11.1. Unless otherwise indicated in the BDS, alternative bids shall not be considered.

12. Bid Prices and Discounts

12.1. The prices and discounts quoted by the bidder in the Bid Submission Sheet and in the Price Schedules shall conform to the requirements specified below.

12.2. All items in the Schedule of Supply must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items.

Items not listed in the Price Schedule shall be assumed to be not included in the bid, and provided that the bid is substantially responsive, the corresponding adjustment shall be applied in accordance with ITB Sub-Clause 28.3.

- 12.3.** The price to be quoted in the Bid Submission Sheet, in accordance with ITB Sub-Clause 10.1(c), shall be the total price of the Bid, excluding any discounts offered.
- 12.4.** The Bidder shall quote any unconditional discounts and the methodology for their application in the Bid Submission Sheet, in accordance with ITB Sub-Clause 10.1(d).
- 12.5.** The terms EXW, CIF, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of terms, published by The International Chamber of Commerce, at the date of the Request for Proposals or as specified in the BDS.
- 12.6.** Prices proposed on the Price Schedule Forms for Goods and Related Services, shall be disaggregated, when appropriate as indicated in this sub-clause. This disaggregation shall be solely for the purpose of facilitating the comparison of bids by the procuring entity. This shall not in any way limit the procuring entity's right to contract on any of the terms offered:

a) For goods offered from within the procuring entity's country:

- i.** the price of the goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable:
 - a)** on the 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 warehouse, ex showroom, or off-the-shelf.
- ii.** any procuring entity country sales and other taxes which will be payable on the goods if the contract is awarded;
- iii.** the price for inland transportation, insurance, and other local costs incidental to delivery of the goods to their final destination, if specified in the Bid Data Sheet; and
- iv.** the price of other (incidental) services, if any, listed in the Bid Data Sheet.

b) For goods offered from abroad:

- i.** The price of the goods shall be quoted CIF named port of destination, or CIP border point, or CIP named place of destination, in the procuring entity's country, as specified in the Bid Data Sheet;
- ii.** the price of the goods quoted FOB port of shipment (or FCA, as the case may be), if specified in the Bid Data Sheet;
- iii.** the price of goods quoted CFR port of destination (or CPT as the case may be), if specified in the Bid Data Sheet; (iv) the price for inland transportation, insurance, and other local costs incidental to delivery of the goods from the port of entry to their final destination, if specified in the Bid Data Sheet; and
- iv.** the price of (incidental) services, if any, listed in the Bid Data Sheet.

12.7 Prices quoted by the bidder shall be fixed during the bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified in the BDS. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB Clause 27. However, if in accordance with the BDS, prices quoted by the bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

13. Currencies of Bid

13.1. Bid Prices shall be quoted in the following currencies:

- a) for Goods and Related Services originating in the procuring entity's country, the bid prices shall be quoted in the currency of the procuring entity's country, unless otherwise specified in the BDS; and
- b) for goods and services that the bidder will supply from outside the procuring entity's country, the prices shall be quoted either in the currency of the bidders home country, or in a currency widely used in international trade. Further, a bidder expecting to incur a portion of its expenditures in the performance of the Contract in more than one currency, and wishing to be paid accordingly, shall so indicate in its bid. In such a case, either (i) the bid shall be expressed in different currencies with the respective amounts in each currency together making up the total price, or (ii) the total bid price shall be expressed in one currency and payments required in other currencies expressed as a percentage of the bid price along with the exchange rate used in such calculation. For the purpose of this Clause, the European Currency Unit (Euro) shall be considered to be an eligible currency.

14. Documents Establishing the Eligibility of the Bidder

14.1. To establish their eligibility in accordance with ITB Clause 3, bidders shall complete the eligibility declarations in the Bid Submission Sheet, included in Section IV, Bidding Forms.

15. Documents Establishing the Conformity of the Goods and Related Services to the Bidding Documents

15.1. To establish the conformity of the Goods and Related Services to the Bidding Documents, the bidder shall furnish as part of its bid the documentary evidence specified in Section VI, Technical Requirements.

15.2. The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to those requirements, and if applicable, a statement of deviations and exceptions to the provisions of the Schedule of Supply

15.3. Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the procuring entity in the Schedule of Supply, are intended to be descriptive only and not restrictive. The bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the procurement entity's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Schedule of Supply.

16. Documents Establishing the Qualifications of the Bidder

16.1. To establish its qualifications to perform the Contract, the bidder shall submit the evidence indicated for each qualification criterion specified in Section III, Evaluation and Qualification Criteria and Section VI, Technical Specifications.

17. Period of Validity of Bids

17.1. Bids shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the procuring entity. A bid valid for a shorter period shall be rejected by the procuring entity as nonresponsive.

17.2. In exceptional circumstances, prior to expiry of the bid validity period, the procuring entity may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. A bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB Sub-Clause 17.3.

17.3. In the case of fixed price contracts, if the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial bid validity, the Contract price shall be adjusted by a factor specified in the request for extension. Bid evaluation shall be based on the Bid Price without taking into consideration the above correction.

18. Format and Signing of Bid

18.1. The bidder shall prepare one original of the documents comprising the bid as described in ITB Clause 9 and clearly mark it "ORIGINAL." In addition, the Bidder shall submit copies of the bid, in the number specified in the BDS and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

18.2. The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid, except for un-amended printed literature, shall be signed or initialed by the person signing the bid.

18.3. Any interlineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

E. Submission and Opening of Bids

19. Sealing and Marking of Bids

19.1. The bidder shall enclose the original and each copy of the bid, including alternative bids, if permitted in accordance with ITB Clause 11, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope.

19.2. The inner and outer envelopes shall:

a) be addressed to the procuring entity in accordance with ITB Sub-Clause 20.1;

b) bear the project name indicated in the Bid Data Sheet, the tender title and number indicated in the Bid Data Sheet

19.3. 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” pursuant to ITB Clause 22.1.

19.4. If all envelopes are not sealed and marked as required, the procuring entity shall assume no responsibility for the misplacement or premature opening of the bid.

19.5. From the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.

19.6. If a Bidder tries to directly influence the Purchaser or otherwise interfere in the bid evaluation process and the Contract award decision, its bid may be rejected.

20. Deadline for Submission of Bids

20.1. Bids must be received by the procuring entity at the address and no later than the date and time indicated in the BDS.

20.2. The procuring entity may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB Clause 6, in which case all rights and obligations of the procuring entity and bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

21. Late Bids

21.1. The procuring entity shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB Clause 20. Any bid received by the procuring entity after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the bidder.

22. Withdrawal, Substitution, and Modification of Bids

22.1. A bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB Sub-Clause 18.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

a) Submitted in accordance with ITB Clauses 16 and 17 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and

- b) Received by the procuring entity prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 20.

22.2. Bids requested to be withdrawn in accordance with ITB Sub-Clause 22.1 shall be returned unopened to the bidders.

22.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and expiry of the period of bid validity specified by the bidder on the Bid Submission Sheet or any extension thereof.

23. Bid Opening

23.1. The procuring entity shall conduct the bid opening in the presence of bidders' designated representatives who choose to attend, and at the address, date and time specified in the BDS. ***Late bids will be rejected.***

23.2. Bids may be required to be secured by a bid security.

23.2.1. The amount of Bid Security required is as defined in the BDS.

23.2.2. The format of the bid security is as specified in Section IX, Bidding Forms.

23.2.3. The tender security is required to protect the Procuring entity against the risk of Tenderer's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 23.2.6.

23.2.4. The tender security shall be denominated in Kenya Shillings or in another freely convertible currency, and shall be in the form of a bank guarantee or a bank draft issued by a reputable bank located in Kenya or abroad, or a guarantee issued by a reputable insurance company in the form provided in the tender documents or another form acceptable to the Procuring entity and valid for thirty (30) days beyond the validity of the tender.

23.2.5. Any tender not secured in accordance with ITB Clause 23.2.1 and 23.2.3 will be rejected by the Procuring entity as non-responsive, pursuant to paragraph 2.22

23.2.6. Unsuccessful Tenderer's tender security will be discharged or returned as promptly as possible, but not later than thirty (30) days after the expiration of the period of tender validity period prescribed by the Procuring entity.

23.2.7. The successful Tenderer's tender security will be discharged upon the tenderer signing the contract, pursuant to ITB 36 and furnishing the performance security, pursuant to ITB 39.

23.2.8. The tender security may be forfeited:

23.2.8.1. if a tenderer withdraws its tender during the period of tender validity specified by the procuring entity on the Tender Form; or

23.2.8.2. in the case of a successful tenderer, if the tenderer fails:

a) to sign the contract in accordance with ITB Clause 36 or

b) to furnish performance security in accordance with ITB Clause 38.

23.3. First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and

is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the bidder. No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only envelopes that are opened and read out at bid opening shall be considered further.

23.4. All other envelopes shall be opened one at a time, reading out: the name of the bidder and whether there is a modification; the Bid Prices, including any discounts and alternative offers; the presence of a bid security, if required; and any other details as the procuring entity may consider appropriate. Only discounts and alternative offers read out at bid opening shall be considered for evaluation. No bid shall be rejected at bid opening except for late bids, in accordance with ITB Sub-Clause 21.1.

23.5. The procuring entity shall prepare a record of the bid opening that shall include, as a minimum: the name of the bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot if applicable, including any discounts and alternative offers; and the presence or absence of a bid security, if one was required. The bidders' representatives who are present shall be requested to sign the record. The omission of a bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all bidders.

F. Evaluation and Comparison of Bids

24. Confidentiality

24.1. Information relating to the examination, evaluation, comparison, and post-qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all bidders.

24.2. Any effort by a bidder to influence the procuring entity in the examination, evaluation, comparison, and post qualification of the bids or Contract award decisions may result in the rejection of its bid.

24.3. Notwithstanding ITB Sub-Clause 24.2, from the time of bid opening to the time of Contract award, if any bidder wishes to contact the procuring entity on any matter related to the bidding process, it should do so in writing.

25. Clarification of Bids

25.1. To assist in the examination, evaluation, comparison and post qualification of the bids, the procuring entity may, at its discretion, ask any bidder for a clarification of its bid. Any clarification submitted by a bidder that is not in response to a request by the procuring entity shall not be considered. The procuring entity's request for clarification and the response shall be in writing. No change in the prices or substance of the bid

shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the procuring entity in the evaluation of the bids, in accordance with ITB Clause 27.

26. Responsiveness of Bids

26.1. The procuring entity's determination of a bid's responsiveness is to be based on the contents of the bid itself.

26.2. A substantially responsive bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- a) Affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
- b) Limits in any substantial way, inconsistent with the Bidding Documents, the procuring entity's rights or the bidder's obligations under the Contract; or
- c) If rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

26.3. If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the procuring entity and may not subsequently be made responsive by the bidder by correction of the material deviation, reservation, or omission.

27. Nonconformities, Errors, and Omissions

27.1. Provided that if a bid is substantially responsive, the procuring entity may waive any non-conformity or omissions in the bid that does not constitute a material deviation.

27.2. Provided that if a bid is substantially responsive, the procuring entity may request that the bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the bid. Failure of the bidder to comply with the request may result in the rejection of its bid.

27.3. Provided that if a bid is substantially responsive, the procuring entity shall rectify nonmaterial nonconformities or omissions. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of the missing or non-conforming item or component. Provided that if the bid is substantially responsive, the procuring entity shall correct arithmetical errors on the following basis:

- a) 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, unless in the opinion of the procuring entity there is an obvious misplacement of

the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

27.4. If the bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified.

28. Preliminary Examination of Bids

28.1. The procuring entity shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 9 have been provided, and to determine the completeness of each document submitted.

28.2. The procuring entity shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.

- a) Bid Submission Sheet, including:
 - i. A brief description of the Goods and Related Services offered; and
 - ii. the price of the Bid;
 - iii. the period of validity of the Bid;
- b) Price Schedules;
- b) Written confirmation of authorization to commit the bidder; and
- c) Bid Security, if applicable.

29. Examination of Terms and Conditions; Technical Evaluation

29.1. The procuring entity shall examine the bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the bidder without any material deviation or reservation.

29.2. The procuring entity shall evaluate the technical aspects of the bid submitted in accordance with ITB Clause 15, to confirm that all requirements specified in Section VI, Technical Requirements of the Bidding Documents, have been met without any material deviation or reservation.

29.3. If, after the examination of the terms and conditions and the technical evaluation, the procuring entity determines that the bid is not substantially responsive in accordance with ITB Clause 26, it shall reject the bid.

30. Conversion to Single Currency

30.1. For evaluation and comparison purposes, the procuring entity shall convert all bid prices expressed in the amounts in various currencies into a single currency, using the selling exchange rate established by the source and on the date specified in the BDS.

31. Margin of Preference

31.1. Unless otherwise specified in the BDS, a margin of preference shall not apply

32. Evaluation of Bids

32.1. The procuring entity shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

32.2. To evaluate a bid, the procuring entity shall only use all the criteria and methodologies defined in this Clause and in Section III, Evaluation and Qualification Criteria.

32.3. To evaluate a bid, the procuring entity shall consider the following:

- a) the bid price;
- b) price adjustment for correction of arithmetic errors in accordance with ITB Sub Clause 27.3;
- c) price adjustment due to discounts offered in accordance with ITB Sub-Clause 12.3;
- d) adjustment for nonconformities and omissions in accordance with ITB Sub-Clause 27.3;
- e) application of all the evaluation factors indicated in Section III, Evaluation and Qualification Criteria; and
- f) Adjustments due to the application of a margin of preference, in accordance with ITB Clause 31.

32.4. In the calculation of the evaluated cost of bids, the procuring entity shall exclude and not take into account:

- a) in the case of goods manufactured in the procuring entity's country or goods of foreign origin already located in the procuring entity's country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the bidder;
- b) in the case of goods of foreign origin offered from abroad, customs duties and other similar import taxes which will be payable on the goods if the contract is awarded to the bidder; and
- c) any allowance for price adjustment during the period of execution of the Contract, if provided in the bid.

32.5. The procuring entity's cost evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB Clause 12. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise specified in Section III, Evaluation and Qualification Criteria. The factors to be used and the methodology of application shall be indicated in Section III, Evaluation and Qualification Criteria.

- 32.6. If these Bidding Documents allow bidders to quote separate prices for different lots, and the award to a single Bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations, including any discounts offered in the Bid Submission Sheet, is specified in the BDS.

33. Comparison of Bids

- 33.1. The procuring entity shall compare all substantially responsive bids to determine the lowest evaluated bid, in accordance with ITB Sub-Clause 12.6.

34. Post qualification of the Bidder

- 34.1. The procuring entity shall determine to its satisfaction whether the bidder that is selected as having submitted the lowest evaluated and substantially responsive bid is qualified to perform the Contract satisfactorily.

- 34.2. The determination shall be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to ITB Clause 16, to clarifications in accordance with ITB Clause 25 and the qualification criteria indicated in Section III, Evaluation and Qualification Criteria. Factors not included in Section III shall not be used in the evaluation of the bidder's qualification.

- 34.3. An affirmative determination shall be a prerequisite for award of the Contract to the bidder. A negative determination shall result in disqualification of the bid, in which event the procuring entity shall proceed to the next lowest evaluated bid to make a similar determination of that bidder's capabilities to perform satisfactorily.

35. Procuring Entity's Right to Accept Any Bid, and to Reject Any or All Bids

- 35.1. The procuring entity 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 bidders.

G. Award of Contract

36. Award Criteria

- 36.1. The procuring entity shall award the Contract to the bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the bidder is determined to be qualified to perform the Contract satisfactorily.

37. Procuring Entity's Right to Vary Quantities at Time of Award

- 37.1. At the time the Contract is awarded, the procuring entity reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VI, Schedule of Supply, provided this does not exceed the percentages indicated in the BDS, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

38. Notification of Award

- 38.1. Prior to expiry of the period of bid validity, the procuring entity shall notify the successful bidder, in writing, that its bid has been accepted. At

the same time, the procuring entity shall also notify all other bidders of the results of the bidding.

38.2. Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

39. Signing of Contract

39.1. Promptly after notification, the procuring entity shall send the successful bidder the Contract, General Conditions of Contract and the Special Conditions of Contract.

39.2. Within seven (7) days after the notification of award, the procuring entity and the successful bidder shall hold a technical negotiation meeting. This meeting shall clarify any outstanding issues with the bid and the technical solution offered by the bidder. The minutes of the technical negotiations shall form part of the contract.

39.3. Within Twenty One (21) days of receipt of the Agreement, the successful bidder and the procuring entity will sign-off the contract if the technical negotiations are successful.

39.4. Upon the successful Bidder furnishing the signed Contract Agreement and the Performance Security, the Purchaser will promptly notify each unsuccessful Bidder, and will discharge all remaining Bid Securities, if any.

Section II. Bid Data Sheet

B. General

ITB 1.1	The number of the Tender No: <u>MUST/011/2017-2018</u>
ITB 1.1	The Procuring Entity is Meru University of Science and Technology
ITB 1.1	The name of the Project is <i>Supply, Installation, Testing & Commissioning of Campus ICT Network Infrastructure to Meru University of Science and Technology</i>
ITB 3.1	The individuals or firms in a joint venture, consortium or association shall be jointly and severally liable.
ITB 3.3	The Bidder shall be required to include with its bid, documentation from the Manufacturer of the Goods, that it has been duly authorized to supply, in the Procuring Entity's country, the Goods indicated in its bid.

C. Contents of Bidding Documents

ITB 5.1	For clarification purposes only, the Purchaser's address is: Attention Meru University of Science and Technology Postal Address: P.O Box 972-60200, Meru, Kenya City: Meru Country: Kenya Telephone: 0712524293 Electronic mail address: procurement@must.ac.ke
ITB 5.3	Replies to clarifications shall be made within three (3) days from date of submission.
ITB 5.4	The Pre-Bid Meeting shall take place at: Street Address: Meru University of Science and Technology Building: Administration block 11 Country: Kenya Date: Monday 26 th March 2018 Time: 9.00 AM.
ITB 5.5	The site surveys shall take place on the following dates Date: Monday 26 th March 2018 at 9.00 am

D. Preparation of Bids

ITB 8.1	The language of the bid is English
ITB 8.2	The language of all the supporting literature and data sheets is English.
ITB 9.1 (f)	No extra documents required.
ITB 11.1	Alternative bids shall not be permitted.
ITB 12.5	The Incoterms edition is the current edition as published by the International Chamber of Commerce.
ITB 12.7	The prices quoted by the Bidder shall be fixed.
ITB 13.1 (a)	For Goods and Related Services originating in the Purchaser's country, the currency of the bid shall be in Kenya shillings
ITB 17.1	The bid validity period shall be 90 days from date of bid opening.

E. Submission and Opening of Bids

ITB 18.1	In addition to the original of the bid, the number of copies is: One (1) In addition to the copies of the bid, is an electronic copy required? YES. Bidder to submit one electronic copy on a flash drive
ITB 18.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: A letter from a director of the company authorizing an individual to sign on behalf of the bidder.
ITB 19.2 (c)	The identification of this bidding process is Tender No: MUST/011/2017-2018
ITB 20.1	For bid submission purposes only, the Procuring Entity's address is : Attention: Ag. Vice Chancellor Address: Meru University of Science and Technology Floor/Room number: Ground Floor at the Reception, University Tender Box (situated at Administration Block 11) Postal Address: P.O Box 972-60200, Meru, Kenya City: Meru Country: Kenya Telephone: 712524293 Electronic mail address: procurement@must.ac.ke The deadline for bid submission is: Date: Tuesday 3rd April 2018 Time: 10.30 AM local time
ITB 23.1	The bid opening shall take place at: Building: Administration Block 11 Floor/Room number: Academic Boardroom City: Meru Country: Kenya Date: Tuesday 3rd April 2018 Time: 10.30AM.
ITB 23.2	The amount of Bid Security required is 2% of the bid amount

F. Evaluation and Comparison of Bids

ITB 30.1	The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is Kenya Shillings. The source of exchange rate shall be the Central Bank of Kenya selling exchange rate on the date of tender closing.
ITB 31.1	A margin of preference shall not apply.
ITB 32.6	The language of all the supporting literature and data sheets is English.

G. Award of Contract

ITB 37.1	The percentage by which quantities may be increased is 15%. The percentage by which quantities may be decreased is 15%.
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Section III. Evaluation and Qualification Criteria

A. Evaluation Criteria and Bid Evaluation Procedure for this project

1. The bidding is performed single staging method. Only technically responsive bids will go on to the financial evaluations stage.

2. Principal of Evaluation

After the public opening of bids, information relating to the examination, clarification, and evaluation of bids shall not be disclosed to the bidders or other persons not officially concerned with this process. No bidder shall be requested or permitted to alter its bid after the Bid Closing Time. This process shall be guided by ITB 24-35.

3. Flow of Evaluation

3.1. First Stage –Preliminary Evaluation of the Proposal

All bidders shall comply with the preliminary requirements. Any bidder who will not comply at this stage will not proceed to the technical evaluation. The requirements are as attached in appendix 1. These requirements are MANDATORY.

3.2. Second Stage- Evaluation of Technical Proposal

All Bidders who have successfully met the requirements in the first stage will be evaluated on their technical capability and compliance to the requirements as attached in appendix 2. These requirements are MANDATORY.

3.3. Third Stage –Financial Evaluation and Price Proposal

3.3.1. Only Bidders who have complied with the technical requirements will be evaluated on their financial proposal.

3.3.2. Required quantities of products and services missing from the price schedule shall not be adjusted. The missing unit price will be estimated based on the highest equivalent price from other responsive bids.

3.3.3. In case of the “Evaluation Price” has the discrepancy value exceeds ten percent (10%) (based on its absolute value and without depending on any increase or decrease of the bid price during determining the “Evaluation Price”) of the bid price, the bid will be rejected by the procuring entity

PART 2 – Contract Conditions

Section IV. General Conditions of Contract (GCC)

Notes on the General Conditions of Contract (GCC)

The General Conditions of Contract (GCC) contained in this section are to be read in conjunction with the Special Conditions of Contract (SCC) in Section V and the other documents listed in the Contract Agreement. Together they form a complete document expressing all the rights and obligations of the parties to the Contract.

The GCC must remain unaltered. Contract-specific information, deletions, extensions, and modifications to the GCC shall be introduced only through the SCC.

General Conditions of Contract

A. CONTRACT AND INTERPRETATION

1. Definitions

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

1.1.1. contract elements

- (i) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein. The Contract Agreement and the Contract Documents shall constitute the Contract, and the term “the Contract” shall in all such documents be construed accordingly.
- (ii) “Contract Documents” means the documents specified in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments to these Documents).
- (iii) “Contract Agreement” means the agreement entered into between the Purchaser and the Supplier using the form of Contract Agreement contained in Section IX, Bidding Forms and any modifications to this form agreed to by the Purchaser and the Supplier. The date of the Contract Agreement shall be recorded in the signed form.
- (iv) “GCC” means the General Conditions of Contract.
- (v) “SCC” means the Special Conditions of Contract.
- (vi) “Technical Requirements” means the Technical Requirements Section of the Bidding Documents.
- (vii) “Implementation Schedule” means the Implementation Schedule Sub-section of the Technical Requirements.
- (viii) “Contract Price” means the price or prices defined in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.
- (ix) “Bidding Documents” refers to the collection of documents issued by the Purchaser to instruct and inform potential suppliers of the processes for bidding, selection of the winning bid, and Contract formation, as well as the contractual conditions governing the relationship between the Purchaser and the Supplier. The General and Special Conditions of Contract, the Technical Requirements, and all other documents included in the Bidding Documents reflect the Procurement Guidelines that the Purchaser is obligated to follow during procurement and administration of this Contract.

1.1.2. Entities

- (i) “Purchaser” means the entity purchasing the Information System, as **specified in the SCC.**
- (ii) “Project Manager” means the person **named as such in the SCC** or otherwise appointed by the Purchaser in the manner provided in GCC Clause 11.1 (Project Manager) to perform the duties delegated by the Purchaser.

- (iii) “Supplier” means the firm or Joint Venture whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (iv) “Supplier’s Representative” means any person nominated by the Supplier and named as such in the Contract Agreement or otherwise approved by the Purchaser in the manner provided in GCC Clause 11.2 (Supplier’s Representative) to perform the duties delegated by the Supplier.
- (v) “Subcontractor” means any firm to whom any of the obligations of the Supplier, including preparation of any design or supply of any Information Technologies or other Goods or Services, is subcontracted directly or indirectly by the Supplier.

1.1.3. Scope

- (i) “Subsystem” means any subset of the System identified as such in the Contract that may be supplied, installed, tested, and commissioned individually before Commissioning of the entire System.
- (ii) “Goods” means all equipment, machinery, furnishings, Materials, and other tangible items that the Supplier is required to supply or supply and install under the Contract, including, without limitation, the Information Technologies and Materials, but excluding the Supplier’s Equipment.
- (iii) “Services” means all technical, logistical, management, and any other Services to be provided by the Supplier under the Contract to supply, install, customize, integrate, and make operational the System. Such Services may include, but are not restricted to, activity management and quality assurance, design, development, customization, documentation, transportation, insurance, inspection, expediting, site preparation, installation, integration, training, data migration, Pre-commissioning, Commissioning, maintenance, and technical support.
- (iv) “The Project Plan” means the document to be developed by the Supplier and approved by the Purchaser, pursuant to GCC Clause 12, based on the requirements of the Contract and the Preliminary Project Plan included in the Supplier’s bid. The “Agreed and Finalized Project Plan” is the version of the Project Plan approved by the Purchaser, in accordance with GCC Clause 12.2. Should the Project Plan conflict with the Contract in any way, the relevant provisions of the Contract, including any amendments, shall prevail.
- (v) “Materials” means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Purchaser under the Contract.
- (vi) “Supplier’s Equipment” means all equipment, tools, apparatus, or things of every kind required in or for installation, completion and maintenance of the System that are to be provided by the Supplier, but

excluding the Information Technologies, or other items forming part of the System.

1.1.4. Activities

- (i) “Delivery” means the transfer of the Goods from the Supplier to the Purchaser in accordance with the current edition Incoterms specified in the Contract.
- (ii) “Installation” means that the System or a Subsystem as specified in the Contract is ready for Commissioning as provided in GCC Clause 19 (Installation).
- (iii) “Pre-commissioning” means the testing, checking, and any other required activity that may be specified in the Technical Requirements that are to be carried out by the Supplier in preparation for Commissioning of the System as provided in GCC Clause 19 (Installation).
- (iv) “Commissioning” means operation of the System or any Subsystem by the Supplier following Installation, which operation is to be carried out by the Supplier as provided in GCC Clause 20.1 (Commissioning), for the purpose of carrying out Operational Acceptance Test(s).
- (v) “Operational Acceptance Tests” means the tests specified in the Technical Requirements and Agreed and Finalized Project Plan to be carried out to ascertain whether the System, or a specified Subsystem, is able to attain the functional and performance requirements specified in the Technical Requirements and Agreed and Finalized Project Plan, in accordance with the provisions of GCC Clause 20.2 (Operational Acceptance Test).
- (vi) “Operational Acceptance” means the acceptance by the Purchaser of the System (or any Subsystem(s) where the Contract provides for acceptance of the System in parts), in accordance with GCC Clause 20.3 (Operational Acceptance).

1.1.5. place and time

- (i) “Purchaser’s Country” is the **country named in the SCC**.
- (ii) “Supplier’s Country” is the country in which the Supplier is legally organized, as named in the Contract Agreement.
- (iii) “Project Site(s)” means the place(s) **specified in the SCC** for the supply and installation of the System.
- (iv) “Day” means calendar day of the Gregorian Calendar.
- (v) “Week” means seven (7) consecutive Days, beginning the day of the week as is customary in the Purchaser’s Country.
- (vi) “Month” means calendar month of the Gregorian Calendar.
- (vii) “Year” means twelve (12) consecutive Months.
- (viii) “Effective Date” means the date of fulfillment of all conditions specified in Article 3 (Effective Date for Determining Time for

Achieving Operational Acceptance) of the Contract Agreement, for the purpose of determining the Delivery, Installation, and Operational Acceptance dates for the System or Subsystem(s).

- (ix) “Contract Period” is the time period during which this Contract governs the relations and obligations of the Purchaser and Supplier in relation to the System, as **specified in the SCC**.
- (x) “Defect Liability Period” (also referred to as the “Warranty Period”) means the period of validity of the warranties given by the Supplier commencing at date of the Operational Acceptance Certificate of the System or Subsystem(s), during which the Supplier is responsible for defects with respect to the System (or the relevant Subsystem[s]) as provided in GCC Clause 22 (Defect Liability).
- (xi) “The Post-Warranty Services Period” means the number of years **defined in the SCC** (if any), following the expiration of the Warranty Period during which the Supplier may be obligated to provide Software licenses, maintenance, and/or technical support services for the System, either under this Contract or under separate contract(s).
- (xii) “The Coverage Period” means the Days of the Week and the hours of those Days during which maintenance, operational, and/or technical support services (if any) must be available.

2. Contract Documents

Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read as a whole.

3. Interpretation

3.1. Governing Language

3.1.1. All Contract Documents and related correspondence exchanged between Purchaser and Supplier shall be written in the language **specified in the SCC**, and the Contract shall be construed and interpreted in accordance with that language.

3.1.2. If any of the Contract Documents or related correspondence are prepared in a language other than the governing language under GCC Clause 3.1.1 above, the translation of such documents into the governing language shall prevail in matters of interpretation. The originating party, with respect to such documents shall bear the costs and risks of such translation.

3.2. Singular and Plural

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

3.3. Headings

The headings and marginal notes in the GCC are included for ease of reference and shall neither constitute a part of the Contract nor affect its interpretation.

3.4. Persons

Words importing persons or parties shall include firms, corporations, and government entities.

3.5. Incoterms

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by the current Incoterms ("Incoterms 2000" or a more recent version if and as published). Incoterms are the international rules for interpreting trade terms published by the International Chamber of Commerce, 38 Cours Albert 1er, 75008 Paris, France.

3.6. Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and Supplier with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect to the subject matter of the Contract made prior to the date of Contract.

3.7. Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party to the Contract.

3.8. Independent Supplier

3.8.1. The Supplier shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties to the Contract.

3.8.2. Subject to the provisions of the Contract, the Supplier shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Supplier in connection with the performance of the Contract shall be under the complete control of the Supplier and shall not be deemed to be employees of the Purchaser, and nothing contained in the Contract or in any subcontract awarded by the Supplier shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Purchaser.

3.9. Joint Venture

If the Supplier is a Joint Venture of two or more firms, all such firms shall be jointly and severally bound to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the Joint Venture. The composition or constitution of the Joint Venture shall not be altered without the prior consent of the Purchaser.

3.10. Non waiver

3.10.1. Subject to GCC Clause 3.10.2 below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.10.2. Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

3.11. Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity, or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

3.12. Country of Origin

"Origin" means the place where the Information Technologies, Materials, and other Goods for the System were produced or from which the Services are supplied. Goods are produced when, through manufacturing, processing, Software development, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The Origin of Goods and Services is distinct from the nationality of the Supplier and may be different.

4. Governing Law

The Contract shall be governed by and interpreted in accordance with the laws of the country specified in the **SCC**.

5. Settlement of Disputes

5.1. If any dispute of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity, or termination, or the operation of the System (whether during the progress of implementation or after its achieving Operational Acceptance and whether before or after the termination, abandonment, or breach of the Contract), the parties shall seek to resolve any such dispute by mutual consultation.

5.2. If the parties fail to resolve such a dispute by mutual consultation within twenty-eight (28) days, either party may move to the notification of arbitration.

B. PAYMENT

6. Contract Price

- 6.1. The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement attached in Section IX, Bidding Forms.
- 6.2. The Supplier shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

7. Terms of Payment

- 7.1. The Contract Price shall be paid as **specified in the SCC**.
- 7.2. The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the System or Subsystem(s), Delivered, Pre-commissioned, Installed, and Operationally Accepted, and by documents submitted pursuant to GCC Clause 15.5 and upon fulfillment of other obligations stipulated in the Contract.
- 7.3. No payment made by the Purchaser herein shall be deemed to constitute acceptance by the Purchaser of the System or any Subsystem(s).
- 7.4. Payments shall be made promptly by the Purchaser, but in no case later than Thirty (30) days after submission of a valid invoice by the Supplier. In the event that the Purchaser fails to make any payment by its respective due date or within the period set forth in the Contract, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate(s) **specified in the SCC** for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 7.5. All payments shall be made in the currency(ies) specified in the Contract Agreement, pursuant to GCC Clause 6. For Goods and Services supplied locally, payments shall be made in the currency of the Purchaser's Country, unless otherwise **specified in the SCC**.

8. Securities

8.1. Issuance of Securities

The Supplier shall provide the securities specified below in favor of the Purchaser at the times and in the amount, manner, and form specified below.

8.2. Advance Payment Security

- 8.2.1. As **specified in the SCC**, the Supplier shall provide a security equal in amount and currency to the advance payment, and valid until the System is Operationally Accepted.
- 8.2.2. The security shall be in the form provided in the Bidding Documents or in another form acceptable to the Purchaser. The amount of the security shall be reduced in proportion to the value of the System executed by and paid to the Supplier from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Purchaser. The way the value of the security is deemed to become reduced and, eventually, voided is as **specified in the SCC**. The security shall be returned to the Supplier immediately after its expiration.

8.3. Performance Security

- 8.3.1. The Supplier shall provide a security for the due performance of the Contract in the amount and currency **specified in the SCC**, upon notification of the contract award.
- 8.3.2. The security shall be a bank guarantee in the form provided in Section IX, bidding Forms, or it shall be in another form acceptable to the Purchaser.
- 8.3.3. The security shall automatically become null and void once all the obligations of the Supplier under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any extensions to the period. The security shall be returned to the Supplier no later than twenty-eight (28) days after its expiration.
- 8.3.4. Upon Operational Acceptance of the entire System, the security shall be reduced to the amount **specified in the SCC**, on the date of such Operational Acceptance, so that the reduced security would only cover the remaining warranty obligations of the Supplier.

9. Taxes and Duties

- 9.1. For Goods or Services supplied from outside the Purchaser's country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country. Any duties, such as importation or customs duties, and taxes and other levies, payable in the Purchaser's country for the supply of Goods and Services from outside the Purchaser's country are the responsibility of the Purchaser unless these duties or taxes have been made part of the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to, in which case the duties and taxes will be the Supplier's responsibility.
- 9.2. For Goods or Services supplied locally, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods or Services to the Purchaser. The only exception are taxes or duties, such as value-added or sales tax or stamp duty as apply to, or are clearly identifiable, on the invoices and provided they apply in the Purchaser's country, and only if these taxes, levies and/or duties are also excluded from the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to.
- 9.3. If any tax exemptions, reductions, allowances, or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- 9.4. For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date twenty-eight (28) days prior to the date of bid submission in the Purchaser's Country (also called "Tax" in this GCC Clause 4.4). If any Tax rates are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Supplier, its Subcontractors, or their employees in connection with performance of the

Contract, an equitable adjustment to the Contract Price shall be made to fully take into account any such change by addition to or reduction from the Contract Price, as the case may be.

10. Confidential Information

10.1. Except if otherwise **specified in the SCC**, the "Receiving Party" (either the Purchaser or the Supplier) shall keep confidential and shall not, without the written consent of the other party to this Contract ("the Disclosing Party"), divulge to any third party any documents, data, or other information of a confidential nature ("Confidential Information") connected with this Contract, and furnished directly or indirectly by the Disclosing Party prior to or during performance, or following termination, of this Contract.

10.2. For the purposes of GCC Clause 10.1, the Supplier is also deemed to be the Receiving Party of Confidential Information generated by the Supplier itself in the course of the performance of its obligations under the Contract and relating to the businesses, finances, suppliers, employees, or other contacts of the Purchaser or the Purchaser's use of the System.

10.3. Notwithstanding GCC Clauses 10.1 and 10.2:

10.3.1. the Supplier may furnish to its Subcontractor Confidential Information of the Purchaser to the extent reasonably required for the Subcontractor to perform its work under the Contract; and

10.3.2. the Purchaser may furnish Confidential Information of the Supplier: (i) to its support service suppliers and their subcontractors to the extent reasonably required for them to perform their work under their support service contracts; and (ii) to its affiliates and subsidiaries,

In which event the Receiving Party shall ensure that the person to whom it furnishes Confidential Information of the Disclosing Party is aware of and abides by the Receiving Party's obligations under this GCC Clause 10 as if that person were party to the Contract in place of the Receiving Party.

10.4. The Purchaser shall not, without the Supplier's prior written consent, use any Confidential Information received from the Supplier for any purpose other than the operation, maintenance and further development of the System. Similarly, the Supplier shall not, without the Purchaser's prior written consent, use any Confidential Information received from the Purchaser for any purpose other than those that are required for the performance of the Contract.

10.5. The obligation of a party under GCC Clauses 10.1 through 10.4 above, however, shall not apply to that information which:

10.5.1. now or hereafter enters the public domain through no fault of the Receiving Party;

10.5.2. can be proven to have been possessed by the Receiving Party at the time of disclosure and that was not previously obtained, directly or indirectly, from the Disclosing Party;

10.5.3. Otherwise lawfully becomes available to the Receiving Party from a third party that has no obligation of confidentiality.

- 10.6. The above provisions of this GCC Clause 10 shall not in any way modify any undertaking of confidentiality given by either of the parties to this Contract prior to the date of the Contract in respect of the System or any part thereof.
- 10.7. The provisions of this GCC Clause 10 shall survive the termination, for whatever reason, of the Contract for three (3) years or such longer period as may be **specified in the SCC**.

C. SUPPLY, INSTALLATION, TESTING,
COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

11. Representatives

11.1. Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the Purchaser shall appoint and notify the Supplier in writing of the name of the Project Manager. The Purchaser may from time to time appoint some other person as the Project Manager in place of the person previously so appointed and shall give a notice of the name of such other person to the Supplier without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the System. Such appointment shall take effect only upon receipt of such notice by the Supplier. Subject to the extensions and/or limitations **specified in the SCC** (if any), the Project Manager shall have the authority to represent the Purchaser on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Purchaser pursuant to GCC Clause 4.

11.2. Supplier's Representative

11.2.1. If the Supplier's Representative is not named in the Contract, then within seven (7) days of the Effective Date, the Supplier shall appoint the Supplier's Representative and shall request the Purchaser in writing to approve the person so appointed. The request must be accompanied by detailed curriculum vitae for the nominee, as well as a description of any other System or non-System responsibilities the nominee would retain while performing the duties of the Supplier's Representative. If the Purchaser does not object to the appointment within fourteen (14) days, the Supplier's Representative shall be deemed to have been approved. If the Purchaser objects to the appointment within fourteen (14) days giving the reason thereof, then the Supplier shall appoint a replacement within seven (7) days of such objection in accordance with this GCC Clause 11.2.1.

11.2.2. Subject to the extensions and/or limitations **specified in the SCC** (if any), the Supplier's Representative shall have the authority to represent the Supplier on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Supplier pursuant to GCC Clause 34.

11.2.3. The Supplier shall not revoke the appointment of the Supplier's Representative without the Purchaser's prior written consent, which shall not be unreasonably withheld. If the Purchaser consents to such an action, the Supplier shall appoint another person of equal or superior qualifications

as the Supplier's Representative, pursuant to the procedure set out in GCC Clause 11.2.1.

11.2.4. The Supplier's Representative and staff are obliged to work closely with the Purchaser's Project Manager and staff, act within their own authority, and abide by directives issued by the Purchaser that are consistent with the terms of the Contract. The Supplier's Representative is responsible for managing the activities of its personnel and any subcontracted personnel.

11.2.5. The Supplier's Representative may, subject to the approval of the Purchaser (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions, and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Supplier's Representative and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until the notice of it has been delivered.

11.2.6. Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with GCC Clause 11.2.5 shall be deemed to be an act or exercise by the Supplier's Representative.

11.3. Objections and Removals

11.3.1. The Purchaser may by notice to the Supplier object to any representative or person employed by the Supplier in the execution of the Contract who, in the reasonable opinion of the Purchaser, may have behaved inappropriately, be incompetent, or be negligent. The Purchaser shall provide evidence of the same, whereupon the Supplier shall remove such person from work on the System.

11.3.2. If any representative or person employed by the Supplier is removed in accordance with GCC Clause 11.3.1, the Supplier shall, where required, promptly appoint a replacement.

12. Project Plan

12.1. In close cooperation with the Purchaser and based on the Preliminary Project Plan included in the Supplier's bid, the Supplier shall develop a Project Plan encompassing the activities specified in the Contract. The contents of the Project Plan shall be as **specified in the SCC** and/or Technical Requirements.

12.2. The Supplier shall formally present to the Purchaser the Project Plan in accordance with the procedure specified in the SCC.

12.3. If required, the impact on the Implementation Schedule of modifications agreed during finalization of the Agreed and Finalized Project Plan shall be incorporated in the Contract by amendment, in accordance with GCC Clauses 30 and 31.

12.4. The Supplier shall undertake to supply, install, test, and commission the System in accordance with the Agreed and Finalized Project Plan and the Contract.

- 12.5. The Progress and other reports **specified in the SCC** shall be prepared by the Supplier and submitted to the Purchaser in the format and frequency specified in the Technical Requirements.

13. Subcontracting

- 13.1. Appendix 3 (List of Approved Subcontractors) to the Contract Agreement specifies critical items of supply or services and a list of Subcontractors for each item that are considered acceptable by the Purchaser. If no Subcontractors are listed for an item, the Supplier shall prepare a list of Subcontractors it considers qualified and wishes to be added to the list for such items. The Supplier may from time to time propose additions to or deletions from any such list. The Supplier shall submit any such list or any modification to the list to the Purchaser for its approval in sufficient time so as not to impede the progress of work on the System. The Purchaser shall not withhold such approval unreasonably. Such approval by the Purchaser of a Subcontractor(s) shall not relieve the Supplier from any of its obligations, duties, or responsibilities under the Contract.
- 13.2. The Supplier may, at its discretion, select and employ Subcontractors for such critical items from those Subcontractors listed pursuant to GCC Clause 13.1. If the Supplier wishes to employ a Subcontractor not so listed, or subcontract an item not so listed, it must seek the Purchaser's prior approval under GCC Clause 13.3.
- 13.3. For items for which pre-approved Subcontractor lists have not been specified in Appendix 3 to the Contract Agreement, the Supplier may employ such Subcontractors as it may select, provided: (i) the Supplier notifies the Purchaser in writing at least twenty-eight (28) days prior to the proposed mobilization date for such Subcontractor; and (ii) by the end of this period either the Purchaser has granted its approval in writing or fails to respond. The Supplier shall not engage any Subcontractor to which the Purchaser has objected in writing prior to the end of the notice period. The absence of a written objection by the Purchaser during the above specified period shall constitute formal acceptance of the proposed Subcontractor. Except to the extent that it permits the deemed approval of the Purchaser of Subcontractors not listed in the Contract Agreement, nothing in this Clause, however, shall limit the rights and obligations of either the Purchaser or Supplier as they are specified in GCC Clauses 13.1 and 13.2, in the SCC, or in Appendix 3 of the Contract Agreement.

14. Design and Engineering

14.1. Technical Specifications and Drawings

- 14.1.1. The Supplier shall execute the basic and detailed design and the implementation activities necessary for successful installation of the System in compliance with the provisions of the Contract or, where not so specified, in accordance with good industry practice.
- 14.1.2. The Supplier shall be responsible for any discrepancies, errors or omissions in the specifications, drawings, and other technical documents that it has prepared, whether such specifications, drawings, and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors, or omissions are not because of inaccurate

information furnished in writing to the Supplier by or on behalf of the Purchaser.

- 14.1.3.** The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification of such design, drawings, specification, or other documents provided or designated by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Project Manager.

14.2. Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of bid submission shall apply unless otherwise specified in the SCC. During Contract execution, any changes in such codes and standards shall be applied after approval by the Purchaser and shall be treated in accordance with GCC Clause 30.

14.3. Approval/Review of Technical Documents

- 14.3.1.** The Supplier shall prepare and furnish to the Project Manager the documents as specified in the SCC for the Project Manager's approval or review. Any part of the System covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval of these documents.
- 14.3.2.** Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Clause 14.3.1, the Project Manager shall either return one copy of the document to the Supplier with its approval endorsed on the document or shall notify the Supplier in writing of its disapproval of the document and the reasons for disapproval and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the fourteen (14) days, then the document shall be deemed to have been approved by the Project Manager.
- 14.3.3.** The Project Manager shall not disapprove any document except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good industry practice.
- 14.3.4.** If the Project Manager disapproves the document, the Supplier shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Clause 14.3.2. If the Project Manager approves the document subject to modification(s), the Supplier shall make the required modification(s), and the document shall then be deemed to have been approved, subject to GCC Clause 14.3.5. The procedure set out in GCC Clauses 14.3.2 through 14.3.4 shall be repeated, as appropriate, until the Project Manager approves such documents.
- 14.3.5.** If any dispute occurs between the Purchaser and the Supplier in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) to a document that cannot be settled between the parties within a reasonable period, then, in case the

Contract Agreement includes and names an Adjudicator, such dispute may be referred to the Adjudicator for determination in accordance with GCC Clause 5 (Settlement of Disputes).

14.3.6. The Project Manager's approval, with or without modification of the document furnished by the Supplier, shall not relieve the Supplier of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager or inaccurate information furnished in writing to the Supplier by or on behalf of the Purchaser.

14.3.7. The Supplier shall not depart from any approved document unless the Supplier has first submitted to the Project Manager an amended document and obtained the Project Manager's approval of the document, pursuant to the provisions of this GCC Clause 14.3. If the Project Manager requests any change in any already approved document and/or in any document based on such an approved document, the provisions of GCC Clause 30 (Changes to the System) shall apply to such request.

15. Procurement, Delivery, and Transport

15.1. The Supplier shall manufacture or procure and transport all the Information Technologies, Materials, and other Goods in an expeditious and orderly manner to the Project Site.

15.2. Delivery of the Information Technologies, Materials, and other Goods shall be made by the Supplier in accordance with the Technical Requirements.

15.3. Early or partial deliveries require the explicit written consent of the Purchaser, which consent shall not be unreasonably withheld.

15.4. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during shipment. The packing, marking, and documentation within and outside the packages shall comply strictly with the Purchaser's instructions to the Supplier.

15.4.1. The Supplier will bear responsibility for and cost of transport to the Project Sites in accordance with the terms and conditions used in the specification of prices in the Price Schedules, including the terms and conditions of the associated Incoterms.

15.4.2. Unless otherwise **specified in the SCC**, the Supplier shall be free to use transportation through carriers registered in any eligible country and to obtain insurance from any eligible source country.

15.5. Unless otherwise **specified in the SCC**, the Supplier will provide the Purchaser with shipping and other documents, as specified below:

15.5.1. For Goods supplied from outside the Purchaser's Country:

Upon shipment, the Supplier shall notify the Purchaser and the insurance company contracted by the Supplier to provide cargo insurance by telex, cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate, with a copy to the cargo insurance company:

- (i) two copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount;
- (ii) usual transportation documents;
- (iii) insurance certificate;
- (iv) certificate(s) of origin; and
- (v) Estimated time and point of arrival in the Purchaser's Country and at the site.

15.5.2. For Goods supplied locally (i.e., from within the Purchaser's country):

Upon shipment, the Supplier shall notify the Purchaser by telex, cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate:

- (i) two copies of the Supplier's invoice showing the Goods' description, quantity, unit price, and total amount;
- (ii) delivery note, railway receipt, or truck receipt;
- (iii) certificate of insurance;
- (iv) certificate(s) of origin; and
- (v) estimated time of arrival at the site.

15.6. Customs Clearance

15.6.1. The Supplier will bear responsibility for, and cost of, customs clearance into the Purchaser's country in accordance the particular Incoterm(s) used for Goods supplied from outside the Purchaser's country in the Price Schedules referred to by Article 2 of the Contract Agreement.

16. Product Upgrades

16.1. During the Warranty Period, unless otherwise **specified in the SCC**, the Supplier will provide at no additional cost to the Purchaser all new versions, releases, and updates for all Standard Software that are used in the System, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in the Purchaser's country, and no later than twelve (12) months after they are released in the country of origin of the Software.

16.2. At any point during performance of the Contract, should technological advances be introduced by the Supplier for Information Technologies originally offered by the Supplier in its bid and still to be delivered, the Supplier shall be obligated to offer to the Purchaser the latest versions of the available Information Technologies having equal or better performance or functionality at the same or lesser unit prices, pursuant to GCC Clause 30 (Changes to the System).

17. Implementation, Installation, and Other Services

17.1. The Supplier shall provide all Services specified in the Contract and Agreed and Finalized Project Plan in accordance with the highest standards of professional competence and integrity.

- 17.2. Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties (including, but not restricted to, any prices submitted by the Supplier in the Recurrent Cost Schedules of its Bid) and shall not exceed the prevailing rates charged by the Supplier to other purchasers in the Purchaser's Country for similar services.

18. Inspections and Tests

- 18.1. The Purchaser or its representative shall have the right to inspect and/or test any components of the System, as specified in the Technical Requirements, to confirm their good working order and/or conformity to the Contract at the point of delivery and/or at the Project Site.
- 18.2. Power on tests shall be performed on all active equipment as specified in the Technical requirements.
- 18.3. The Purchaser or its representative shall be entitled to attend any such inspections and/or tests of the components, provided that the Purchaser shall bear all costs and expenses incurred in connection with such attendance, including but not limited to all inspection agent fees, travel, and related expenses.
- 18.4. Should the inspected or tested components fail to conform to the Contract, the Purchaser may reject the component(s), and the Supplier shall either replace the rejected component(s), or make alterations as necessary so that it meets the Contract requirements free of cost to the Purchaser.
- 18.5. If any dispute shall arise between the parties in connection with or caused by an inspection and/or with regard to any component to be incorporated in the System that cannot be settled amicably between the parties within a reasonable period of time, either party may invoke the process pursuant to GCC Clause 5 (Settlement of Disputes).

19. Installation of the System

- 19.1. As soon as the System, or any Subsystem, has, in the opinion of the Supplier, been delivered, Pre-commissioned, and made ready for Commissioning and Operational Acceptance Testing in accordance with the Technical Requirements, the SCC and the Agreed and Finalized Project Plan, the Supplier shall so notify the Purchaser in writing.
- 19.2. The Project Manager shall, within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 19.1, either issue an Installation Certificate in the form specified in the Sample Forms Section in the Bidding Documents, stating that the System, or major component or Subsystem (if Acceptance by major component or Subsystem is specified pursuant to the SCC for GCC Clause 20.2.1), has achieved Installation by the date of the Supplier's notice under GCC Clause 19.1, or notify the Supplier in writing of any defects and/or deficiencies, including, but not limited to, defects or deficiencies in the interoperability or integration of the various components and/or Subsystems making up the System. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies that the Project Manager has notified the Supplier of. The Supplier shall then promptly carry out retesting of the System or

Subsystem and, when in the Supplier's opinion the System or Subsystem is ready for Commissioning and Operational Acceptance Testing, notify the Purchaser in writing, in accordance with GCC Clause 19.1. The procedure set out in this GCC Clause 19.2 shall be repeated, as necessary, until an Installation Certificate is issued.

- 19.3.** If the Project Manager fails to issue the Installation Certificate and fails to inform the Supplier of any defects and/or deficiencies within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 19.1, or if the Purchaser puts the System or a Subsystem into production operation, then the System (or Subsystem) shall be deemed to have achieved successful Installation as of the date of the Supplier's notice or repeated notice, or when the Purchaser put the System into production operation, as the case may be.

20. Commissioning and Operational Acceptance

20.1. Commissioning

20.1.1. Commissioning of the System (or Subsystem if specified pursuant to the SCC for GCC Clause 11.2.1) shall be commenced by the Supplier:

- (i) immediately after the Installation Certificate is issued by the Project Manager, pursuant to GCC Clause 19.2; or
- (ii) as otherwise specified in the Technical Requirement or the Agreed and Finalized Project Plan; or
- (iii) Immediately after Installation is deemed to have occurred, under GCC Clause 19.3.

20.1.2. The Purchaser shall supply the operating and technical personnel and all materials and information reasonably required to enable the Supplier to carry out its obligations with respect to Commissioning.

20.1.3. Production use of the System or Subsystem(s) shall not commence prior to the start of formal Operational Acceptance Testing.

20.2. Operational Acceptance Tests

20.2.1. The Operational Acceptance Tests (and repeats of such tests) shall be the primary responsibility of the Purchaser, but shall be conducted with the full cooperation of the Supplier during Commissioning of the System (or major components or Subsystem[s] if **specified in the SCC** and supported by the Technical Requirements), to ascertain whether the System (or major component or Subsystem[s]) conforms to the Technical Requirements and meets the standard of performance quoted in the Supplier's bid, including, but not restricted to, the functional and technical performance requirements. The Operational Acceptance Tests during Commissioning will be conducted as **specified in the SCC**, the Technical Requirements and/or the Agreed and Finalized Project Plan.

20.2.2. At the Purchaser's discretion, Operational Acceptance Tests may also be performed on replacement Goods, upgrades and new version releases, and Goods that are added or field-modified after Operational Acceptance of the System.

20.2.3. If for reasons attributable to the Purchaser, the Operational Acceptance Test of the System (or Subsystem[s] or major components, pursuant to the SCC for GCC Clause 27.2.1) cannot be successfully completed within the period **specified in the SCC**, from the date of Installation or any other period agreed upon in writing by the Purchaser and the Supplier, the Supplier shall be deemed to have fulfilled its obligations with respect to the technical and functional aspects of the Technical Specifications, SCC and/or the Agreed and Finalized Project Plan, and GCC Clause 28.2 and 28.3 shall not apply.

20.3. Operational Acceptance

20.3.1. Subject to GCC Clause 20.4 (Partial Acceptance) below, Operational Acceptance shall occur in respect of the System, when

- (i) the Operational Acceptance Tests, as specified in the Technical Requirements, and/or SCC and/or the Agreed and Finalized Project Plan have been successfully completed; or
- (ii) the Operational Acceptance Tests have not been successfully completed or have not been carried out for reasons that are attributable to the Purchaser within the period from the date of Installation or any other agreed-upon period as specified in GCC Clause 20.2.2 above; or
- (iii) The Purchaser has put the System into production or use for sixty (60) consecutive days. If the System is put into production or use in this manner, the Supplier shall notify the Purchaser and document such use

20.3.2. At any time after any of the events set out in GCC Clause 11.3.1 have occurred, the Supplier may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate.

20.3.3. After consultation with the Purchaser, and within fourteen (14) days after receipt of the Supplier's notice, the Project Manager shall:

- (i) issue an Operational Acceptance Certificate; or
- (ii) notify the Supplier in writing of any defect or deficiencies or other reason for the failure of the Operational Acceptance Tests; or
- (iii) Issue the Operational Acceptance Certificate, if the situation covered by GCC Clause 20.3.1 (b) arises.

20.3.4. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test that the Project Manager has notified the Supplier of. Once such remedies have been made by the Supplier, the Supplier shall notify the Purchaser, and the Purchaser, with the full cooperation of the Supplier, shall use all reasonable endeavors to promptly carry out retesting of the System or Subsystem. Upon the successful conclusion of the Operational Acceptance Tests, the Supplier shall notify the Purchaser of its request for Operational Acceptance Certification, in accordance with GCC Clause 20.3.3. The Purchaser shall then issue to the

Supplier the Operational Acceptance Certification in accordance with GCC Clause 20.3.3 (a), or shall notify the Supplier of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure set out in this GCC Clause 20.3.4 shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.

20.3.5. If the System or Subsystem fails to pass the Operational Acceptance Test(s) in accordance with GCC Clause 20.2, then either:

- (i) the Purchaser may consider terminating the Contract, pursuant to GCC Clause 32.2.2; or
- (ii) if the failure to achieve Operational Acceptance within the specified time period is a result of the failure of the Purchaser to fulfill its obligations under the Contract, then the Supplier shall be deemed to have fulfilled its obligations with respect to the relevant technical and functional aspects of the Contract, and GCC Clauses 23.3 and 23.4 shall not apply.

20.3.6. If within fourteen (14) days after receipt of the Supplier's notice the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Supplier in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the System or Subsystem shall be deemed to have been accepted as of the date of the Supplier's said notice.

20.4. Partial Acceptance

20.4.1. If so specified in the SCC for GCC Clause 11.2.1, Installation and Commissioning shall be carried out individually for each identified major component or Subsystem(s) of the System. In this event, the provisions in the Contract relating to Installation and Commissioning, including the Operational Acceptance Test, shall apply to each such major component or Subsystem individually, and Operational Acceptance Certificate(s) shall be issued accordingly for each such major component or Subsystem of the System, subject to the limitations contained in GCC Clause 11.4.2.

20.4.2. The issuance of Operational Acceptance Certificates for individual major components or Subsystems pursuant to GCC Clause 20.4.1 shall not relieve the Supplier of its obligation to obtain an Operational Acceptance Certificate for the System as an integrated whole (if so specified in the SCC for GCC Clauses 7.1 and 20.2.1) once all major components and Subsystems have been supplied, installed, tested, and commissioned.

20.4.3. In the case of minor components for the System that by their nature do not require Commissioning or an Operational Acceptance Test (e.g., minor fittings, furnishings or site works, etc.), the Project Manager shall issue an Operational Acceptance Certificate within fourteen (14) days after the fittings and/or furnishings have been delivered and/or installed or the site works have been completed. The Supplier shall, however, use all reasonable endeavors to promptly remedy any defects or deficiencies in such minor components detected by the Purchaser or Supplier.

D. GUARANTEES AND LIABILITIES

21. Operational Acceptance Time Guarantee

- 21.1. The Supplier guarantees that it shall complete the supply, Installation, Commissioning, and achieve Operational Acceptance of the System (or Subsystems, pursuant to the SCC for GCC Clause 11.2.1) within the time periods specified in the Implementation Schedule in the Technical Requirements Section and/or the Agreed and Finalized Project Plan pursuant to GCC Clause 11.2, or within such extended time to which the Supplier shall be entitled under GCC Clause 31 (Extension of Time for Achieving Operational Acceptance).
- 21.2. If the Supplier fails to supply, install, commission, and achieve Operational Acceptance of the System (or Subsystems pursuant to the SCC for GCC Clause 20.2.1) within the time for achieving Operational Acceptance specified in the Implementation Schedule in the Technical Requirement or the Agreed and Finalized Project Plan, or any extension of the time for achieving Operational Acceptance previously granted under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance), the Supplier shall pay to the Purchaser liquidated damages at the rate **specified in the SCC** as a percentage of the Contract Price, or the relevant part of the Contract Price if a Subsystem has not achieved Operational Acceptance. The aggregate amount of such liquidated damages shall in no event exceed the amount specified in the SCC (“the Maximum”). Once the Maximum is reached, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 32.2.2.

22. Defect Liability

- 22.1. The Supplier warrants that the System, including all Information Technologies, Materials, and other Goods supplied and Services provided, shall be free from defects in the design, engineering, Materials, and workmanship that prevent the System and/or any of its components from fulfilling the Technical Requirements or that limit in a material fashion the performance, reliability, or extensibility of the System and/or Subsystems. Exceptions and/or limitations, if any, to this warranty with respect to Software (or categories of Software), shall be as **specified in the SCC**. Commercial warranty provisions of products supplied under the Contract shall apply to the extent that they do not conflict with the provisions of this Contract.
- 22.2. The Supplier also warrants that the Information Technologies, Materials, and other Goods supplied under the Contract are new, unused, and incorporate all recent improvements in design that materially affect the System’s or Subsystem’s ability to fulfill the Technical Requirements.
- 22.3. In addition, the Supplier warrants that: (i) all Goods components to be incorporated into the System form part of the Supplier’s and/or Subcontractor’s current product lines, (ii) they have been previously released to the market, and (iii) those specific items **identified in the SCC** (if any) have been in the market for at least the minimum periods **specified in the SCC**.
- 22.4. The Warranty Period shall commence from the date of Operational Acceptance of the System (or of any major component or Subsystem for which

separate Operational Acceptance is provided for in the Contract) and shall extend for the length of time **specified in the SCC**.

22.5. If during the Warranty Period any defect as described in GCC Clause 22.1 should be found in the design, engineering, Materials, and workmanship of the Information Technologies and other Goods supplied or of the Services provided by the Supplier, the Supplier shall promptly, in consultation and agreement with the Purchaser regarding appropriate remedying of the defects, and at its sole cost, repair, replace, or otherwise make good (as the Supplier shall, at its discretion, determine) such defect as well as any damage to the System caused by such defect. Any defective Information Technologies or other Goods that have been replaced by the Supplier shall remain the property of the Supplier.

22.6. The Supplier shall not be responsible for the repair, replacement, or making good of any defect or of any damage to the System arising out of or resulting from any of the following causes:

22.6.1. improper operation or maintenance of the System by the Purchaser;

22.6.2. normal wear and tear;

22.6.3. use of the System with items not supplied by the Supplier, unless otherwise identified in the Technical Requirements, or approved by the Supplier; or

22.6.4. Modifications made to the System by the Purchaser, or a third party, not approved by the Supplier.

22.7. The Supplier's obligations under this GCC Clause 22 shall not apply to:

22.7.1. any materials that are normally consumed in operation or have a normal life shorter than the Warranty Period; or

22.7.2. any designs, specifications, or other data designed, supplied, or specified by or on behalf of the Purchaser or any matters for which the Supplier has disclaimed responsibility, in accordance with GCC Clause 14.1.2.

22.8. The Purchaser shall give the Supplier a notice promptly following the discovery of such defect, stating the nature of any such defect together with all available evidence. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect any such defect. The Purchaser shall afford the Supplier all necessary access to the System and the site to enable the Supplier to perform its obligations under this GCC Clause 13.

22.9. The Supplier may, with the consent of the Purchaser, remove from the site any Information Technologies and other Goods that are defective, if the nature of the defect, and/or any damage to the System caused by the defect, is such that repairs cannot be expeditiously carried out at the site. If the repair, replacement, or making good is of such a character that it may affect the

efficiency of the System, the Purchaser may give the Supplier notice requiring that tests of the defective part be made by the Supplier immediately upon completion of such remedial work, whereupon the Supplier shall carry out such tests.

If such part fails the tests, the Supplier shall carry out further repair, replacement, or making good (as the case may be) until that part of the System passes such tests. The tests shall be agreed upon by the Purchaser and the Supplier.

22.10. If the Supplier fails to commence the work necessary to remedy such defect or any damage to the System caused by such defect within the time period specified in the SCC, the Purchaser may, following notice to the Supplier, proceed to do such work or contract a third party (or parties) to do such work, and the reasonable costs incurred by the Purchaser in connection with such work shall be paid to the Purchaser by the Supplier or may be deducted by the Purchaser from any monies due the Supplier or claimed under the Performance Security.

22.11. If the System or Subsystem cannot be used by reason of such defect and/or making good of such defect, the Warranty Period for the System shall be extended by a period equal to the period during which the System or Subsystem could not be used by the Purchaser because of such defect and/or making good of such defect.

22.12. Items substituted for defective parts of the System during the Warranty Period shall be covered by the Defect Liability Warranty for the remainder of the Warranty Period applicable for the part replaced or three (3) months, whichever is greater.

22.13. At the request of the Purchaser and without prejudice to any other rights and remedies that the Purchaser may have against the Supplier under the Contract, the Supplier will offer all possible assistance to the Purchaser to seek warranty services or remedial action from any subcontracted third-party producers or licensor of Goods included in the System, including without limitation assignment or transfer in favor of the Purchaser of the benefit of any warranties given by such producers or licensors to the Supplier.

23. Functional Guarantees

23.1. The Supplier guarantees that, once the Operational Acceptance Certificate(s) has been issued, the System represents a complete, integrated solution to the Purchaser's requirements set forth in the Technical Requirements and it conforms to all other aspects of the Contract. The Supplier acknowledges that GCC Clause 20 regarding Commissioning and Operational Acceptance governs how technical conformance of the System to the Contract requirements will be determined.

23.2. If, for reasons attributable to the Supplier, the System does not conform to the Technical Requirements or does not conform to all other aspects of the Contract, the Supplier shall at its cost and expense make such changes, modifications, and/or additions to the System as may be necessary to conform to the Technical Requirements and meet all functional and performance standards. The Supplier shall notify the Purchaser upon completion of the necessary changes, modifications, and/or additions and shall request the Purchaser to repeat the Operational Acceptance Tests until the System achieves Operational Acceptance.

23.3. If the System (or Subsystem[s]) fails to achieve Operational Acceptance, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 32.2.2, and forfeiture of the Supplier's Performance Security in accordance with GCC Clause 8.3 in compensation for the extra costs and delays likely to result from this failure.

24. Limitation of Liability

24.1. Provided the following does not exclude or limit any liabilities of either party in ways not permitted by applicable law:

24.1.1. 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

24.1.2. 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 any obligation of the Supplier to indemnify the Purchaser with respect to intellectual property rights infringement.

E. RISK DISTRIBUTION

25. Transfer of Ownership

25.1. With the exception of Software and Materials, the ownership of the Information Technologies and other Goods shall be transferred to the Purchaser at the time of Delivery or otherwise under terms that may be agreed upon and specified in the Contract Agreement.

25.2. Ownership of the Supplier's Equipment used by the Supplier and its Subcontractors in connection with the Contract shall remain with the Supplier or its Subcontractors.

26. Care of the System

26.1. The Purchaser shall become responsible for the care and custody of the System or Subsystems upon their Delivery. The Purchaser shall make good at its own cost any loss or damage that may occur to the System or Subsystems from any cause from the date of Delivery until the date of Operational Acceptance of the System or Subsystems, pursuant to GCC Clause 20 (Commissioning and Operational Acceptance), excepting such loss or damage arising from acts or omissions of the Supplier, its employees, or subcontractors.

26.2. If any loss or damage occurs to the System or any part of the System by reason of:

26.2.1. (insofar as they relate to the country where the Project Site is located) nuclear reaction, nuclear radiation, radioactive contamination, a pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance taken out under GCC Clause 28;

26.2.2. any use not in accordance with the Contract, by the Purchaser or any third party;

26.2.3. any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Purchaser, or any such matter for which the Supplier has disclaimed responsibility in accordance with GCC Clause 14.1.2,

the Purchaser shall pay to the Supplier all sums payable in respect of the System or Subsystems that have achieved Operational Acceptance, notwithstanding that the same be lost, destroyed, or damaged. If the Purchaser requests the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Supplier shall make good the same at the cost of the Purchaser in accordance with GCC Clause 30. If the Purchaser does not request the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Purchaser shall either request a change in accordance with GCC Clause 30, excluding the performance of that part of the System thereby lost, destroyed, or damaged, or, where the loss or damage affects a substantial part of the System, the Purchaser shall terminate the Contract pursuant to GCC Clause 32.1.

26.3. The Purchaser shall be liable for any loss of or damage to any Supplier's Equipment which the Purchaser has authorized to locate within the Purchaser's premises for use in fulfillment of Supplier's obligations under the Contract,

except where such loss or damage arises from acts or omissions of the Supplier, its employees, or subcontractors.

27. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification

27.1. The Supplier and each and every Subcontractor shall abide by the job safety, insurance, customs, and immigration measures prevalent and laws in force in the Purchaser's Country.

27.2. Subject to GCC Clause 27.3, the Supplier shall indemnify and hold harmless the Purchaser and its employees and officers from and against any and all losses, liabilities and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Purchaser or its employees or officers may suffer as a result of the death or injury of any person or loss of or damage to any property (other than the System, whether accepted or not) arising in connection with the supply, installation, testing, and Commissioning of the System and by reason of the negligence of the Supplier or its Subcontractors, or their employees, officers or agents, except any injury, death, or property damage caused by the negligence of the Purchaser, its contractors, employees, officers, or agents.

27.3. If any proceedings are brought or any claim is made against the Purchaser that might subject the Supplier to liability under GCC Clause 27.2, the Purchaser shall promptly give the Supplier notice of such proceedings or claims, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf. Unless the Supplier has so failed to notify the Purchaser within the twenty-eight (28) day period, the Purchaser shall make no admission that may be prejudicial to the defense of any such+ proceedings or claim. The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

27.4. The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of the death or personal injury of any person or loss of or damage to property of the Purchaser, other than the System not yet achieving Operational Acceptance, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause

37 (Insurances), provided that such fire, explosion, or other perils were not caused by any act or failure of the Supplier.

27.5. If any proceedings are brought or any claim is made against the Supplier that might subject the Purchaser to liability under GCC Clause 27.4, the Supplier shall promptly give the Purchaser notice of such proceedings or claims, and the Purchaser may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Purchaser fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Purchaser has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Purchaser's request, afford all available assistance to the Purchaser in conducting such proceedings or claim and shall be reimbursed by the Purchaser for all reasonable expenses incurred in so doing.

27.6. The party entitled to the benefit of an indemnity under this GCC Clause 27 shall take all reasonable measures to mitigate any loss or damage that has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

28. Insurances

28.1. The Supplier shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurance set forth below. The identity of the insurers and the form of the policies shall be subject to the approval of the Purchaser, who should not unreasonably withhold such approval.

28.1.1. *Cargo Insurance during Transport* as applicable, on terms as **specified in the SCC**, covering the Goods from physical loss or damage during shipment through receipt at the Project Site.

28.1.2. *Installation "All Risks" Insurance* as applicable, On terms as **specified in the SCC** covering the Goods at the site from all risks of physical loss or damage (excluding only perils commonly excluded under "all risks" insurance policies of this type by reputable insurers) occurring prior to Operational Acceptance of the System.

28.1.3. *Third-Party Liability Insurance* On terms as **specified in the SCC**, covering bodily injury or death suffered by third parties (including the Purchaser's personnel) and loss of or damage to property (including the Purchaser's property and any Subsystems that have been accepted by the Purchaser)

occurring in connection with the supply and installation of the Information System.

28.1.4. *Professional Indemnity Cover* on terms as **specified in the SCC**, that pays on behalf of the insured all sums which the insured becomes legally obligated to pay as damages by reason of liability arising out of any negligent act, error, mistake, or omission in the rendering of or failure to render professional services for others in the insured's capacity as a professional.

28.1.5. *Automobile Liability Insurance* in accordance with the statutory requirements prevailing in the Purchaser's Country, covering use of all vehicles used by the Supplier or its Subcontractors (whether or not owned by them) in connection with the execution of the Contract.

28.1.6. Other Insurance (if any), as **specified in the SCC**.

28.2. The Purchaser shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 28.1, except for the Third-Party Liability, and the Supplier's Subcontractors shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 28.1 except for Cargo Insurance during Transport. All insurer's rights of subrogation against such co-insured for losses or claims arising out of the performance of the Contract shall be waived under such policies.

28.3. The Supplier shall deliver to the Purchaser certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect.

28.4. The Supplier shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Supplier.

28.5. If the Supplier fails to take out and/or maintain in effect the insurance referred to in GCC Clause 28.1, the Purchaser may take out and maintain in effect any such insurance and may from time to time deduct from any amount due the Supplier under the Contract any premium that the Purchaser shall have paid to the insurer or may otherwise recover such amount as a debt due from the Supplier.

28.6. Unless otherwise provided in the Contract, the Supplier shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 19, and all monies payable by any insurers shall be paid to the Supplier. The Purchaser shall give to the Supplier all such reasonable assistance as may be required by the Supplier in connection with any claim under the

relevant insurance policies. With respect to insurance claims in which the Purchaser's interest is involved, the Supplier shall not give any release or make any compromise with the insurer without the prior written consent of the Purchaser. With respect to insurance claims in which the Supplier's interest is involved, the Purchaser shall not give any release or make any compromise with the insurer without the prior written consent of the Supplier.

29. Force Majeure

29.1. "Force Majeure" shall mean any event beyond the reasonable control of the Purchaser or of the Supplier, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected and shall include, without limitation, the following:

29.1.1. war, hostilities, or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy, and civil war;

29.1.2. rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion, and terrorist acts;

29.1.3. confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler, or any other act or failure to act of any local state or national government authority;

29.1.4. earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves, or other natural or physical disaster;

29.1.5. failure, by the Supplier, to obtain the necessary export permit(s) from the governments of the Country(s) of Origin of the Information Technologies or other Goods, or Supplier's Equipment provided that the Supplier has made all reasonable efforts to obtain the required export permit(s), including the exercise of due diligence in determining the eligibility of the System and all of its components for receipt of the necessary export permits.

29.2. If either party is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen (14) days after the occurrence of such event.

29.3. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered, or delayed. The Time for Achieving

Operational Acceptance shall be extended in accordance with GCC Clause 31 (Extension of Time for Achieving Operational Acceptance).

29.4. The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Clause 38.6.

29.5. No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall:

29.5.1. constitute a default or breach of the Contract;

29.5.2. (subject to GCC Clauses 26.2, 29.3, and 29.4) give rise to any claim for damages or additional cost or expense occasioned by the delay or nonperformance,

if, and to the extent that, such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

29.6. If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the time period covered by the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which, either party may terminate the Contract by giving a notice to the other.

29.7. In the event of termination pursuant to GCC Clause 29.6, the rights and obligations of the Purchaser and the Supplier shall be as specified in GCC Clauses 32.1.2 and 32.1.3.

29.8. Notwithstanding GCC Clause 29.5, Force Majeure shall not apply to any obligation of the Purchaser to make payments to the Supplier under this Contract.

30. Changes to the System

30.1. Introducing a Change

30.1.1. the Purchaser shall have the right to propose, and subsequently require, the Project Manager to order the Supplier from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in, or from the System (interchangeably called "Change"), provided that such Change falls within the general scope of the System, does not constitute unrelated work, and is technically practicable, taking into account both the state of advancement of the System and the technical

compatibility of the Change envisaged with the nature of the System as originally specified in the Contract. A Change may involve, but is not restricted to, the substitution of updated Information Technologies and related Services in accordance with GCC Clause 16 (Product Upgrades).

30.1.2. The Supplier may from time to time during its performance of the Contract propose to the Purchaser (with a copy to the Project Manager) any Change that the Supplier considers necessary or desirable to improve the quality or efficiency of the System. The Purchaser may at its discretion approve or reject any Change proposed by the Supplier.

30.1.3. Notwithstanding GCC Clauses 21.1.1 and 21.1.2, no change made necessary because of any default of the Supplier in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Achieving Operational Acceptance.

30.1.4. The procedure on how to proceed with and execute Changes is specified in GCC Clauses 30.2 and 30.3, and further details and sample forms are provided in the Sample Forms Section in the Bidding Documents.

30.1.5. Moreover, the Purchaser and Supplier will agree, during development of the Project Plan, to a date prior to the scheduled date for Operational Acceptance, after which the Technical Requirements for the System shall be “frozen.” Any Change initiated after this time will be dealt with after Operational Acceptance.

31. Extension of Time for Achieving Operational Acceptance

31.1. The time(s) for achieving Operational Acceptance specified in the Schedule of Implementation shall be extended if the Supplier is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

31.1.1. any Change in the System as provided in GCC Clause 30 (Change in the Information System);

31.1.2. any occurrence of Force Majeure as provided in GCC Clause 29 (Force Majeure);

31.1.3. default of the Purchaser; or

31.1.4. any other matter specifically mentioned in the Contract;

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Supplier.

31.2. Except where otherwise specifically provided in the Contract, the Supplier shall submit to the Project Manager a notice of a claim for an extension of the time for achieving Operational Acceptance, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Purchaser and the Supplier shall agree upon the period of such extension. In the event that the Supplier does not accept the Purchaser's estimate of a fair and reasonable time extension, the Supplier shall be entitled to refer the matter to the provisions for the Settlement of Disputes pursuant to GCC Clause 5.

31.3. The Supplier shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

32. Termination

32.1. Termination for Purchaser's Convenience

32.1.1. The Purchaser may at any time terminate the Contract for any reason by giving the Supplier a notice of termination that refers to this GCC Clause 32.1.

32.1.2. Upon receipt of the notice of termination under GCC Clause 32.1.1, the Supplier shall either as soon as reasonably practical or upon the date specified in the notice of termination

- (i) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;
- (ii) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 32.1.2 (iv) (b) below;
- (iii) remove all Supplier's Equipment from the site, repatriate the Supplier's and its Subcontractors' personnel from the site, remove from the site any wreckage, rubbish, and debris of any kind;
- (iv) in addition, the Supplier, subject to the payment specified in GCC Clause 32.1.3, shall
 - a) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;
 - b) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystem, as at the date of termination, and, as may be required by the Purchaser, in

any subcontracts concluded between the Supplier and its Subcontractors;

- c) Deliver to the Purchaser all nonproprietary drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

32.1.3. In the event of termination of the Contract under GCC Clause 32.1.1, the Purchaser shall pay to the Supplier the following amounts:

- (i) the Contract Price, properly attributable to the parts of the System executed by the Supplier as of the date of termination;
- (ii) the costs reasonably incurred by the Supplier in the removal of the Supplier's Equipment from the site and in the repatriation of the Supplier's and its Subcontractors' personnel;
- (iii) any amount to be paid by the Supplier to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges;
- (iv) costs incurred by the Supplier in protecting the System and leaving the site in a clean and safe condition pursuant to GCC Clause 32.1.2 (i); and
- (v) the cost of satisfying all other obligations, commitments, and claims that the Supplier may in good faith have undertaken with third parties in connection with the Contract and that are not covered by GCC Clauses 32.1.3 (i) through (iv) above.

32.2. Termination for Supplier's Default

32.2.1. The Purchaser, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefore to the Supplier, referring to this GCC Clause 32.2:

- (i) if the Supplier becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Supplier is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Supplier takes or suffers any other analogous action in consequence of debt;

- (ii) if the Supplier assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 33 (Assignment); or
- (iii) if the Supplier, in the judgment of the Purchaser, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, including but not limited to willful misrepresentation of facts concerning ownership of Intellectual Property Rights in, or proper authorization and/or licenses from the owner to offer, the hardware, software, or materials provided under this Contract.

For the purposes of this Clause:

- (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (v) “obstructive practice” is
 - a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an 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

32.2.2. If the Supplier:

- (i) has abandoned or repudiated the Contract;
- (ii) has without valid reason failed to commence work on the System promptly;

- (iii) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;
- (iv) refuses or is unable to provide sufficient Materials, Services, or labor to execute and complete the System in the manner specified in the Agreed and Finalized Project Plan furnished under GCC Clause 12 at rates of progress that give reasonable assurance to the Purchaser that the Supplier can attain Operational Acceptance of the System by the Time for Achieving Operational Acceptance as extended;

then the Purchaser may, without prejudice to any other rights it may possess under the Contract, give a notice to the Supplier stating the nature of the default and requiring the Supplier to remedy the same. If the Supplier fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Purchaser may terminate the Contract forthwith by giving a notice of termination to the Supplier that refers to this GCC Clause 32.2.

32.2.3. Upon receipt of the notice of termination under GCC Clauses 32.2.1 or 32.2.2, the Supplier shall, either immediately or upon such date as is specified in the notice of termination:

- (i) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed or any work required to leave the site in a clean and safe condition;
- (ii) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 32.2.3 (iv) below;
- (iii) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;
- (iv) to the extent legally possible, assign to the Purchaser all right, title and benefit of the Supplier to the System or Subsystems as at the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;
- (v) deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as at the date of termination in connection with the System.

32.2.4. The Purchaser may enter upon the site, expel the Supplier, and complete the System itself or by employing any third party. Upon completion of the System or at such earlier date as the Purchaser thinks appropriate, the

Purchaser shall give notice to the Supplier that such Supplier's Equipment will be returned to the Supplier at or near the site and shall return such Supplier's Equipment to the Supplier in accordance with such notice. The Supplier shall thereafter without delay and at its cost remove or arrange removal of the same from the site.

32.2.5. Subject to GCC Clause 32.2.6, the Supplier shall be entitled to be paid the Contract Price attributable to the portion of the System executed as at the date of termination and the costs, if any, incurred in protecting the System and in leaving the site in a clean and safe condition pursuant to GCC Clause 32.2.3 (i). Any sums due the Purchaser from the Supplier accruing prior to the date of termination shall be deducted from the amount to be paid to the Supplier under this Contract.

32.2.6. If the Purchaser completes the System, the cost of completing the System by the Purchaser shall be determined. If the sum that the Supplier is entitled to be paid, pursuant to GCC Clause 32.2.5, plus the reasonable costs incurred by the Purchaser in completing the System, exceeds the Contract Price, the Supplier shall be liable for such excess. If such excess is greater than the sums due the Supplier under GCC Clause 32.2.5, the Supplier shall pay the balance to the Purchaser, and if such excess is less than the sums due the Supplier under GCC Clause 32.2.5, the Purchaser shall pay the balance to the Supplier. The Purchaser and the Supplier shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

32.3. Termination by Supplier

32.3.1. If,

- (i) the Purchaser has failed to pay the Supplier any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause **pursuant to the SCC**, or commits a substantial breach of the Contract, the Supplier may give a notice to the Purchaser that requires payment of such sum, with interest on this sum as stipulated in GCC Clause 7.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Purchaser to remedy the same, as the case may be. If the Purchaser fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Supplier's notice; or

- (ii) the Supplier is unable to carry out any of its obligations under the Contract for any reason attributable to the Purchaser, including but not limited to the Purchaser's failure to provide possession of or access to the site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the System;

then the Supplier may give a notice to the Purchaser of such events, and if the Purchaser has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Supplier is still unable to carry out any of its obligations under the Contract for any reason attributable to the Purchaser within twenty-eight (28) days of the said notice, the Supplier may by a further notice to the Purchaser referring to this GCC Clause 32.3.1, forthwith terminate the Contract.

32.3.2. The Supplier may terminate the Contract immediately by giving a notice to the Purchaser to that effect, referring to this GCC Clause 32.3.2, if the Purchaser becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Purchaser takes or suffers any other analogous action in consequence of debt.

32.3.3. If the Contract is terminated under GCC Clauses 32.3.1 or 32.3.2, then the Supplier shall immediately:

- (i) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;
- (ii) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to Clause 32.3.3 (iv) (b);
- (iii) remove all Supplier's Equipment from the site and repatriate the Supplier's and its Subcontractor's personnel from the site.
- (iv) In addition, the Supplier, subject to the payment specified in GCC Clause 32.3.4, shall:
 - a) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;

- b) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystems, as of the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;
- c) to the extent legally possible, deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

32.3.4. If the Contract is terminated under GCC Clauses 32.3.1 or 32.3.2, the Purchaser shall pay to the Supplier all payments specified in GCC Clause 32.1.3, and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Supplier arising out of, in connection with, or in consequence of such termination.

32.3.5. Termination by the Supplier pursuant to this GCC Clause 32.3 is without prejudice to any other rights or remedies of the Supplier that may be exercised in lieu of or in addition to rights conferred by GCC Clause 32.3.

32.4. In this GCC Clause 32, the expression “portion of the System executed” shall include all work executed, Services provided, and all Information Technologies, or other Goods acquired (or subject to a legally binding obligation to purchase) by the Supplier and used or intended to be used for the purpose of the System, up to and including the date of termination.

32.5. In this GCC Clause 32, in calculating any monies due from the Purchaser to the Supplier, account shall be taken of any sum previously paid by the Purchaser to the Supplier under the Contract, including any advance payment paid pursuant to the SCC.

33. Assignment

33.1. Neither the Purchaser nor the Supplier shall, without the express prior written consent of the other, assign to any third party the Contract or any part thereof, or any right, benefit, obligation, or interest therein or thereunder, except that the Supplier shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

34. Notices

34.1. Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing and shall be sent, pursuant to GCC Clause 34.3 below, by personal delivery, airmail post, special courier, cable, telegraph, telex,

facsimile, electronic mail, or Electronic Data Interchange (EDI), with the following provisions.

34.1.1. Any notice sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be confirmed within two (2) days after dispatch by notice sent by airmail post or special courier, except as otherwise specified in the Contract.

34.1.2. Any notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped, and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

34.1.3. Any notice delivered personally or sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be deemed to have been delivered on the date of its dispatch.

34.1.4. Either party may change its postal, cable, telex, facsimile, electronic mail, or EDI addresses for receipt of such notices by ten (10) days' notice to the other party in writing.

34.2. Notices shall be deemed to include any approvals, consents, instructions, orders, certificates, information and other communication to be given under the Contract.

34.3. Pursuant to GCC Clause 6, notices from/to the Purchaser are normally given by, or addressed to, the Project Manager, while notices from/to the Supplier are normally given by, or addressed to, the Supplier's Representative, or in its absence its deputy if any. If there is no appointed Project Manager or Supplier's Representative (or deputy), or if their related authority is limited by the SCC for GCC Clauses 6.1 or 6.2.2, or for any other reason, the Purchaser or Supplier may give and receive notices at their fallback addresses. The address of the Project Manager and the fallback address of the Purchaser are as **specified in the SCC** or as subsequently established/amended. The address of the Supplier's Representative and the fallback address of the Supplier are as specified in Appendix 1 of the Contract Agreement or as subsequently established/amended.

NOTES ON PREPARING THE SPECIAL CONDITIONS OF CONTRACT (SCC)

The SCC are analogous to the Bid Data Sheet (BDS) in that they are used to specify in one place all the important information, deletions, changes, and additions relating to a standard part of the Bidding Documents necessary to provide proper contractual coverage for a particular Information System (System). In this instance, the deletions, changes, and additions relate to the General Conditions of Contract (GCC). Users should avoid in general, however, introducing major changes to the GCC. The standard GCC provisions provide a balanced framework within which a System can be supplied and installed that is fair to both the Purchaser and the successful Bidder.

As for the BDS, illustrative sample text and explanatory notes are provided for each Special Condition to assist the Purchaser in preparing more appropriate and focused SCC. Much of the sample text may be adopted directly. The Purchaser may have to modify or expand the suggested text, however, to accommodate the specific circumstances of the Purchaser, the Purchaser's Country and/or the System the Purchaser wishes to procure. In particular, the Purchaser must ensure that the SCC clearly and completely specify:

- (a) all the Contract-specific information that the GCC explicitly state will be specified in the SCC (e.g., governing law and language, names of the Purchaser and the Supplier, currency(ies) of payment);
- (b) any modifications to the GCC that are required so that the Contract fits the specific circumstances of the System (e.g., details of the operational acceptance tests that will be carried out or the specific nature of any maintenance service obligations that the Supplier will have to carry out);
- (c) any GCC clause, sub-clause that is non-applicable and should be deleted; and
- (d) any additional Contract conditions called for by the specific nature of the procurement and the risks associated with it, which are not adequately covered by the standard GCC.

Since the SCC complete, complement, and extend the GCC, the structure of the SCC presented here is designed to mirror that of the GCC themselves. For ease of use, most, if not all SCC clauses should be explicitly linked to specific standard GCC clauses and sub-clauses and be presented in the same sequence. The Purchaser should take great care to maintain and verify the accuracy of all cross references used linking the two sections. Also, in preparing the SCC, the Purchaser should avoid at all costs introducing duplications and/or contradictions between the SCC and the GCC. When such contradictions occur, the SCC prevail over the GCC, but in the process they create ambiguity and confusion that can undermine the Purchaser's ability to exercise its rights under the Contract. In addition to maintaining the harmony between the SCC and the GCC, the Purchaser should also ensure that the Technical Requirements (and the Implementation Schedule that is part of the Technical Requirements) and the SCC remain internally consistent.

These SBD are written so that a single Contract can cover, if needed, all the supply and service responsibilities potentially required throughout the life-cycle of a typical Information System, including:

- (a) The period covering the supply, Delivery, Pre-commissioning, Installation, Commissioning, and Operational Acceptance of the System;
- (b) The Warranty Period, following Operational Acceptance, during which the System is in use and the Supplier remains liable for the repair of any defects that are discovered in the System, and to provide any other Services specified in these SCC; and
- (c) The Post-Warranty Services Period, during which the Supplier is obligated to provide those Goods and Services that were: (i) identified in the Recurrent Cost Sub-Table and (ii) specified in Clause 7.3 of the SCC as obligations of the Supplier. These obligations may include, for example: providing software licenses annually, emergency repair and other technical support, hardware and software maintenance, etc.

In addition to specifying these items in the Recurrent Cost Sub-Table of the Bidding Document and incorporating them into the bid evaluation process specified in the ITB and BDS, the Purchaser must also specify the technical and other features of these recurrent obligations in the Technical Requirements and/or the SCC. For example, the coverage period, the required response times, and how the maintenance services are carried out all need to be defined.

Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions of the SCC shall prevail over those in the General Conditions of Contract. For the purposes of clarity, any referenced GCC clause numbers are indicated in the left column of the SCC.

Note: The following are sample clauses. The Purchaser must complete, modify, add, or delete the following sample SCC clauses as appropriate. If a GCC clause is not applicable to the specific procurement, then add a clause to the SCC stating that the specific GCC clause is deleted. Also, whenever the GCC does not cover an important contractual matter, then add a suitable clause or clauses, in the most appropriate place in the SCC.

A. CONTRACT AND INTERPRETATION

1. Definitions (GCC Clause 1)

GCC 1.1.2 (i)	The Purchaser is: Meru University of Science and Technology
GCC 1.1.2 (ii)	The Project Manager is: Ag. Vice Chancellor, Meru University of Science and Technology
GCC 1.1.5 (i)	The Purchaser's Country is: Kenya
GCC 1.1.5 (iii)	The Project Site(s) is/are: as specified in the Implementation Schedule in the Technical Requirements Section.
GCC 1.1.5 (ix)	The Contract shall continue in force until the Information System and all the Services have been provided unless the Contract is terminated earlier in accordance with the terms set out in the Contract.
GCC 1.1.5 (xi)	The Post-Warranty Services Period shall be as defined in the support contract signed between the two parties starting with the completion of the Warranty Period.

2. Contract Documents (GCC Clause 2)

GCC 2	Applicable
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3. Interprétation (GCC Clause 3)

GCC 3.1.1	The Contract's governing language is English
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4. Governing Law (GCC Clause 4)

GCC 4.1	The Contract shall be interpreted in accordance with the laws of: Kenya
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A. PAYMENT

7. Terms of Payment (GCC Clause 7)

GCC 7.1	Subject to the provisions of GCC Clause 7 (Terms of Payment), the Purchaser shall pay the Contract Price to the Supplier according to the categories and in the manner specified below. Only the categories Advance Payment and Complete System Integration relate to the entire Contract Price. In other payment categories, the term "total Contract Price" means the total cost of goods or services under the specific payment category. Within each such category, the Contract Implementation Schedule may trigger pro-rata payments for the portion of the total Contract Price for the category corresponding to the goods or services actually Delivered, Installed, or Operationally Accepted, at unit prices and in the currencies specified in the Price Schedules of the Contract Agreement.
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	<i>Tender No: <u>MUST/011/2017-2018</u>– Supply, Installation, Testing and Commissioning of Campus ICT Network Infrastructure to Serve Meru University of Science and Technology.</i> Equipment supply, installation, Configuration and commissioning i) Payment upon the project consultant (KENET) issuing certificate with the amount due based on key deliverables: The certificate will be based on deliverables as follows; a. Equipment & material supply and delivery b. Installation & configuration milestones c. Commissioning and acceptance of the network ii) The supplier shall be paid within thirty (30) days after the date submission of the invoice based on the KENET certificate amount and approved by the Clients’ Contract Implementation Committee. Recurrent Costs i. This includes any support and maintenance costs which are recurrent in nature and the bidder should quote for one (1) support costs if any. Payment for support and maintenance will be done quarterly after completion of the maintenance exercise and submission of the maintenance report. ii. The cost of any licenses which will require regular payment should also be disclosed separately.
GCC 7.4	The Purchaser shall pay to the Supplier interest on the delayed payments at a rate of: LIBOR+1%per annum.

GCC 7.5	For Goods and Services supplied locally, the Purchaser will pay the Supplier in <i>the currency stated in the Contract Agreement and the Price Schedules it refers to.</i>
GCC 8.2.1	The Supplier shall provide within fourteen (14) days of the notification of Contract award an Advance Payment Security in the amount and currency of the Advance Payment specified in SCC for GCC Clause 7.1 above.
GCC 8.2.2	The reduction in value and expiration of the Advance Payment Security are calculated as follows: <i>[state, for example:</i> <i>$P*a/(100-a)$, where “P” is the sum of all payments effected so far to the Supplier (excluding the Advance Payment), and “a” is the Advance Payment expressed as a percentage of the Contract Price pursuant to the SCC for GCC 7.1</i>
GCC 8.3.1	The Performance Security shall be denominated in the currency of the Contract for an amount equal to 10% of the Contract excluding any Recurrent Costs.
GCC 8.3.4	During the Warranty Period (i.e., after Operational Acceptance of the System), the Performance Security shall be reduced to 1% of the Contract Price, excluding any Recurrent Costs.

8. Securities (GCC Clause 8)

GCC 9	Applicable
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9. Taxes and Duties (GCC Clause 9)

10. Confidential Information (GCC Clause 10)

A. SUPPLY, INSTALLATION, TESTING, COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

11. Representatives (GCC Clause 11)

GCC 11.1	The Purchaser's Project Manager shall have the following additional powers and / or limitations to his or her authority to represent the Purchaser in matters relating to the no additional powers or limitations.
GCC 11.2.2	The Supplier's Representative shall have the following additional powers and / or limitations to his or her authority to represent the Supplier in matters relating to the Contract no additional powers or limitations.

12. Project Plan (GCC Clause 12)

GCC 12.1	Chapters in the Project Plan shall address the following subject <i>a) Project Organization and Management Plan;</i> <i>b) Delivery and Installation Plan</i> <i>c) Responsibility Matrix</i> <i>d) Pre-commissioning and Operational Acceptance Testing Plan</i> <i>e) Warranty Service Plan</i> Further details regarding the required contents of each of the above chapters are contained in the Technical Requirements, Section.
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GCC 12.2	Within fourteen (14) days from the Effective Date of the Contract, the Supplier shall present a Project Plan to the Purchaser. The Purchaser shall, within seven (7) days of receipt of the Project Plan, notify the Supplier of any respects in which it considers that the Project Plan does not adequately ensure that the proposed program of work, proposed methods, and/or proposed Information Technologies will satisfy the Technical Requirements and/or the SCC (in this Clause 12.2 called “non-conformities” below). The Supplier shall, within five (5) days of receipt of such notification, correct the Project Plan and resubmit to the Purchaser. The Purchaser shall, within five (5) days of resubmission of the Project Plan, notify the Supplier of any remaining non-conformities. This procedure shall be repeated as necessary until the Project Plan is free from non-conformities. When the Project Plan is free from non-conformities, the Purchaser shall provide confirmation in writing to the Supplier. This approved Project Plan (“the Agreed and Finalized Project Plan”) shall be contractually binding on the Purchaser and the Supplier.
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GCC 12.5	The Supplier shall submit to the Purchaser the following reports: a) Weekly & Monthly progress reports, summarizing: (i) results accomplished during the prior period; (ii) cumulative deviations to date from schedule of progress milestones as specified in the Agreed and Finalized Project Plan; (iii) corrective actions to be taken to return to planned schedule of progress; proposed revisions to planned schedule; (iv) other issues and outstanding problems; proposed actions to be taken; (v) resources that the Supplier expects to be provided by the Purchaser and/or actions to be taken by the Purchaser in the next reporting period; (vi) other issues or potential problems the Supplier foresees that could impact on project progress and/or effectiveness. b) Quarterly progress reports, summarizing the items above over three months' reporting period.
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14. Design and Engineering (GCC Clause 14)

GCC 14.2	The Contract shall be executed in accordance with the edition or the revised version of all referenced codes and standards current at the date: as specified in the GCC.
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GCC 14.3.1	The Supplier shall prepare and furnish to the Project Manager the following documents for which the Supplier must obtain the Project Manager's approval before proceeding with work on the System or any Subsystem covered by the documents: (*) detailed site surveys; (*) final Subsystem design and configurations;
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15. Procurement, Delivery, and Transport (GCC Clause 15)

GCC 15.4.2	The Supplier <i>shall</i> be free to use transportation through carriers registered in any eligible country and obtain insurance from any eligible source country.
GCC 15.5	The Supplier shall provide the Purchaser with shipping and other documents as specified in the GCC.

16. Product Upgrades (GCC Clause 16)

GCC 16.1	The Supplier shall provide the Purchaser with product upgrades as specified in the GCC.

20. Commissioning and Operational Acceptance (GCC Clause 20)

GCC 20.2.1	Operational Acceptance Testing shall be conducted in accordance with System or the Subsystems, the tests, the test procedures, and the required results for acceptance
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GCC 20.2.3	If the Operational Acceptance Test of the System, or Subsystem(s), cannot be successfully completed within no more than sixty (60) days from the date of Installation or any other period agreed upon by the Purchaser and the Supplier, then GCC Clause 8.3.5 (i) or (ii) shall apply, as the circumstances may dictate.
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A. GUARANTEES AND LIABILITIES

21. Operational Acceptance Time Guarantee (GCC Clause 21)

GCC 21.2	Liquidated damages shall be assessed at 1% percent per week. The maximum liquidated damages are 10% of the Contract Price, or relevant part of the Contract Price if the liquidated damages apply to a Subsystem. Liquidated damages shall be assessed: only with respect to achieving Operational Acceptance

22. Defect Liability (GCC Clause 22)

GCC 22.1	For Software, exceptions or limitations to the Supplier's warranty obligations shall be as follows: None
GCC 22.3	The Supplier warrants that the following items have been released to the market for the following specific minimum time periods: No specific minimum time requirements are established for this Contract other than that the Information Technologies must have been previously released to the market

GCC 22.4	The Warranty Period (N) shall begin from the date of Operational Acceptance of the System or Subsystem and extend for: 12 months Warranties shall apply to both hardware/equipment and operating system/software and Meru University of Science and Technology will receive all software upgrades/patches for the 12 months warranty period from the manufacturers/OEMs
GCC 22.10	During the Warranty Period, the Supplier must commence the work necessary to remedy defects or damage within 1 working day of notification.

A. RISK DISTRIBUTION

25. Transfer of Ownership (GCC Clause 25)

GCC 25	There are no Special Conditions of Contract applicable to GCC Clause 25.
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26. Care of the System (GCC Clause 26)

GCC 26	There are no Special Conditions of Contract applicable to GCC Clause 26.
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27. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification (GCC Clause 27)

GCC 27	There are no Special Conditions of Contract applicable to GCC Clause 27.
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28. Insurances (GCC Clause 28)

GCC 28.1.1	Cargo Insurance is required during Transport covering the Goods from physical loss or damage during shipment through receipt at the Project Site for an amount equivalent to the value of the contract less the recurrent costs.
GCC 28.1.2	Installation “All Risks” Insurance is required covering the Goods at the site from all risks of physical loss or damage (excluding only perils commonly excluded under “all risks” insurance policies of this type by reputable insurers) occurring prior to Operational Acceptance of the System for an amount equivalent to the value of the contract less the recurrent costs.
GCC 28.1.3	Third-Party Liability Insurance from a duly registered insurance company in Kenya is required for an amount equivalent to KES 10 Million. i. The limit of liability arising from any one event is KES 10 Million. ii. The limit of liability in any one insurance period is KES 10 Million.
GCC 28.1.4	Professional Indemnity Cover is required for an amount equivalent to KES 5 Million. i. The limit of liability arising from any one event is KES 5 Million. ii. The limit of liability in any one insurance period is KES 5 Million.
GCC 28.1.5	There are no Special Conditions of Contract applicable to GCC Clause 28.1.5
GCC 28.1.6	Other Insurance (if any), as specified in the SCC .

29. Force Majeure (GCC Clause 29)

GCC 29	There are no Special Conditions of Contract applicable to GCC Clause 29.
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30. Changes to the System (GCC Clause 30)

GCC 30	There are no Special Conditions of Contract applicable to GCC Clause 30.
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31. Extension of Time for Achieving Operational Acceptance (GCC Clause 31)

GCC 31	There are no Special Conditions of Contract applicable to GCC Clause 31.
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32. Termination (GCC Clause 32)

GCC 32	There are no Special Conditions of Contract applicable to GCC Clause 32.
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33. Assignment (GCC Clause 33)

GCC 33	There are no Special Conditions of Contract applicable to GCC Clause 33.
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34. Notices (GCC Clause 34)

GCC 34.3	Address: Ag. VICE CHANCELLOR: Meru University of Science and Technology, P.O. BOX 972-60200, Meru, Kenya. Telephone: ++254 712524293 Email: procurement@must.ac.ke
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1. List of Goods and Related Services

The following items and quantities will be supplied:

1. 16kVA UPS
2. 16kVA AVR
3. 30kVA UPS
4. SFPs
5. 42U Cabinet
6. PDUs
7. Cable managers
8. 48-port CAT 6 patch panel
9. 12 port ODF
10. SC Female to SC female fiber connectors
11. SC Female to SC female fiber adapters
12. 1m copper patch cords
13. Indoor Access points
14. Indoor AP Power PoE Injector
15. CAT 6 UTP
16. Dual Data points
17. Standard IP phone
18. Metallic trunking
19. 12U Cabinet
20. Fiber Patch cords
21. Fiber conduit
22. 2kVA UPS
23. 5KVA UPS
24. 48-port CAT 6 patch panel
25. 21U Cabinet
26. Air Conditioning Unit
27. Outdoor Access points
28. Outdoor AP PoE Injector
29. Single Phase AVS
30. Fire extinguishers
31. HDPE ducts 4 inch in diameter
32. Fiber Warning tape
33. Fiber Route Concrete Mark Blocks
34. Fiber tray blanks
35. Flex conduit
36. Bends
37. Knockouts
38. Plastic PVC conduit

These items are summarized in the table below;

Table 1: List of items to be supplied and related services

1. Server Room

Item	Description	Quantity	Unit
UPS	30kVA UPS	1	Pieces
AVR	Three Phase AVR-16kVA	1	Pieces
Window Sealing		1	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	1	Pieces
Network Cabinet	42U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	12	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	12	Pieces
	1m copper patch cords	100	Pieces
Core Switch	Managed switch Mixed Media Gigabit Ethernet modules Port qty - 48 At least 4 SFP fiber ports Support for both fiber SFP transceivers and RJ-45 connectors Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging Power AC 120/230 V (50/60 Hz)	1	Pieces

2. Innovation Center

Innovation Center 3rd Floor			
Item	Description	Quantity	Unit
Outside Drawing Room (Passage)			

Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Indoor AP Power PoE Injector	Power supply or alternative DC power supply, 1 * 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX to Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
CAT 6 UTP	Siemon CAT 6 UTP	1	Box
	Mini-Trunking to AP	20	Meters
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	CAT 6 UTP Cable	1	Box
	200x50mm Metallic trunking	24	Meters
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2	2	Pieces

	Three SIP accounts with support for three way audio-conferencing		
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces

Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
IP Phones	CAT 6 UTP Cable	1	Box
	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Senior Lecturer Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters

	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Senior Lecturer Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Tutorial Fellows Office			
Structured Cabling	Dual Data points	11	Pieces
	200x50mm Metallic trunking	36	Meters
	CAT 6 UTP Cable	5	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP	11	Pieces

	• Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Meeting Room			
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Indoor Power Injector	AP PoE Power supply or alternative DC power supply,* 48 VDC ± 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Departmental Library			
Network Cabinet	12U cabinet (wall mount) with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	1	Pieces
	Cable managers	1	Pieces
	24-port CAT 6 patch panel	2	Pieces

	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	4	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	4	Pieces
	1m copper patch cords	48	Pieces
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	16	Meters
	CAT 6 UTP Cable	1	Box
Distribution/Access Switch	Managed switch Mixed media FastEthernet modules Port qty - 48 At least 2 SFP fiber ports Support for both fiber SFP transceivers and RJ-45 connectors Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging Power AC 120/230 V (50/60 Hz)	1	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	4	Pieces
Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords	6	Pieces
Fiber conduit	Optical fiber 1 inch PVC conduit	20	Meters
Fiber Cable to Ground Floor mini Server Room	Indoor fiber optic cable,single mode	30	Meters
UPS	2kVA UPS	1	Pieces
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports	1	Pieces

	Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Tutorial Fellows Office			
Structured Cabling	Dual Data points	9	Pieces
	200x50mm Metallic trunking	30	Meters
	CAT 6 UTP Cable	3	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	9	Pieces
Associate Prof. Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box

IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Associate Prof. Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Office			
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces

	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	5	Box
IP Phones	Standard IP phone	2	Pieces
Distribution/Access Switch	Managed switch 48 port with atleast 2 fibre SFP ports	2	Pieces
UPS	2kVA UPS	1	Pieces
Professor's Office			
Structured Cabling	Dual Data points	5	Pieces
	CAT 6 UTP Cable	2	Box
	200x50mm Metallic trunking	30	Meters
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Professor's Office			
Structured Cabling	Dual Data points	5	Pieces
	CAT 6 UTP Cable	2	Box
	200x50mm Metallic trunking	30	Meters
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP"	1	Pieces

	• Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Innovation Center 2nd Floor			
Item	Description	Quantity	Unit
Right Wing			
Structured Cabling	Dual Data Points	10	Pieces
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	4	Pieces
Center Wing			
Structured Cabling	Dual Data Points	8	Pieces
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2	3	Pieces

	Three SIP accounts with support for three way audio-conferencing		
Left Wing			
Structured Cabling	Dual Data Points	10	Pieces
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	4	Pieces
Office 1			
Structured Cabling	Dual Data Points	4	Pieces
	CAT 6 UTP	2	Boxes
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces
Server Room			
Structured Cabling	Dual Data Points	10	Pieces
IP Phone	Placement - Table top	4	Pieces

	• VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
UPS	16kVA	1	Pieces
Air Conditioning Unit	30000BTU High Wall Mounted Unit with relevant accessories	2	Pieces
AVS	Single Phase AVS	2	Pieces
	Three Phase AVR	1	Pieces
Fire Extinguisher	9kg carbon dioxide fire extinguishers	2	Pieces
Metallic Grill – Window		1	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	4	Pieces
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	12	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	12	Pieces
	1m copper patch cords	50	Pieces
	Managed switch	2	Pieces
	Mixed media GigabitEthernet modules	2	
Distribution/ Access Switch	Port qty - 48	2	
	At least 4 SFP fiber ports	2	

	Support for both fiber SFP transceivers and RJ-45 connectors	2	
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging	2	
	Power AC 120/230 V (50/60 Hz)	2	
Outdoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Outdoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Indoor AP PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45	1	Pieces

	Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X		
Innovation Center 1st Floor			
Item	Description	Quantity	Unit
Right Wing			
Structured Cabling	Dual Data Points	10	Pieces
	200x50mm Metallic trunking	28	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	4	Pieces
Center Wing			
Structured Cabling	Dual Data Points	8	Pieces
	200x50mm Metallic trunking	35	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet	3	Pieces

	- Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing		
Left Wing			
Structured Cabling	Dual Data Points	4	Pieces
	200x50mm Metallic trunking	31	Meters
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	3	Pieces
Registry			
Structured Cabling	Dual Data Points	6	Pieces
	200x50mm Metallic trunking	15	Meters
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 Three SIP accounts with support for three way audio-conferencing	2	Pieces
Registry 2			

Structured Cabling	Dual Data Points	2	Pieces
	200x50mm Metallic trunking	15	Meters
	CAT 6 UTP	2	Boxes
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Outdoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Outdoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC ± 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C	1	Pieces

	Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
P2P radio to Security booth	5GHz, 802.11a/n Hi-power 20 dBm Minimum, 2x2 MIMO ,with mounting Pole and brackets	2	Pieces
Innovation Center Ground Floor			
Item	Description	Quantity	Unit
Director's Office			
Structured Cabling	Dual Data Points	4	Pieces
	200x50mm Metallic trunking	24	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces

Entrepreneurship and Acceleration Hub			
Structured Cabling	Dual Data Points	6	Pieces
	200x50mm Metallic trunking	28	Meters
	CAT 6 UTP	3	Boxes
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 Three SIP accounts with support for three way audio-conferencing	3	Pieces
Conference Room			
Structured Cabling	Dual Data Points	3	Pieces
	200x50mm Metallic trunking	16	Meters
	CAT 6 UTP	3	Boxes
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C	1	Pieces

	Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 1 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Outdoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Outdoor AP Power PoE Injector	Power supply or alternative DC power supply,* 1 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces

3. Engineering Complex

Engineering Complex 2nd Floor			
Item	Description	Quantity	Unit
Outside Drawing Room (Passage)			
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
CAT 6 UTP	Siemon CAT 6 UTP	1	Box
	Mini-Trunking to AP	20	Meters
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	CAT 6 UTP Cable	1	Box
	200x50mm Metallic trunking	24	Meters
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP	2	Pieces

	• Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2	2	Pieces

	Three SIP accounts with support for three way audio-conferencing		
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
IP Phones	CAT 6 UTP Cable	1	Box
	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces
Lecturer Office			
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces
Senior Lecturer Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters

	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Senior Lecturer Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Tutorial Fellows Office			
Structured Cabling	Dual Data points	11	Pieces
	200x50mm Metallic trunking	36	Meters
	CAT 6 UTP Cable	5	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC	11	Pieces

	• "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	1	Pieces
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
Departmental Library			
Network Cabinet	12U cabinet (wall mount) with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	1	Pieces
	Cable managers	1	Pieces
	24-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	4	Pieces

	SC Female to SC female fiber adapters (panel-mountable)	4	Pieces
	1m copper patch cords	48	Pieces
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	16	Meters
	CAT 6 UTP Cable	1	Box
Distribution/Access Switch	Managed switch Mixed media FastEthernet modules Port qty - 48 At least 2 SFP fiber ports Support for both fiber SFP transceivers and RJ-45 connectors Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging Power AC 120/230 V (50/60 Hz)	1	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	4	Pieces
Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords	6	Pieces
Fiber conduit	Optical fiber 1 inch PVC conduit	20	Meters
Fiber Cable to Ground Floor mini Server Room	Indoor fiber optic cable,single mode	30	Meters
UPS	2kVA UPS	1	Pieces
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2	1	Pieces

	Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces

Tutorial Fellows Office

Structured Cabling	Dual Data points	9	Pieces
	200x50mm Metallic trunking	30	Meters
	CAT 6 UTP Cable	3	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	9	Pieces

Associate Prof. Office

Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC	1	Pieces

	• "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Associate Prof. Office			
Structured Cabling	Dual Data points	1	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	1	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Office			
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces

Structured Cabling	Dual Data points	2	Pieces
	200x50mm Metallic trunking	24	Meters
	CAT 6 UTP Cable	5	Box
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Distribution/Access Switch	Managed switch	2	Pieces
	Mixed media FastEthernet modules		
	Port qty - 48		
	At least 2 SFP fiber ports		
	Support for both fiber SFP transceivers and RJ-45 connectors		
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging		
	Power AC 120/230 V (50/60 Hz)		
UPS	2kVA UPS	1	Pieces
Professor's Office			
Structured Cabling	Dual Data points	5	Pieces
	CAT 6 UTP Cable	2	Box
	200x50mm Metallic trunking	30	Meters
IP Phones	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet	1	Pieces

	- Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing		
Professor's Office			
Structured Cabling	Dual Data points	5	Pieces
	CAT 6 UTP Cable	2	Box
	200x50mm Metallic trunking	30	Meters
IP Phones	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	1	Pieces
Engineering Complex First Floor			
PASSAGE WAY			
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	2	Pieces

Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	1	Pieces
CAT 6 UTP	Siemon CAT 6 UTP	1	Box
	Mini-Trunking to AP	20	Meters
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200mmx50mm Trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP	1	Pieces

	• Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Network Cabinet	12U cabinet (wall mount) with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	2	Pieces
	Cable managers	2	Pieces
	48-port CAT 6 patch panel	3	Pieces
	1m copper patch cords	50	Pieces
Distribution/Access Switch	Managed switch	1	Pieces
	Mixed media FastEthernet modules		
	Port qty - 48		
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging		
	Power AC 120/230 V (50/60 Hz)		
UPS	2kVA UPS	1	Pieces
Remote Sensing LAB			
Structured Cabling	CAT 6 UTP	5	Box
	Dual Data Points	20	Pieces
	200x50mm Metallic trunking	31	Meters
Survey and Photogrammetry LAB			
Structured Cabling	CAT 6 UTP	5	Box
	Dual Data Points	20	Pieces
	200x50mm Metallic trunking	26	Meters
Public Health Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	15	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP"	1	Pieces

	• Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 Three SIP accounts with support for three way audio-conferencing		
Public Health LAB			
Structured Cabling	CAT 6 UTP	6	Boxes
	Dual Data Points	25	Pieces
	200x50mm Metallic trunking	48	Meters
COD Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	15	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
SEC Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	15	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP"	1	Pieces

	• Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Exams Office			
Structured Cabling	CAT 6 UTP	1	Box
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet	1	Pieces

	- Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing		
Meeting Room			
Structured Cabling	Dual Data Points	4	Pieces
	200x50mm Metallic trunking	20	Meters
	CAT 6 UTP	2	Box
Geodetic LAB			
Structured Cabling	Dual Data Points	20	Pieces
	200x50mm Metallic trunking	30	Meters
	CAT 6 UTP	5	Box
Computer LAB			
Structured Cabling	Dual Data Points	30	Pieces
	200x50mm Metallic trunking	36	Meters
	CAT 6 UTP	6	Box
Engineering Complex Ground Floor			
PASSAGE WAY			
Indoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)	2	Pieces
Indoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	2	Pieces

CAT 6 UTP	Siemon CAT 6 UTP	1	Box
	Mini-Trunking to AP	20	Meters
STRUCTURAL LAB			
Structured Cabling	CAT 6 UTP	6	Box
	Dual Data Points	30	Pieces
	200mmx50mm Trunking	74	Meters
Office			
Structured Cabling	CAT 6 UTP	1	Box
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	1	Pieces
Office			
Structured Cabling	CAT 6 UTP	1	Box
	Dual Data Points	1	Pieces
	200mmx50mm Trunking	13	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet	1	Pieces

	- Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing		
COD Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	1	Pieces
Secretary COD Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	Standard IP Phone	1	Pieces
Office			
Structured Cabling	CAT 6 UTP	1	Box
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	Standard IP Phone	1	Pieces
Exams Office			
Structured Cabling	CAT 6 UTP	1	Box
	Dual Data Points	1	Pieces
	200x50mm Metallic trunking	13	Meters
IP Phone	Standard IP Phone	1	Pieces
Server Room			

Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	12	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	12	Pieces
	1m copper patch cords	100	Pieces
Distribution/Access Switch	Managed switch	2	Pieces
	Mixed media FastEthernet modules		
	Port qty - 48		
	At least 2 SFP fiber ports		
	Support for both fiber SFP transceivers and RJ-45 connectors		
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging		
	Power AC 120/230 V (50/60 Hz)		
UPS	2kVA UPS	1	Pieces
Meeting Room			
Structured Cabling	Dual Data Points	4	Pieces
	200mmx50mm Trunking	15	Meters
	CAT 6 UTP	2	Box
Soil LAB Office			
Structured Cabling	Dual Data Points	1	Pieces
	200mmx50mm Trunking	14	Meters
	CAT 6 UTP	1	Box
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2	1	Pieces

	Three SIP accounts with support for three way audio-conferencing		
Highway Eng. LAB Office			
Structured Cabling	Dual Data Points	1	Pieces
	200mmx50mm Trunking	15	Meters
	CAT 6 UTP	1	Box
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	1	Pieces
Highway Engineering LAB			
Structured Cabling	CAT 6 UTP	2	Box
	Dual Data Points	10	Pieces
	200mmx50mm Trunking	48	Meters
Engineering Complex Ground Floor			
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	2	Pieces
	200x50mm Metallic trunking	17	Meters
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet	2	Pieces

	• Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing		
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	2	Pieces
	200x50mm Metallic trunking	17	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2 • Three SIP accounts with support for three way audio-conferencing	2	Pieces
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	2	Pieces
	200x50mm Metallic trunking	17	Meters
IP Phone	• Placement - Table top • VOIP Protocols - SIP, SIP v2, SRTP • Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC • "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS • DSCP" • Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP • Network Interface - Dual-port Gigabit Ethernet • Power Method - Power over Ethernet (IEEE 802.3af), class 2	2	Pieces

	Three SIP accounts with support for three way audio-conferencing		
Office			
Structured Cabling	CAT 6 UTP	1	Boxes
	Dual Data Points	2	Pieces
	200x50mm Metallic trunking	17	Meters
IP Phone	- Placement - Table top - VOIP Protocols - SIP, SIP v2, SRTP - Voice Codecs - G.722, G.711(A/μ), G.729AB, G.726, iLBC "Quality of Service - IEEE 802.1Q (VLAN), IEEE 802.1p, , Layer 3 ToS - DSCP" - Network Protocols - DNS, HTTP, HTTPS, IP, SRTP, TFTP - Network Interface - Dual-port Gigabit Ethernet - Power Method - Power over Ethernet (IEEE 802.3af), class 2 - Three SIP accounts with support for three way audio-conferencing	2	Pieces

4. Fiber Layout

Fibre Backbone Layout			
Item	Description	Quantity	Unit
Underground duct	HDPE ducts 4 inch in diameter	1,934	Meters
Manholes & Cover	600x450x600	20	Pieces
Fiber Warning tape		1,934	Meters
Civil Works/Labour		1,934	Meters
Fiber Route Concrete Mark Blocks		15	Pieces
12 core armored fibre cable			
Fiber Cable from manhole into the building	From manhole to Existing server room(three cables 10m Each)	30.00	Meters
	From manhole to Innovation Center	20.00	Meters

	From manhole to Engineering Complex A	20.00	Meters
	From manhole to Engineering Complex B	20.00	Meters
	From manhole to Sheet Metal Workshop	20.00	Meters
	From manhole to Thermodynamics Workshop	20.00	Meters
	From manhole to Welding Workshop	20.00	Meters
	From manhole to Soil Mechanic	20.00	Meters
	From Engineering block A server room to Second Floor	40.00	Meters
	From Engineering block A server room to Second Floor	40.00	Meters
From Manhole to Manhole	Fiber to innovation from server room	970	Meters
	fiber to engineering complex 1	893	Meters
	fiber to engineering complex 1	1,003	Meters
	Fiber to workshops	1,271	Meters
	Fiber to Hostel A	400	Meters
	Fiber to Mount Kenya Hostel	400	Meters
Fiber Spurs from Sheet Metal Workshop	To Welding	180	Meters
	To Thermodynamics	108	Meters
	To Soil Mechanics	90	Meters

5. Hostels and Farm

HOSTEL A			
Distribution/Access Switch - 48 port	Minimum 48 RJ-45 autosensing 10/100/1000 PoE+ Gigabit Ethernet ports	1	Pieces
	Jumbo packet support		
	At least 4 SFP fiber ports		
	Dual-Personality (10/100/1000BASE-T or SFP) ports		
	Switching Capacity 176Gb/s		
	VLAN support and tagging — supports IEEE 802.1Q (4,094		

	VLAN IDs), minimum 256 VLANs simultaneously		
	Power AC 120/230 V (50/60 Hz)		
	100-240VAC, 50/60 Hz power supply with C13/C14 type power cord		
	Rapid Per-VLAN Spanning Tree (RPVST+) and IEEE 802.1s Multiple Spanning Tree		
	Rack mountable with mounting bracket or rails		
Network Cabinet & Accessories	12U cabinet with In-cabinet fans	0	Pieces
	At least 5-port Horizontal In-cabinet power points (PDUs)	1	Pieces
	Cable managers	4	Pieces
	24-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable with fully populated SC-SC adapters and connectors	3	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	3	Pieces
Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords	3	Pieces
Copper Patch cords	Factory terminated CAT 6 Siemon 1m patch cords		Pieces
Fiber conduit	PVC conduit to support 12 Core fiber Cable (1" in diameter)		Meters
UPS	5kVA UPS	1	Pieces
Structured cabling	Outdoor Siemon CAT6 STP Ethernet Cable	2	Boxes
	Metallic Trunking 150mmx25mm Dual compartment with knockout plates	6	Meters
	Dual Data points complete with pattrrese face plate and RJ45 modules	6	Pieces
Fibre tray blanks		3	Piece
Flex 30mm		50	Metres
Bends		25	Piece
Knockouts		6	Piece
Plastic PVC conduit (30 mm)		25	Piece
Outdoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C	2	Pieces

	Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Outdoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	2	Pieces
Mount Kenya Hostels			
Distribution/Access Switch - 48 port			
	Minimum 48 RJ-45 autosensing 10/100/1000 PoE+ GigabitEthernet ports	1	Pieces
	Jumbo packet support		
	At least 4 SFP fiber ports		
	Dual-Personality (10/100/1000BASE-T or SFP) ports		
	Switching Capacity 176Gb/s		
	VLAN support and tagging — supports IEEE 802.1Q (4,094 VLAN IDs), minimum 256 VLANs simultaneously		
	Power AC 120/230 V (50/60 Hz) 100-240VAC, 50/60 Hz power supply with C13/C14 type power cord		
	Rapid Per-VLAN Spanning Tree (RPVST+) and IEEE 802.1s Multiple Spanning Tree		

	Rack mountable with mounting bracket or rails		
Network Cabinet & Accessories	12U cabinet with In-cabinet fans	1	Pieces
	At least 5-port Horizontal In-cabinet power points (PDUs)	1	Pieces
	Cable managers	4	Pieces
	24-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable with fully populated SC-SC adapters and connectors	3	Pieces
SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	3	Pieces
Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords	3	Pieces
Copper Patch cords	Factory terminated CAT 6 Siemon 1m patch cords		Pieces
Fiber conduit	PVC conduit to support 12 Core fiber Cable (1" in diameter)		Meters
UPS	5kVA UPS	1	Pieces
Structured cabling	Outdoor Siemon CAT6 STP Ethernet Cable	2	Boxes
	Metallic Trunking 150mmx25mm Dual compartment with knockout plates	6	Meters
	Dual Data points complete with patch face plate and RJ45 modules	6	Pieces
Fibre tray blanks		3	Piece
Flex 30mm		50	Metres
Bends		25	Piece
Knockouts		6	Piece
Plastic PVC conduit (30 mm)		25	Piece
Outdoor Access points	Networking Interface - (2) 10/100/1000 Ethernet Ports Ports - (2) Ethernet RJ45, (1) USB Type C Antennas - (2) 2.4G internal single band antennas, dual polarity (2) 5G internal single band antennas, dual polarity Wi-Fi standards - 802.11a/b/g/n/ac/ac-wave2 Power Method - PoE 802.3at Power Supply - PoE Injector 48VDC -0.5A Gigabit Max TX Power - 25 dBm	2	Pieces

	BSSID - 4 Per Radio Software Controlled access point Wireless Security - WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)		
Outdoor AP Power PoE Injector	Power supply or alternative DC power supply,* 48 VDC $\pm$ 5%, 18 watts Max Cat 6 cable length: 100 m Type: RJ-45 Label: 100BASE-TX To Device Speed: 100 Mbps Duplex: Full Auto MDI-X	2	Pieces
Farm			
Distribution/Access Switch - 48 port	Minimum 48 RJ-45 autosensing 10/100/1000 PoE+ GigabitEthernet ports	1	Pieces
	Jumbo packet support		
	At least 4 SFP fiber ports		
	Dual-Personality (10/100/1000BASE-T or SFP) ports		
	Switching Capacity 176Gb/s		
	VLAN support and tagging — supports IEEE 802.1Q (4,094 VLAN IDs), minimum 256 VLANs simultaneously		
	Power AC 120/230 V (50/60 Hz)		
	100-240VAC, 50/60 Hz power supply with C13/C14 type power cord		
	Rapid Per-VLAN Spanning Tree (RPVST+) and IEEE 802.1s Multiple Spanning Tree		
	Rack mountable with mounting bracket or rails		
Network Cabinet & Accessories	12U cabinet with In-cabinet fans	1	Pieces
	At least 5-port Horizontal In-cabinet power points (PDUs)	1	Pieces
	Cable managers	4	Pieces
	24-port CAT 6 patch panel	1	Pieces
	12 port Optical distribution frame, rack mountable with fully populated SC-SC adapters and connectors	3	Pieces

SFPs	Single mode SFP transceiver modules for Gigabit Ethernet	3	Pieces
Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords	3	Pieces
UPS	2kVA UPS	1	Pieces
Structured cabling	Outdoor Siemon CAT6 STP Ethernet Cable	2	Boxes
	Metallic Trunking 150mmx25mm Dual compartment with knockout plates	20	Meters
	Dual Data points complete with pattrse face plate and RJ45 modules	6	Pieces
Flex 30mm		50	Metres
Bends		25	Piece
Plastic PVC conduit (30 mm)		4	Piece
Plastic RJ 45's		100	Piece
Point-to-Point	Ubiquiti Nanostation NSM5, 5GHz, 802.11a/n Hi-power 20 dBm Minimum, 2x2 MIMO AirMax TDMA PoE Station ,with mounting Pole and brackets	4	Piece

5. Computer Laboratory

Item	Description	Quantity	Unit
Tuition Block Ground Floor			
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces

	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces
	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
Distribution/Access Switch	Managed switch	2	Pieces
UPS	2kVA UPS	1	Pieces
Tuition Block First Floor			
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces
	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
Distribution/Access Switch	Managed switch	2	Pieces
UPS	2kVA UPS	1	Pieces
Tuition Block Second Floor			

Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces
	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
Distribution/Access Switch	Managed switch	2	Pieces
UPS	2kVA UPS	1	Pieces

Item	Description	Quantity	Unit
Tuition Block Ground Floor			
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces

	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces
	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
Distribution/Access Switch	Managed switch	2	Pieces
	Mixed media FastEthernet modules	2	
	Port qty - 48	2	
	At least 2 SFP fiber ports	2	
	Support for both fiber SFP transceivers and RJ-45 connectors	2	
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging	2	
	Power AC 120/230 V (50/60 Hz)	2	
UPS	2kVA UPS	1	Pieces
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces

Distribution/Access Switch	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
	Managed switch 48 port with atleast 2 SFP Ports	2	Pieces
	Mixed media FastEthernet modules	2	
	Port qty - 48	2	
	At least 2 SFP fiber ports	2	
	Support for both fiber SFP transceivers and RJ-45 connectors	2	
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging	2	
	Power AC 120/230 V (50/60 Hz)	2	
UPS	2kVA UPS	1	Pieces
Network Cabinet	21U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Pieces
	At least 10-port Horizontal In-cabinet power points (PDUs)	3	Pieces
	Cable managers	3	Pieces
	48-port CAT 6 patch panel	2	Pieces
	12 port Optical distribution frame, rack mountable	1	Pieces
	SC Female to SC female fiber connectors	8	Pieces
	SC Female to SC female fiber adapters (panel-mountable)	8	Pieces
	1m copper patch cords	100	Pieces
Structured Cabling	Dual Data points	55	Pieces
	200x50mm Metallic trunking	70	Meters
	CAT 6 UTP Cable	10	Box
	Managed switch	2	Pieces

Distribution/Access Switch	Mixed media FastEthernet modules	2	
	Port qty - 48	2	
	At least 2 SFP fiber ports	2	
	Support for both fiber SFP transceivers and RJ-45 connectors	2	
	Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging	2	
	Power AC 120/230 V (50/60 Hz)	2	
UPS	2kVA UPS	1	Pieces

Note

The supplier shall render the following services;

- i.** Installations, configurations, testing and commissioning of all supplied equipment at all sites
- ii.** The deepness of the fiber trenches **MUST** follow the slope of the ground
- iii.** A minimum of 1-year warranty on all the equipment supplied (after installation)
- iv.** Training of the users to effectively operate and manage the network
- v.** Local support-availability of local support for post-installation maintenance

2. Delivery and Implementation Schedule

NO.	Item Description	Quantity	Site	Quantity per site	Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1	30kVA UPS	1	Server Room	1	4 weeks	8 weeks	
2	16KVA UPS	1	Innovation Center	1	4 weeks	8 weeks	
3	Three Phase AVR-16kVA	2	Server Room	1	4 weeks	8 weeks	
4			Innovation Center	1	4 weeks	8 weeks	
5	AVS Single Phase AVS	1	Innovation Center	1	4 weeks	8 weeks	
6	Fire Extinguisher: 9kg carbon dioxide fire extinguishers	2	Innovation Center	2	4 weeks	8 weeks	
7	Window Sealing		Server Room		4 weeks	8 weeks	
8	Window grills		Innovation Center		4 weeks	8 weeks	
9	Single mode SFP transceiver modules for Gigabit Ethernet	1	Server Room	1	4 weeks	8 weeks	
10	42U cabinet with a minimum depth of 35 cm with In-cabinet fans	1	Server Room	1	4 weeks	8 weeks	
11	At least 10-port Horizontal In-cabinet power points (PDUs)	32	Server Room	3	4 weeks	8 weeks	
11		9	Engineering Complex	9	4 weeks	8 weeks	
11		7	Innovation Center	7	4 weeks	8 weeks	
11		4	Engineering Workshops	4	4 weeks	8 weeks	
11		9	Computer labs	9	4 weeks	8 weeks	

12		42	Server Room	3	4 weeks	8 weeks	
			Engineering Complex	9	4 weeks	8 weeks	
			Innovation Center	7	4 weeks	8 weeks	
	Cable managers		Engineering Workshops	6	4 weeks	8 weeks	
			Hostels	8	4 weeks	8 weeks	
			Farm		4 weeks	8 weeks	
			Computer Labs	9	4 weeks	8 weeks	
13		17	Server Room	1	4 weeks	8 weeks	
			Engineering Complex	6	4 weeks	8 weeks	
	48-port CAT 6 patch panel		Innovation Center	3	4 weeks	8 weeks	
			Engineering Workshops	1	4 weeks	8 weeks	
			Computer lab	6	4 weeks	8 weeks	
14		10	Engineering Complex	2	4 weeks	8 weeks	
			Innovation Center	2	4 weeks	8 weeks	
	24-port CAT 6 patch panel		Engineering Workshops	3	4 weeks	8 weeks	
			Hostels	2	4 weeks	8 weeks	
			Farm	1	4 weeks	8 weeks	
15		14	Server Room	1	4 weeks	8 weeks	
			Engineering Complex	3	4 weeks	8 weeks	
	12 port Optical distribution frame, rack mountable		Innovation Center	3	4 weeks	8 weeks	
			Engineering Workshops	4	4 weeks	8 weeks	
			Computer lab	3	4 weeks	8 weeks	
16		102	Server Room	12	4 weeks	8 weeks	
	SC Female to SC female fiber connectors		Engineering Complex	24	4 weeks	8 weeks	
			Innovation Center	24	4 weeks	8 weeks	

16		108	Engineering Workshops	18	4 weeks	8 weeks	
16		108	Computer Lab	24	4 weeks	8 weeks	
17		108	Server Room	12	4 weeks	8 weeks	
17		108	Engineering Complex	24	4 weeks	8 weeks	
17	SC Female to SC female fiber adapters (panel-mountable)	108	Innovation Center	24	4 weeks	8 weeks	
17		108	Engineering Workshops	18	4 weeks	8 weeks	
17		108	hostels	6	4 weeks	8 weeks	
17		108	Farm	0	4 weeks	8 weeks	
17		108	Computer Labs	24	4 weeks	8 weeks	
18		1446	Server Room	100	4 weeks	8 weeks	
18		1446	Engineering Complex	298	4 weeks	8 weeks	
18		1446	Innovation Center	198	4 weeks	8 weeks	
18	1m copper patch cords	1446	Engineering Workshops	250	4 weeks	8 weeks	
18		1446	Hostels	200	4 weeks	8 weeks	
18		1446	Farm	100	4 weeks	8 weeks	
18		1446	Computer Labs	300	4 weeks	8 weeks	
19	Core Switch	1	Server Room	1	4 weeks	8 weeks	
20		15	Engineering Complex	7	4 weeks	8 weeks	
20	Indoor Access points	15	Innovation Center	4	4 weeks	8 weeks	
20		15	Engineering Workshops	4	4 weeks	8 weeks	
20		15	Hostels	0	4 weeks	8 weeks	
20		15	Farm	0	4 weeks	8 weeks	
21		15	Engineering Complex	7	4 weeks	8 weeks	
21	Indoor AP Power PoE Injector	15	Innovation Center	4	4 weeks	8 weeks	
21		15	Engineering Workshops	4	4 weeks	8 weeks	

22	Outdoor Access points	7	Innovation Center	3	4 weeks	8 weeks	
22			Hostels	2	4 weeks	8 weeks	
22			Farm	2	4 weeks	8 weeks	
23	Outdoor Power Injector	7	Innovation Center	3	4 weeks	8 weeks	
23			Hostels	2	4 weeks	8 weeks	
23			Farm	2	4 weeks	8 weeks	
24	Standard phone	158	Engineering Complex	59	4 weeks	8 weeks	
24			Innovation Center	75	4 weeks	8 weeks	
24			Engineering Workshops	24	4 weeks	8 weeks	
25	Dual Data points	590	Engineering Complex	202	4 weeks	8 weeks	
25			Innovation Center	133	4 weeks	8 weeks	
25			Engineering Workshops	72	4 weeks	8 weeks	
25			Hostels	12	4 weeks	8 weeks	
25			Farm	6	4 weeks	8 weeks	
25			Computer lab	165	4 weeks	8 weeks	
26	12U Cabinet	8	Engineering Complex	2	4 weeks	8 weeks	
26			Innovation Center	1	4 weeks	8 weeks	
26			Engineering Workshops	2	4 weeks	8 weeks	
26			Hostels	1	4 weeks	8 weeks	
27	21U cabinet	7	Farm	1	4 weeks	8 weeks	
27			Engineering Complex	2	4 weeks	8 weeks	
27			Innovation Center	2	4 weeks	8 weeks	
28	Distribution Switch	24	Computer lab	3	4 weeks	8 weeks	
28			Engineering Complex	6	4 weeks	8 weeks	
28			Innovation Center	4	4 weeks	8 weeks	

28		24	Engineering Workshops	5	4 weeks	8 weeks	
28		24	Hostels	2	4 weeks	8 weeks	
28		24	Farm	1	4 weeks	8 weeks	
28		24	Computer Labs	6	4 weeks	8 weeks	
29		34	Engineering Complex	4	4 weeks	8 weeks	
29		34	Innovation Center	8	4 weeks	8 weeks	
29	SFP	24	Engineering Workshops	16	4 weeks	8 weeks	
29		24	Hostels	6	4 weeks	8 weeks	
29		24	Farm	0	4 weeks	8 weeks	
30		18	Engineering Complex	6	4 weeks	8 weeks	
30	Fiber Patch cords SC-LC single mode	18	Innovation Center	6	4 weeks	8 weeks	
30		18	Hostels	6	4 weeks	8 weeks	
30		18	Farm	0	4 weeks	8 weeks	
31		40	Engineering Complex	20	4 weeks	8 weeks	
31	Fiber conduit	40	Innovation Center	20	4 weeks	8 weeks	
31		40	Engineering Workshops	0	4 weeks	8 weeks	
31		40	Hostels	0	4 weeks	8 weeks	
32	Indoor fiber optic cable single mode	60	Engineering Complex	30	4 weeks	8 weeks	
32		60	Innovation Center	30	4 weeks	8 weeks	
33		10	Engineering Complex	4	4 weeks	8 weeks	
33	2kVA UPS	10	Innovation Center	2	4 weeks	8 weeks	
33		10	Farm	1	4 weeks	8 weeks	
33		10	Computer lab	3	4 weeks	8 weeks	
34	5KVA UPS	2	Hostels	2	4 weeks	8 weeks	
35	P2P Radio:	6	Innovation Center	2	4 weeks	8 weeks	
35		6	Farm	4	4 weeks	8 weeks	

36	CAT 6 Cable	150			4 weeks	8 weeks	
37	12 core Outdoor Armored Cable	4765			4 weeks	8 weeks	
38	HDPE Ducts	1,934			4 weeks	8 weeks	
39	Fiber Warning Tape	1,934			4 weeks	8 weeks	
40	Manholes 600x450x600	20			4 weeks	8 weeks	
41	Fiber Route Concrete Mark Blocks	15			4 weeks	8 weeks	

Note

Goods will be inspected at the supplier's premises before final delivery to the site (Meru University of Science and Technology).

3. Technical Solution

The physical topology below (Figure 1) depicts the physical connection of the network elements of the proposed network development for the institution. The network will have one core switch, distribution switches and access switches located at various buildings within the institution. Traffic will flow from the access network to the core network via the distribution switches. Every network segment will have its own IP subnet associated to a VLAN and the inter-VLAN routing will be used to accomplish communication among different VLANs of the various network segments. The proxy server will demarcate the internal and external networks. Traffic exiting to the Internet will pass through the proxy server.

The wireless users will have paraphrase for authentication during the initial implementation. Student and staff SSIDs will be used to separate student and staff traffic.

The solution to be provided should allow future growth, resilience and scalability and should comply with the institutional network policies and implementations.

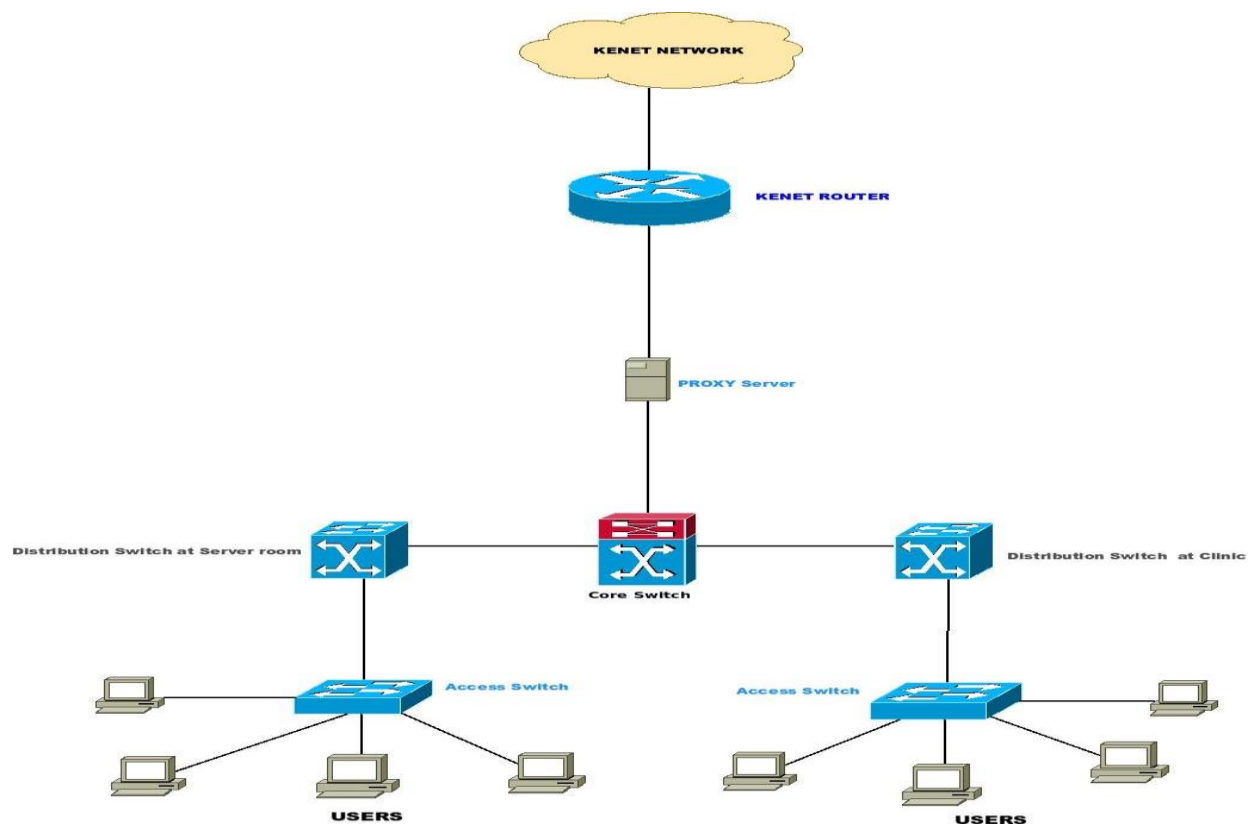


Figure 1: Technical Solution

3. Site surveys

Meru University of Science and Technology requests that all the interested bidders carry out a **MANDATORY** site survey **BEFORE** submission of their proposal. (See Annex)

The bidder **should** attach signed site survey forms as part of their bid proposal. The date of the site survey will be agreed on during the pre-bid meeting.

4. Operational Requirements and Technical Specifications

4.1. General

4.1.1. These specifications describe the requirements for goods. Tenderers are requested to submit with their offers the detailed specifications, drawings, catalogues, etc. for the products they intend to supply

4.1.2. Tenderers must indicate on the specifications sheets whether the equipment offered comply with each specified requirement.

4.1.3. All the dimensions and capacities of the equipment to be supplied shall not be less than those required in these specifications. Deviations from the basic requirements, if any shall be explained in detail in writing with the offer, with supporting data such as calculation sheets, etc. The procuring entity reserves the right to reject the products, if such deviations shall be found critical to the use and operation of the products.

4.1.4. The tenderers are requested to present information along with their offers as follows:

- i. Shortest possible delivery period of each product
- ii. Information on proper representative and/or workshop for back-up service/repair and maintenance including their names and addresses.

1.2. Scope definition and Operational Requirements of Network Equipment Installation.

The supplier shall consider the following requirements in the scope of the proposal;

- i. It is the responsibility of the supplier to provide the mounting materials (metallic poles and brackets) and any other accessories that will make the solution to work. The supplier will run necessary cabling (data and power) from the Access Points to the distribution switches and carry out termination (see section VII for detailed drawing).
- ii. Access points will be mounted at the locations defined and specified in the Delivery and Implementation schedules above.

- iii. Most of the identified locations have distribution switches where the APs will be integrated on the existing network. For locations where the switches are not available, the supplier will provide the quotation for these items as shown in the list of items to be supplied.
- iv. The supplier shall configure the wireless network using the IPs that shall be allocated by the institution for smooth integration with the existing campus network.
- v. The supplier shall consider extension of power to feed the access points and all the active devices (switches, servers) supplied where necessary. The supplier shall ensure the active devices are served by clean and stable power.
- vi. Where there is no backhaul to the existing network, the bidder will provide backhaul capabilities for carrying traffic into the existing network.

1.3. WLAN Implémentation

Implementation of the WLAN shall include physical cable, active devices, passive devices, logical network as well as trunking of the physical cables.

- i. The supplier shall elaborate and develop the actual requirements for physical network cabling and implementation.
- ii. The supplier shall supply, install and test the network equipment including network switches, wireless access points, servers and power supply systems' amongst others.
- iii. Logical network installation and configuration shall be done by the supplier and shall entail the network setup and integration upon successful implementation. This not only includes details of layer 2 isolation of users but also lays out a scalable and robust IP network setup.

1.4. Cabling

The implementation will include the pulling of cable from the closest access switch on the network to the access points. Since the access points will be placed at the point where they will offer maximum coverage, and this may involve running cables across the room and the cables should be hidden and fastened including using cable trunking.

4.2. Network Equipment and Installation

Installation of network equipment will include where necessary, installation of network switches with necessary terminations, Wi-Fi access points amongst others.

4.3. Logical Network Implementation and Configuration

The existing logical network is divided into three (3) main layers:

- i.** Core Layer
- ii.** Distribution layer
- iii.** Access Layer

The access layer consists of network devices (Switches & Access Points) where computers and other end user devices connect to. The distribution layer will consist of network switches that connect several access switches. All distribution switches must be manageable with 802.1q VLAN support. Finally, the core layer will be responsible for aggregating all traffic from distribution switches as well as implement Inter-VLAN routing, VLAN security among others. The logical network should be implemented on the switching layer using virtual LAN's on the network switches. Traffic should be isolated so that they appear to be on separate networks using 802.1q VLAN tagging. The Implementation will strictly follow the IP address scheme that shall be provided and the VLANs already put in place

These VLANs should be configured on core and distribution network switches and will enable different traffic of different SSIDs in different locations to be in the same network but not on the same network with staff or other devices on the network.

Inter-VLAN communication will be achieved using Layer 3 Inter-VLAN routing. This will be done using a Layer 3 switch.

1.7. WLAN Monitoring

WLAN management software will be required to monitor the access points and all the WLAN devices. This system will enable Meru University of Science and Technology to identify and resolve wireless network infrastructure problems before they affect critical business processes. It should be able to monitor systems, applications, services and

business processes and give reports of network usage. In addition is should be able to issue alerts via email and SMS to the technical team in the event of a failure. Tenderers **MUST** provide the software at no cost.

4.4. Power Supply

The Bidder is required to extend power from the closest point to power all the supplied devices.

4.5. Technical Information of the Products

The bidder shall provide all the technical information related to the products to be supplied including but not limited to data sheets.

6. Technical Specification of the Equipment

Technical quality of the Solution offered is mandatory. All items must meet the technical requirements and specifications.

1.	Access Switch	The access switches MUST support the following features:
		1. Managed switch
		2. Mixed media Gigabit Ethernet modules
		3. 48 ports Gigabit Ethernet
		4. Non-Combo Two Gigabit SFP ports for fiber connectivity
		5. Support for both fiber SFP transceivers and RJ-45 connectors
		6. Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging
		7. Power AC 120/230 V (50/60 Hz)
		8. Power over Ethernet (PoE) support
2.	Core Swicth	Minimum 48 RJ-45 autosensing 10/100/1000 PoE+ GigabitEthernet ports, Jumbo packet support, At least 4 SFP fiber ports Dual-Personality (10/100/1000BASE-T or SFP) ports, Switching Capacity 176Gb/s, VLAN support and tagging — supports IEEE 802.1Q (4,094 VLAN IDs), minimum 256 VLANs simultaneously, Power AC 120/230 V (50/60 Hz), 100-240VAC, 50/60 Hz power supply with C13/C14 type power cord, Rapid Per-VLAN Spanning Tree (RPVST+) and IEEE 802.1s Multiple Spanning Tree, Rack mountable with mounting bracket or rails

3.	42U,21U,12U Network Cabinet	The 42U,21U,12U Network cabinets to be supplied MUST be of the following specification
		1. minimum depth of 35 cm
		2. At least 10-port Horizontal In-cabinet power points
		3. In-cabinet fans
4.	Indoor Wireless Access Point	The Indoor Wireless Access point MUST support the following features:
		1. Indoor 802.11b/g/n Wireless Access Point
		2. Capable of achieving at least 54 Mbps
		3. Can be mounted on the wall and secured
		4. AP operation modes: Autonomous and controlled
		5. IEEE802.3af PoE compliant with either IEEE802.3af POE injector for Gigabit Ethernet or External power supply.
		6. At least 2 (two) networking Interfaces 10/100/1000 Ethernet Ports
		7. Security provided supporting IEEE802.1x
		8. Security provided supporting WEP (64/128/152 bit), WPA-PSK, WPA-TKIP, WPA2, MAC, 802.11i
		9. Address Filtering, Wireless LAN
		10. Segmentation and Disable SSID Broadcast
		11. Each AP Management via a web-based configuration utility and telnet.
		12. Support VLANs IEEE802.1q
		13. Support multiple SSIDs. At least 4 SSIDs
		14. MUST be securely mounted. Provide all necessary mounting accessories including the secure cage.
		15. Can support 200+ concurrent users
		16. Antennas: 2.4 GHz-> 3 Integrated (Supports 3x3 MIMO with Spatial Diversity); 5 GHz- 2 Integrated (Supports 2x2 MIMO with Spatial Diversity)

		17. Maximum power consumption 12W
		18. Maximum transmit power 2.4Ghz-30dBm, 5Ghz - 22dBm
		19. Supports guest traffic isolation
5.	Indoor Wireless Power Injector	The Indoor Wireless Power Injector Must be compatible with the Indoor Wireless access point supplied as per the manufacturer's specifications
6.	Out door Access Point	The Outdoor Wireless Access point MUST support the following features: 1. Indoor 802.11b/g/n Wireless Access Point 2. Capable of achieving at least 54 Mbps 3. Can be mounted on the wall and secured 4. AP operation modes: Autonomous and controlled 5. IEEE802.3af PoE compliant with either IEEE802.3af POE injector for Gigabit Ethernet or External power supply. 6. At least 2 (two) networking Interfaces 10/100/1000 Ethernet Ports 7. Security provided supporting IEEE802.1x 8. Security provided supporting WEP (64/128/152 bit), WPA-PSK, WPA-TKIP, WPA2, MAC, 802.11i 9. Address Filtering, Wireless LAN 10. Segmentation and Disable SSID Broadcast 11. Each AP Management via a web-based configuration utility and telnet. 12. Support VLANs IEEE802.1q 13. Support multiple SSIDs. At least 4 SSIDs 14. MUST be securely mounted. Provide all necessary mounting accessories including the secure cage. 15. Can support 200+ concurrent users

		16. Antennas: 2.4 GHz-> 3 Integrated (Supports 3x3 MIMO with Spatial Diversity); 5 GHz- 2 Integrated (Supports 2x2 MIMO with Spatial Diversity) 17. Maximum power consumption 12W 18. Maximum transmit power 2.4Ghz-30dBm, 5Ghz - 22dBm 19. Supports guest traffic isolation
7.	Outdoor AP Power Injector	The Outdoor Wireless Power Injector Must be compatible with the Indoor Wireless access point supplied as per the manufacturer's specifications
8.	SFPs	The SFPs MUST support the following features: Single mode SFP transceiver modules for Gigabit Ethernet 1. SC-LC single mode fiber patch duplex cords
9.	1m Copper patch cords	The patch cords to be supplied MUST be: 1. CAT6 UTP copper cable
10.	Cable managers	The cable managers MUST have the following features: 1. Dimension of 88.1 x 482.6 x 95.3mm 2. Curved fingers 3. Integral bend radius control 4. Slack management control 5. Integral wire retainers 6. 3/8" spacing between the fingers
11.	12-port CAT 6 patch panel	The copper patch panels include the following: 12-port CAT 6 patch panel
12.	In-Cabinet Power Points(PDUs) (power strip)	The in-cabinet power points (power strips) MUST support the following features: 1. Rack mountable 2. Standard plug-in outlets 3. Surge protection to protect power spikes 4. Circuit breaker to protect overload

		5. 3 inch 10 outlets
13.	48 port ODF	1. 48 port Optical distribution frame, rack mountable The Optical distribution frame MUST support the following features: 1. 48 port Optical distribution frame, rack mountable 2. 48 Duplex port Optical distribution frame, rack mountable with fully populated SC Female to SC female fiber Adapters and pig tails
14.	24 port ODF	The Optical distribution frame MUST support the following features: 1. 24 port Optical distribution frame, rack mountable 2. 24 Duplex port Optical distribution frame, rack mountable with fully populated SC Female to SC female fiber Adapters and pig tails
15.	Fiber conduit/ducts HDPE at least 4 inches in Diameter	The fiber cable conduits MUST support the following features: 1. Meet the size and lengths specified in the technical specifications for the relevant site and MUST be HDPE
16.	Trunking	The trunking MUST meet the following 2. Metallic trunking MUST meet all the dimensions and lengths specified in the technical specifications
17.	PVC conduits	The PVC conduits MUST meet the dimensions and lengths specified in the technical specifications
18.	Cat 6 UTP Cable	The UTP cables supplied MUST be: 1. CAT 6 UTP 2. Meet all the cable lengths as specified in the technical specification per site
19.	Cat 6 Outdoor UTP Cable	The UTP cables supplied MUST be: 1. CAT 6 Outdoor UTP 2. Meet all the cable lengths as specified in the technical specification per site

20.	Cable managers	Shall the cable managers have the following features: 1. Dimension of 88.1 x 482.6 x 95.3mm 2. Curved fingers 3. Integral bend radius control 4. Slack management control 5. Integral wire retainers 6. 3/8" spacing between the fingers			
21.	Armored Fiber Cable	The fiber cables supplied be: 1. Armored fiber optic cable, 12-core, single mode			
22.	Fiber Patch cords	3m SC-LC single mode fiber patch duplex cords/pigtails			
23.	Fiber Trenches	The fiber trenches MUST be 1.2 Metres in depth			
24.	Fiber manholes	The fiber manholes MUST be 600x450x600 and the covers of the manholes MUST be labelled FIBER			
25.	Fiber Warning tapes	The fiber warning tapes MUST be buried 1.5ft deep			
26.	Fiber Flex conduits	The fiber flex conduit should meet the lengths as specified in the technical specification per site			
27.	Installations, configurations, testing and commissioning	The bidder to carry out Installations, configurations, integration, testing and commissioning of the campus network			
28.	Warranty period (after installation) – minimum 1 year	Warranty period (after installation) of a minimum of 1 year. The cost of the one year support MUST be stated explicitly.			
29.	Local support	Availability of local support for post-installation maintenance			

30.	Project Implementation Schedule	The bidder MUST provide detailed project implementation plan and schedule
31.	Personnel capacity and expertise	The bidder MUST provide personnel capacity and expertise. Include brief staff resumes.
32.	Reference sites and similar projects	Reference sites and similar projects The bidder MUST provide reference sites and similar projects undertaken as per the Preliminary checklist.
33.	Detailed product Data Sheets	The bidder MUST provide detailed product data sheets of the equipment to be supplied

16kVA AVR_s

ITEM	DESCRIPTION	UNIT	QTY
No.			
	Supply, install, test, commission and set to work the following as described		
	below:-		
1	Supply and install 16kVA 415V, 50Hz Automatic Voltage Regulator (AVR) with a $\pm$ 15% variation range fully assembled and tested as QPS Servo-Motor, Power ware, APC or equal and approved with the following specifications: - * Natural air cooled * Individual phase stabilizing * Supply Frequency: 47-65 Hz * Output voltage accuracy: Better than $\pm$ 0.5% of set output voltage, zero to full load * Waveform distortion: Negligible * Effect of load power factor: None * Environment: Rated for indoor tropical use, – 5°C to 45°C (to 60°C with derating) * Metering: Voltage, current and frequency * Safe Start: output voltage set to a minimum at switch-on	Item	1

2	125A TP/N isolator for AVR as Telemecanique complete with all accessories.	No.	1
3	125A TPN manual by-pass system for the AVR comprising 125A TPN manual change-over switch, 2 No. 100A TP MCCB at input and output, internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.	No.	1
4	125A 4 pole contactors with OV/UV relays complete with internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.	Item	1
5	4x16mm ² + 1x10mm ² SC-PVC-CU cables for the automatic voltage stabilizer interconnection. (Provisional length)	LM	30
6	Carry out separate comprehensive earthing system of the AVR equipment to manufactures requirement and to Engineer's pproval.	Item	1
7	Allow for production of 12 calendar months warranty and presentation of 3No. sets of relevant operational/maintenance manuals/documentation and warranty cards, "As-built" drawings/cabling/schematic line diagram test results to be submitted as a bound report.	Item	
8	Comprehensive maintainance for a period of twelve months during the Defects Liability Period and as per the manufacture's maintenance requirements and schedules.	Item	

Note: The preliminaries are mandatory. The bidder must comply with the mandatory requirements to proceed to technical & financial evaluation.
Section VII. Drawings

The technical drawings (if any) shall be referred to in the technical specifications above.

Figure 1: Technical solution

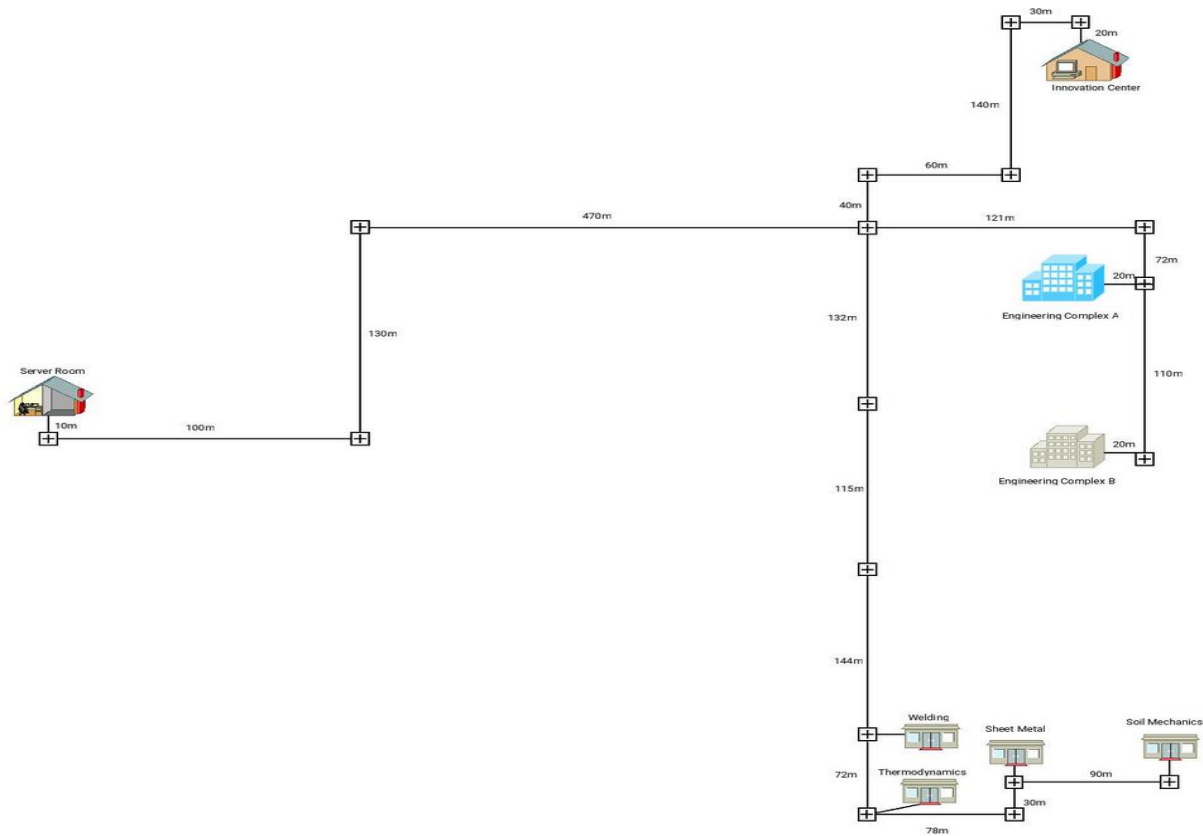


Figure2: Proposed Fiber route.



Section VIII. Appendices

Appendix 1: Compliance to Preliminary Requirements-Mandatory

No	Required Item	Comply/ Not Comply	Page / Section reference on the bid document
1.	Signed Bid Submission Sheet (Complete and attach form B in Section IX).		
2.	Certified copy of certificate of Incorporation MUST be attached		
4.	Certified copy of PIN/VAT Certificate MUST be attached		
5.	Certified copy of Tax Compliance certificate MUST be attached (To be Verified online)		
6.	Certified copy of valid Operating license from CA must be attached (To be verified online).		
7.	Certified Copy of Valid business permit.		
8.	Relevant NCA Registration Certificate (To be verified online)		
9.	Audited accounts for the last two years		
10.	Signed Power of Attorney		
11.	Dully filled, signed and stamped Form of Tender in the format provided		
12.	Dully filled, signed and stamped Confidential Business Questionnaire		
13.	Must provide a self-written, signed and stamped declaration that the bidder or his or her sub-contractors are not debarred from participating in Public Procurement.		

14.	Must provide a sworn affidavit for anti-corruption pledge that they will not engage in any corrupt practice.		
15.	Bid documents must be paginated (with page numbers) and initialized.		
16.	Site survey is MANDATORY and signed site survey forms should be attached to the proposal (Complete and attach form M in Section IX).		
17.	Bid Security should be 2% of the bid amount in the form of bank guarantee valid for at least 120 days.		
18.	Provided two copies of proposal in hard copy (one original and one copy) and a soft copy on CD or Flash.		
19.	Financial strength of the bidder (Complete and attach form E in Section IX). i. Turnover for the financial year shall be ≥ 3 times the bid price ii. Working capital for the latest financial year should be positive		
20.	In case of a Joint Venture (JV) a signed JV agreement (Complete form N in Section IX) with power of attorney		
21.	Manufacturer's Authorization form (Complete form D in section IX for each manufacturers)		

22.	Completeness of the proposal. Please confirm you attach the following ☐ the equipment datasheets, ☐ equipment, materials and labor included, ☒ Resumes of three (3) key staff with LAN setup experience ☒ Training and Support		
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Appendix 2: Compliance to Technical Requirements-Mandatory

Technical quality of the Solution offered is mandatory. All items must meet the technical requirements and specifications.

The following is a sample format that is designed to help Bidders quickly understand:

- a) the Technical Specification given in the Technical Requirements;
- b) whether each Requirement is mandatory or only "preferred"; and
- c) to ensure that each Bidder includes along with a specific response to the Purchaser, a cross reference to the supporting information provided elsewhere in its Technical Bid.

For each of the following Technical Requirements, the Bidder must describe how its Technical Bid responds to each Requirement. In addition, the Bidder must provide cross references to the relevant supporting information, if any, included in the bid. The cross reference should identify the relevant document(s), page number(s), and paragraph(s). The Technical Responsiveness Checklist does not supersede the rest of the Technical Requirements (or any other part of the Bidding Documents). If a requirement is not mentioned in the Checklist that does not relieve the Bidder from the responsibility of including supporting evidence of compliance with that other requirement in its Technical Bid. One- or two-word responses (e.g. "Yes," "No," "Will comply," etc.) are normally not sufficient to confirm technical responsiveness with Technical Requirements.

Technical requirements

S/No.	Particulars	Attached	Marks
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1	Number of Years the firm has been in similar business. Each year at 2 marks, maximum (5 yrs)	Proof	10
2	Evidence or recommendation from at least four (4) clients that your firm has installed network infrastructure of similar nature in the past 5 years. Must provide LPOs and signed contracts where applicable. (Complete and attach form G in Section IX).		20
3	Relevant education and professional qualification of at least three (3) key technical staff with their curriculum vitae and certificates (5 Marks for each)		15
4	Company profile provided		5
5	Brochures / technical literature for active devices (2 marks for each) (Depending on the no. of active devices)		10
6	Equipment warranty provided	At least 1 year	5
7	Detailed project implementation methodology, schedule and work plan		7
8	Completeness of proposal		5
9	Conformance to BoQ equipment and materials specifications and quantities		10
10	Letter Authorizing MUST to seek Reference from the Tenderer's Bankers and letter from bidder's bankers as proof of Lines of Credit to Finance Projects		5
11	Qualification information statement that the tenderer is not associated, or has been associated in the past directly or indirectly with a firm or any of its affiliates which have been engaged by the procuring entity to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods under this invitation for tenders.		2
12	Physical Place of Business with Proof e.g. Lease Agreement		2
13	Litigation History for the last 5 years		2

14	Filled tender questionnaire		2
TOTAL MARKS			100
NOTE: Only bidders who score 70 marks and above will be subjected to Financial Evaluation Stage 3: Financial Evaluation 1. The financial evaluation shall consist of a comparison of the total bid price, including all costs as well as duties and taxes payable			

Section	Item	Detailed Specifications	Comply/ Not comply	Bidder's Technical Reasons Supporting Compliance	Bidder's Cross References To Supporting Info In Technical Bid
1.	List of Goods and Related Services				
		Shall the bidder supply all the listed items?			
2.	Delivery and Implementation Schedule	Shall the bidder ensure delivery of all items at Meru University of Science and Technology offices for inspection? Shall the bidder deliver all items at the designated delivery site after inspection? Shall the bidder deliver all goods and services within stated timelines (4-8 weeks for goods and 2-4 weeks for services upon inspection)?			
3.	Operational Requirements and Technical Specifications				
	1. General				

		3.1.1 Shall the bidder submit with their offers the detailed specifications, drawings, catalogues, etc for the products they intend to supply? 3.1.2 Shall the bidder indicate on the specifications sheets whether the equipment offered comply with each specified requirement? 3.1.3 Shall the bidder provide all the dimensions and capacities of the equipment to be supplied and ensure that these shall not be less than those required in these specifications? Shall the bidder explain in detail any deviations from the basic requirements, if any with the offer, with supporting data such as calculation sheets, etc? 3.1.4 Shall the bidder provide; (i) Shortest possible delivery period of each product (ii) Information on proper representative and/or workshop for back-up service/repair and maintenance including their names and addresses.			
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	3.2 Scope definition and Operational Requirements of the Campus Network				
		Shall the bidder comply with the scope definition and operational requirements covered under this section?			
	3.4 Technical Specification of the equipment				
	Access Switch	Shall the access switches support the following features: 1. Managed switch 2. Mixed media Gigabit Ethernet modules 3. 48 ports as stipulated in the specifications 4. At least 2 SFP fiber ports (mini-GBIC) 5. Support for both fiber SM SFP transceivers and RJ-45 connectors 6. Compliant with IEEE 802.3ab and IEEE 802.1q VLAN Tagging 7. Power AC 120/230 V (50/60 Hz) 8. Power over Ethernet (PoE) support			

	42U, 21U & 12U Network Cabinet	Shall the Network cabinet support the following specification 1. minimum depth of 35 cm 2. At least 10-port Horizontal In-cabinet power points 3. In-cabinet fans			
	Indoor Wireless Access Point	Shall the Indoor Wireless Access point support the following features: 1. Indoor 802.11b/g/n Wireless Access Point 2. Capable of achieving at least 54 Mbps 3. Can be mounted on the wall and secured 4. AP operation modes: The AP MUST be able to work without need of a controller 5. IEEE802.3af PoE compliant with either IEEE802.3af POE injector for Gigabit Ethernet or External power supply. 6. At least 2 (two) networking Interfaces 10/100/1000 Ethernet Ports 7. Security provided supporting IEEE802.1x 8. Security provided supporting WEP (64/128/152 bit), WPA-PSK, WPA-			

		TKIP, WPA2, MAC, 802.11i 9. Address Filtering, Wireless LAN 10. Segmentation and Disable SSID Broadcast 11. Each AP Management via a web-based configuration utility and telnet. 12. Support VLANs IEEE802.1q 13. Support multiple SSIDs. At least 4 SSIDs 14. MUST be securely mounted. Provide all necessary mounting accessories including the secure cage. 15. Can support 200+ concurrent users 16. Antennas: 2.4 GHz-> 3 Integrated (Supports 3x3 MIMO with Spatial Diversity); 5 GHz- 2 Integrated (Supports 2x2 MIMO with Spatial Diversity) 17. Maximum power consumption 12W 18. Maximum transmit power 2.4Ghz-30dBm, 5Ghz - 22dBm 19. Supports guest traffic isolation			
	Indoor Wireless Power Injector	Shall the Indoor Wireless Power Injector be compatible with the Indoor Wireless access point supplied as per the manufacturer's specifications			
	SM Fiber SFPs	Shall the SFPs support the following features:			

		Single mode SFP transceiver modules for Gigabit Ethernet			
	Outdoor Access Points	The Outdoor Wireless Access point MUST support the following features: 1. Indoor 802.11b/g/n Wireless Access Point 2. Capable of achieving at least 54 Mbps 3. Can be mounted on the wall and secured 4. AP operation modes: Autonomous and controlled 5. IEEE802.3af PoE compliant with either IEEE802.3af POE injector for Gigabit Ethernet or External power supply. 6. At least 2 (two) networking Interfaces 10/100/1000 Ethernet Ports 7. Security provided supporting IEEE802.1x 8. Security provided supporting WEP (64/128/152 bit), WPA-PSK, WPA-TKIP, WPA2, MAC, 802.11i 9. Address Filtering, Wireless LAN 10. Segmentation and Disable SSID Broadcast			

		11. Each AP Management via a web-based configuration utility and telnet. 12. Support VLANs IEEE802.1q 13. Support multiple SSIDs. At least 4 SSIDs 14. MUST be securely mounted. Provide all necessary mounting accessories including the secure cage. 15. Can support 200+ concurrent users 16. Antennas: 2.4 GHz-> 3 Integrated (Supports 3x3 MIMO with Spatial Diversity); 5 GHz- 2 Integrated (Supports 2x2 MIMO with Spatial Diversity) 17. Maximum power consumption 12W 18. Maximum transmit power 2.4Ghz- 30dBm, 5Ghz - 22dBm 19. Supports guest traffic isolation			
	Outdoor Access Point Power Injector	Shall the Outdoor Wireless Power Injector be compatible with the Outdoor Wireless access point supplied as per the manufacturer's specifications			

	1m Copper patch cords	Shall the patch cords to be supplied be: 1. CAT6 copper cable 2. 1 meter copper Patch cables			
	Cable managers	Shall the cable managers have the following features: 1. Dimension of 88.1 x 482.6 x 95.3mm 2. Curved fingers 3. Integral bend radius control 4. Slack management control 5. Integral wire retainers 6. 3/8" spacing between the fingers			
	12-port CAT 6 patch panel	Shall the copper patch panels include the following: 12-port CAT 6 patch panel			
	In-Cabinet Power Points(PDUs) (power strip)	Shall the in-cabinet power points (power strips) support the following features: 1. Rack mountable 2. Standard plug-in outlets 3. Surge protection to protect power spikes 4. Circuit breaker to protect overload 5. 3 inch 10 outlets			
	24 port ODF	Shall the Optical distribution frame support			

		the following features: 1. 24 port Optical distribution frame, rack mountable 2. Include SC Female to SC female fiber adapters (panel-mountable)			
	48 port ODF	Shall the Optical distribution frame support the following features: 1. 48 port Optical distribution frame, rack mountable 2. Include SC Female to SC female fiber adapters (panel-mountable)			
	Fiber conduit/ducts HDPE at least 4 inches in Diameter	Shall the fiber cable conduits meet the size and lengths specified in the technical specifications for the relevant site and MUST be HDPE			
	Fiber Flex	Shall the fiber flex conduits meet the size and lengths specified in the technical specifications			
	Outdoor PVC conduits	Shall the PVC conduits meet the dimensions and lengths specified in the technical specifications			
	Cat 6 UTP Cable	Shall the CAT 6 UTP cables supplied be: 1. meet the standard of CAT 6 UTP cables			

		2. Meet all the cable lengths as specified in the technical specification per site			
	Cat 6 Outdoor UTP Cable	Shall the CAT 6 UTP cables supplied be: 1. meet the standard of CAT 6 Outdoor UTP cables 2. Meet all the cable lengths as specified in the technical specification per site			
	Fiber Cable	Shall the fiber cables supplied be: 1. Armored fiber optic cable, 12-core, single mode 2. SC-LC single mode fiber patch duplex cords			
	Fiber Trenches	Shall the dimensions of fiber trenches be 1.2 Metres in depth			
	Fiber manholes	Shall the fiber manholes be 2.2ft x 2.2ft x 3.3ft and the manhole covers labeled FIBER on top			
	Fiber Warning tapes	Shall the fiber warning tapes be buried 1.5ft deep			
	Electrical Cable	Shall the electrical cable meet the requirements as specified in the technical requirements			

	Installations, configurations, testing and commissioning	Shall the bidder carry out Installations, configurations, integration, testing and commissioning of the campus network			
	Warranty period (after installation) –minimum 1 year	Shall the bidder provide Warranty period (after installation) of a minimum of 1 year. The cost of the one year support MUST be stated explicitly.			
	Local support	Shall the bidder provide availability of local support for post-installation maintenance			
	Project Implementation Schedule	Shall the bidder provide detailed project implementation plan and schedule			
	Personnel capacity and expertise	The bidder to provide personnel capacity and expertise. Include brief staff resumes.			
	Reference sites and similar projects	Reference sites and similar projects The bidder MUST provide reference sites and similar projects undertaken as per the Preliminary checklist.			
	Detailed product Data Sheets	Shall the bidder provide detailed product data sheets of the equipment to be supplied			

6kVA AVR_s

				Bidder's Cross References To
Section	Item / Detailed Specifications	Comply/ Not comply	Bidder's Technical Reasons Supporting Compliance	Supporting Info In Technical Bid
	Supply, install, test, commission and set to work the following as described below:-			
1	Supply and install 16kVA 415V, 50Hz Automatic Voltage Regulator (AVR) with a $\pm$ 15% variation range fully assembled and tested as QPS Servo-Motor, Power ware, APC or equal and approved with the following specifications: - * Natural air cooled * Individual phase stabilizing * Supply Frequency: 47-65 Hz * Output voltage accuracy: Better than $\pm$ 0.5% of set output voltage, zero to full load * Waveform distortion: Negligible * Effect of load power factor: None * Environment: Rated for indoor tropical use, – 5°C to 45°C (to 60°C with derating) * Metering: Voltage, current and frequency * Safe Start: output voltage set to a minimum at switch-on			

2	125A TP/N isolator for AVR as Telemecanique complete with all accessories.			
3	125A TPN manual by-pass system for the AVR comprising 125A TPN manual change-over switch, 2 No. 100A TP MCCB at input and output, internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.			
4	125A 4 pole contactors with OV/UV relays complete with internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.			
5	4x16mm ² + 1x10mm ² SC-PVC-CU cables for the automatic voltage stabilizer interconnection. (Provisional length)			
6	Carry out separate comprehensive earthing system of the AVR equipment to Manufacture's requirement and to Engineer's Approval.			

7	Allow for production of 12 calendar months warranty and presentation of 3No. sets of relevant operational/maintenance manuals/documentation and warranty cards, "As-built" drawings/cabling/schematic line diagram test results to be submitted as a bound report.			
8	Comprehensive maintenance for a period of twelve months during the Defects Liability Period and as per the manufacture's maintenance requirements and schedules.			
16KVA UPSs				
Section	Item / Detailed Specifications	Comply/ comply	Not	Bidder's Technical Reasons Supporting Compliance
No.				Bidder's Cross References To Supporting Info In Technical Bid
	Supply, install, test, commission and set to work the following as described below:-			

1	16 kVA, 415V, 50Hz 3 phase in 3 phase out True on line UPS unit with 20-30 minutes autonomous time battery back-up complete with appropriately rated manual by-pass switch, as APC Symmetra PX 15kVA, MGE Galaxy 3500, Powerware manufacturer, or equal and approved with the following specifications:- <u>Input:-</u> Bypass: Built-in Static By-pass Nominal Input Voltage: 400V 3Phase Input Frequency: 50Hz $\pm$ 3Hz Input Connections: Hard Wire 5 - Wire (3PH + N+ G) Input Voltage range for main operations: 304 - 477V <u>Batteries & Run-Time:-</u> Battery Type: Maintenance - free sealed Lead-Acid Battery with suspended electrolyte and leakproof Included Battery Modules: 2 Available Battery Slots: 2 Typical Recharge Time: 2 hours Typical Backup Time at half Load: 13.5 Minutes(15000 watts) Typical Backup time at full Load: 3.5 Minutes(15000 watts) <u>Communication & Management:-</u> Interface Ports: Contact closure, RJ45 Base-T Ethernet for web/SNMP/telnet management, smartslot Available Smartslot Interface Quantity: 2			
---	--	--	--	--

	Pre-installed smartslot card: AP9617 Control Panel: Multi-function LCD status and control concole Audible Alarm: Alarm when on battery, distinctive low battery alarm and configurable delays Emergency Power off (EPO): Yes <u>Output:-</u> Output Power Capacity: 15000 Watts/15000VA Max Confinigurabel Power: 20000 Watts/20000VA Nominal Output Voltage: 230V, 400V 3PH Output Voltage Note: Configurable for 380:400 or 415 3 phase nominal output voltage Efficiency at full Load: 94% Output Voltage Distortion: Less than 5% at full load Output Frequency (syms to mains): 47-53Hz for 50Hz nominal Crest Factor: Unlimited Waveform Type: Sine Wave Output Connections: Hard Wire 5 - Wire (3PH + N+ G) Screw Terminals			
2	63A TPN manual by-pass system for the UPS board comprising 63A TPN manual change-over switch, 2 No. 50A TP MCCB at input and output, internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.			

3	63A TPN local isolator for the above UPSs' 63A TPN manual by-pass system as Telemecanique, complete with all accessories.			
4	63A 4 pole contactors with OV/UV relays complete with internal wiring and a common firmly bonded metallic enclosure made from 14 gauge cream powder coated galvanized steel sheets.			
5	4x16mm ² + 1x10mm ² SC-PVC-CU cables for the UPS unit interconnection. (Provisional length)			
6	Allow for production of 12 calendar months warranty and presentation of 3 No. sets of relevant operational/maintenance manuals/documentation and warranty cards, "As-built" drawings/cabling/schematic line diagram test results to be submitted as a bound report.			
7	Comprehensive maintenance for a period of twelve months during the Defects Liability Period and as per the manufacture's maintenance requirements and schedules.			

Section VIII. Bidding Forms

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A. Contract Agreement

THIS CONTRACT AGREEMENT is made

the *[insert: ordinal]* day of *[insert: month], [insert: year]*.

BETWEEN

- (1) Meru University of Science and Technology is established under the Laws of Kenya with a view of creating more learning opportunities. It is located 20Kms from Meri Town – Post Office Box 972-60200(hereinafter called “the Purchaser”), and
- (2) *[insert: name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”).

WHEREAS the Purchaser desires to engage the Supplier to supply, install, achieve Operational Acceptance of, and support the following Information System *[insert: brief description of the Information System]* (“the System”), and the Supplier has agreed to such engagement upon and subject to the terms and conditions appearing below in this Contract Agreement.

NOW IT IS HEREBY AGREED as follows:

Article	1.	1.1	Contract Documents (Reference GCC Clause 1.1 (a) (ii))
Contract Documents			The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract: (a) This Contract Agreement and the Appendices attached to the Contract Agreement (b) Special Conditions of Contract (c) General Conditions of Contract (d) Technical Requirements (including Implementation Schedule) (e) The Supplier’s bid and original Price Schedules (f) Minutes of the technical Negotiations Meeting

1.2 Order of Precedence (Reference GCC Clause 2)

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above, provided that Appendix 7 shall prevail over all provisions of the Contract Agreement and the other Appendices attached to the Contract Agreement and all the other Contract Documents listed in Article 1.1 above.

1.3 Definitions (Reference GCC Clause 1)

Capitalized words and phrases used in this Contract Agreement shall have the same meanings as are ascribed to them in the General Conditions of Contract.

Article 2.

Contract Price and Terms of Payment

2.1 Contract Price (Reference GCC Clause 1.1(a)(viii) and GCC Clause 11)

The Purchaser hereby agrees to pay to the Supplier the Contract Price in consideration of the performance by the Supplier of its obligations under the Contract. The Contract Price shall be the aggregate of: *[insert: amount of foreign currency A in words],[insert: amount in figures],plus [insert: amount of foreign currency B in words],[insert: amount in figures], plus [insert: amount of foreign currency C in words], [insert: amount in figures], [insert: amount of local currency in words], [insert: amount in figures],* as specified in the Grand Summary Price Schedule.

The Contract Price shall be understood to reflect the terms and conditions used in the specification of prices in the detailed price schedules, including the terms and conditions of the associated Incoterms, and the taxes, duties and related levies if and as identified.

Article	3.	3.1 Effective Date (Reference GCC Clause 1.1 (e) (ix))
Effective Date for Determining Time for Operational Acceptance		The time allowed for supply, installation, and achieving Operational Acceptance of the System shall be determined from the date when all of the following conditions have been fulfilled: (a) This Contract Agreement has been duly executed for and on behalf of the Purchaser and the Supplier; (b) The Supplier has submitted to the Purchaser the performance security and the advance payment security, in accordance with GCC Clause 13.2 and GCC Clause 13.3; (c) The Purchaser has paid the Supplier the advance payment, in accordance with GCC Clause 12; (d) <i>[specify here: any other conditions, for example, opening/confirmation of letter of credit]</i>. Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.
		3.2 If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract Agreement because of reasons not attributable to the Supplier, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Achieving Operational Acceptance and/or other relevant conditions of the Contract.
Article	4.	4.1 The Appendixes listed below shall be deemed to form an integral part of this Contract Agreement.
Appendixes		

4.2 Reference in the Contract to any Appendix shall mean the Appendixes listed below and attached to this Contract Agreement, and the Contract shall be read and construed accordingly.

APPENDIXES

- Appendix 1. Supplier's Representative
- Appendix 2. List of Approved Subcontractors
- Appendix 3. Revised Price Schedules (if any)
- Appendix 4. Updated Project Implementation Schedule
- Appendix 5. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments
- Appendix 6. Service Level Agreement

IN WITNESS WHEREOF the Purchaser and the Supplier have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

For and on behalf of the Purchaser

Signed:.....

In the capacity of:.....

In the presence of:.....(1).....

For and on behalf of the Supplier

Signed:

In the capacity of:.....

In the presence of:.....

B. Bid Submission Sheet

Date:

Invitation for Bid No.:

Alternative No.:

To: _____

We, the undersigned, declare that:

- a) We have examined and have no reservations to the Bidding Documents, including Addenda No.
- b) We offer to supply in conformity with the Bidding Documents and in accordance with the delivery schedule specified in the Schedule of Supply the following Goods and Related Services:
-
- c) The total price of our Bid, excluding any discounts offered in item (d) below is:
- ;
- d) The discounts offered (if at any) and the methodology for their application are:
- ;
- e) Our bid shall be valid for a period of _____ days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before expiry of that period;
- f) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract:

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

- g) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Name In the capacity of.....

Signed:.....

Duly authorized to sign the bid for and on behalf of

.....

Dated on _____ day of _____,

C. Price Schedule for Goods and Related Services

Date:.....

Invitation for Bid No.:

Alternative Bid No.:.....

Name of the Bidder: _____

1	2	3	4	5	6
Item No.	Good or Related Service	Quantity (No. of Units)	Unit Price	Import Duties., Sales Taxes and other Taxes, Per Unit	Total Price

Notes: In accordance with ITB Clauses 10 and 11.

Name In the capacity of.....

Signed:.....

Duly authorized to sign the bid for and on behalf of

.....

Dated on _____ day of _____,

Manufacturés Authorization

Date:.....

Invitation for Bid No.:.....

To:

WHEREAS _____, who are
official manufacturers of _____,
and _____ having _____ factories/production _____ facilities _____ at/in
_____, do hereby authorize
_____ located _____ at
_____ (hereinafter, the “Bidder”) to submit
a bid in relation to the Request for Proposals indicated above, the purpose of which is
to provide the following Goods/products manufactured by us

_____, and
to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the General
Conditions of Contract (and special conditions of contract), with respect to the goods
offered by the above firm in reply to this Request for Proposals.

Name In the capacity of.....

Signed:.....

Duly authorized to sign the bid for and on behalf of

.....

Dated on _____ day of _____,

*Note: This letter of authorization should be on the letterhead of the Manufacturer and
should be signed by a person with the proper authority to sign documents that are
binding on the Manufacturer.*

D. Detailed Evaluation of Bidder's Financial Strength

Name of Bidder or partner of joint venture:

1. The audited financial statements **MUST** be complete including the following
 - a. The audited accounts **MUST** be signed by the auditor and the company directors.
 - b. The audited accounts **MUST** have all the relevant section including
 - i. Introduction section setting out the basis of preparation of the submitted financial statements
 - ii. Declarations of the Directors and the External Auditors and their signatures
 - iii. The statement of Financial Position (or Just the Balance sheet)
 - iv. The statement of Comprehensive Income (or Just the Income Statement)
 - v. The statement of cash flows
 - vi. Notes to the financial Statements
2. The audited financial statements should at least be for two (2) year period
 - i. Turn over for each of the last two financial years being ≥ 3 times the bid price
 - ii. Average working capital for the last two financial years is greater than the bid price
 - iii. Declared profit for the last two consecutive financial years
3. The bidder should derived and provide the following ratios.
 - i. Leverage Ratios
 - ☐ Interest coverage ratio (EBIT/(Interest expenses)
 - ☐ Fixed charge coverage ratio (EBIT + Fixed charge) /(Fixed charge + Interest))
 - ☐ Debt / Equity ratio
 - ☐ Debt/ Total Assets Ratio
 - ii. Free cash Flow to the Firm to Total Assets ratio (FCFF/TA)
 - ii. Profitability Ratios
 - ☐ Gross Profit Margin (%)
 - ☐ Net Profit margin (%)
 - ☐ Return on Assets
 - ☐ Return on Capital Employed
 - iv. Liquidity Ratios
 - ☐ Current Ratio
 - ☐ Quick ratio
 - ☐ Cash Ratio
 - v. Trends in Financial Position
 - ☐ Total liabilities to equity ratio
 - ☐ Working capital

F. Litigation History

Name _____ of Bidder _____ or partner _____ of joint venture:.....

The Bidder, including each of the partners of a joint venture, should provide information on any history of litigation or arbitration resulting from contracts executed in the last five (5) years. A separate sheet should be used for each partner of joint venture.

Year	Award for or Against Bidder	Name of client, cause of litigation and matter in dispute.	Disputed amount (Current value, US\$ equivalent)

Name In the capacity of.....

Signed:.....

Duly authorized to sign the bid for and on behalf of

.....

Dated on _____ day of _____,

G. Experience Form

List of three Major Project of a similar Nature in the last three years

Assignment Name:	Approximate Value of Contract (KES)
Country : Location within the country:	Professional Staff provided by your firm/entity (profiles):
Name of Client:	Duration of Assignment (weeks)
Address:	No of staff-weeks:
Start Date	Completion Date
Name of Senior Professional Staff involved and functions performed:	
Narrative Description of the Project	
Description of actual services provided by your staff	

H. Personnel (Capacity) Form - Candidate Summary

Name of Bidder

Position		Candidate ☐ Prime ☐ Alternate
Candidate information	Name of candidate	Date of birth
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (manager / personnel officer)
	Fax	Telex
	Job title of candidate	Years with present Employer

Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/ Position/Relevant technical and management experience

I. Supplier's Representative

In accordance with GCC Clause 1.1 (b) (iv), the Supplier's Representative is:

Name: *[insert: **name** and provide title and address further below, or state “to be nominated within fourteen (14) days of the Effective Date”]*

Title: *[if appropriate, insert: **title**]*

In accordance with GCC Clause 4.3, the Supplier's addresses for notices under the Contract are:

Address of the Supplier's Representative: *[as appropriate, insert: **personal delivery, postal, cable, telegraph, telex, facsimile, electronic mail, and/or EDI addresses.**]*

Fallback address of the Supplier: *[as appropriate, insert: **personal delivery, postal, cable, telegraph, telex, facsimile, electronic mail, and/or EDI addresses.**]*

J. Performance Security Form (Bank Guarantee)

[insert: Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: *[insert: Name and Address of Purchaser]*

Date: *[insert: date]*

PERFORMANCE GUARANTEE No.: *[insert: Performance Guarantee Number]*

We have been informed that on *[insert: **date of award**]* you awarded Contract No. *[insert: **Contract number**]* for *[insert: **title and/or brief description of the Contract**]* (hereinafter called "the Contract") to *[insert: **complete name of Supplier**]* (hereinafter called "the Supplier"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert: **amount(s)' in figures and words**]* upon receipt by us of your first demand in writing declaring the Supplier to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

On the date of your issuing, to the Supplier, the Operational Acceptance Certificate for the System, the value of this guarantee will be reduced to any sum(s) not exceeding *[insert: amount(s)' in figures and words]*. This remaining guarantee shall expire no later than *[insert: number and select: of months/of years (of the Warranty Period that needs to be covered by the remaining guarantee)]* from the date of the Operational Acceptance Certificate for the System,² and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20 (a) is hereby excluded.

[Signature(s)]

¹ The bank shall insert the amount(s) specified and denominated in the SCC for GCC Clauses 13.3.1 and 13.3.4 respectively, either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Purchaser.

² *In this sample form, the formulation of this paragraph reflects the usual SCC provisions for GCC Clause 13.3. However, if the SCC for GCC Clauses 13.3.1 and 13.3.4 varies from the usual provisions, the paragraph, and possibly the previous paragraph, need to be adjusted to precisely reflect the provisions specified in the SCC.*

K. Advance Payment Security Form (Bank Guarantee)

[insert: Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: *[insert: Name and Address of Purchaser]*

Date: *[insert: date]*

ADVANCE PAYMENT GUARANTEE No.: *[insert: Advance Payment Guarantee Number]*

We have been informed that on *[insert: date of award]* you awarded Contract No. *[insert: Contract number]* for *[insert: title and/or brief description of the Contract]* (hereinafter called "the Contract") to *[insert: complete name of Supplier]* (hereinafter called "the Supplier"). Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of *[insert: amount in numbers and words, for each currency of the advance payment]* is to be made to the Supplier against an advance payment guarantee.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum or sums not exceeding in total the amount of the advance payment referred to above, upon receipt by us of your first demand in writing declaring that the Supplier is in breach of its obligations under the Contract because the Supplier used the advance payment for purposes other than toward the proper execution of the Contract.

It is a condition for any claim and payment to be made under this guarantee that the advance payment referred to above must have been received by the Supplier on its account *[insert: number and domicile of the account]*.

For each payment after the advance payment, which you will make to the Supplier under this Contract, the maximum amount of this guarantee shall be reduced by the ninth part of such payment.³ At the time at which the amount guaranteed becomes nil, this guarantee shall become null and void, whether the original is returned to us or not.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

[Signature(s)]

³ *This sample formulation assumes an Advance Payment of 10% of the Contract Price excluding Recurrent Costs, and implementation of the main option proposed by this SBD in the SCC for GCC Clause 13.2.2 for gradually reducing the value of the Advance Payment Security. If the Advance Payment is other than 10%, or if the reduction in amount of the security follows a different approach, this paragraph would need to be adjusted and edited accordingly.*

L. Summary Sheet: Current Contract Commitments / Work in Progress

Name of Bidder or partner of a Joint Venture

Bidders and each partner to a Joint Venture bid should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Name of contract	Purchaser, contact address/tel./fax	Value of outstanding Information System (current US\$ equivalent)	Estimated completion date	Average monthly invoicing over last six months (US\$/month)
1.				
2.				
3.				
4.				
5.				
etc.				

M. Bidders Survey Form (Fill in Duplicate)

Tender Name: Development of Campus ICT Network Infrastructure for Meru University of Science and Technology Tender No: **MUST/011/2017-2018**

Site Name:

Date of Survey

Name of Firm/Bidder.....

Names of Bidders survey officers;

1. Name Tel no

Email Signature

2. Name Tel no

Email Signature

3. Name Tel no

Email Signature

In the presence of;

Meru University of Science and Technology

Name:

Designation:

Signature:

[Stamp]

N. Joint Venture Agreement

Date <insert the date>

<company 1 name>, a company incorporated in the Republic of Kenya with its registered offices at <insert location of the offices>, P.O Box <insert box number> and <company 2 name>, a company incorporated in the Republic of Kenya with its registered offices at <insert location of the offices>, P.O Box <insert box number> have agreed to work as Joint Partners with regard to this bid.

The parties confirm that the lead partner of this bid in accordance to ITB Clause _____ is <insert name of the lead partner> and <insert name of designated signatory> is the designated signatory and the leader of this Joint partnership.

In Witness Whereof, the Parties have caused this Joint Venture Agreement to be executed by their duly authorized officers or representatives on the dates shown below.

Signature of Authorized Company Official: _____
—

Printed/Typed Name of Company Official: _____
—

Printed/Typed Title of Company Official: _____
—

Printed/Typed Name of Company: _____
—

Date: _____
—