



TENDER NOTICE

Sealed Tenders are invited from Suppliers, Manufacturers, Authorized Dealers and Distributors registered with Income Tax and Sales Tax Departments for following procurements:

1.	Name of Work:	Fiber Optic Connectivity between IT Department to various Departments.			
Tender No. PD(M-III)/NED/ITD/FOC/197/16					
The tender document is based on Single Stage One Envelop procedure. Each Bid should comprise of One Single Envelop containing both Technical and Financial Proposal along-with a Payorder @ 2.50% of the TOTAL BID COST as Earnest Money in favor Director Finance, NEDUET, Karachi					
	Start Date of Sale	Last Date of Sale	Submission / Closing Date/Time	Opening Date/Time	Tender Fee
	30-06-2016	18-07-2016	19-07-2016/ 10:00 A.M	19-07-2016/ 10:30 A.M	Rs. 1,000/-
2.	Name of Work:	Procurement / Supply, Installation & Commissioning of CCTV System			
Tender No. PC/NED/CCTV System/01/16					
The Bidders should submit Two Separate Sealed Envelops. One Envelope should contain the Technical Proposal and a Payorder @ 2% of the TOTAL BID COST as Earnest Money in favor Director Finance, NEDUET, Karachi and be clearly marked as "Technical Proposal" while the other Envelop should contain the Financial Proposal and be clearly marked as "Financial Proposal". Both the Envelops should be placed in Third Sealed Envelop and all the Envelops should be clearly marked with the Name of Bidder.					
	Start Date of Sale	Last Date of Sale	Submission / Closing Date/Time	Opening Date/Time	Tender Fee
	30-06-2016	18-07-2016	19-07-2016/ 10:30 A.M	19-07-2016/ 11:00 A.M	Rs. 1,000/-

The **Tender Documents** can be obtained from the Office of **Assistant Director (Procurement-II)** against written request and proof of Registration with GST and Income Tax Departments with a Pay Order / Demand Draft of the Tender Fee in favour of **Director Finance, NEDUET** on any working day during Office Hours. Tender Documents can also be obtained by **Post** against Pay Order of **Rs. 500/- (Rupees Five Hundred Only)** as Courier Charges in addition Tender Fee.

The Tenders duly completed and addressed to the **Assistant Director (Procurement-II)** should be dropped in the Tender Box placed in the Office of **Project Director (M-III) of this University**, which shall be opened on the same day according to the above schedule in presence of Bidders or their representatives who may wish to be present. In case of any holiday or disturbance, the Tenders will be opened on the next working day as per schedule. Bidders are requested to give their best and final prices as no negotiations shall be made.

This Tender Notice and the Tender Document can be seen and obtained on University Website www.neduet.edu.pk and SPPRA Website www.pprasindh.gov.pk.

Director Procurement

REVISED



NED UNIVERSITY OF ENGINEERING & TECHNOLOGY, KARACHI

Rg 19352
28.4.16

2-8/19/16
1647

**Tender for "Procurement / Supply, Installation &
Commissioning of CCTV System"**

TENDER NO. PC/NED/CCTV System/01/16

NED University of Engineering and Technology, Karachi

Postal Address: University Road, Karachi. Postal Code# 75270

Website: www.neduet.edu.pk Tel: 99261261-68, (Ext- 2471) Fax # 99261255



Tender N

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PART-II
INSTRUCTION TO BIDDERS

i Source of Funds

ii Eligible Bidders

- ii.a This Invitation for Bids is open to all suppliers from eligible source as defined in the SPP Rules, 2010 (amended 2013) and its Bidding Documents except as provided hereinafter.
- ii.b Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.
- ii.c Government-owned enterprises in the Province of Sindh may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Sindh.
- ii.d Bidders shall not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by the any government organization in accordance with sub clause 34.1

iii Eligible Goods and Services

- iii.a The origin of all the goods & related services to be supplied under the Contract should be mentioned.
- iii.b Origin means the place where the goods are mint, grown or produce or the place from which the related services are supplied.
- iii.c The Origin of goods and services is distinct from the nationality of bidders.

iv Cost of Bidding

- iv.a The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

v Content of Bidding Documents

v.a The bidding documents include:

- (a) Instructions to Bidders (ITB)
- (b) Bid Data Sheet
- (c) General Conditions of Contract (GCC)
- (d) Special Conditions of Contract (SCC)
- (e) Schedule of Requirements
- (f) Technical Specifications
- (g) Bid Form and Price Schedules
- (h) Bid Security Form
- (i) Contract Form
- (j) Performance Security Form
- (k) Manufacturer's Authorization Form

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

vi Clarification of Bidding Documents

vi.a A interested Bidder requiring any clarification of the bidding documents may notify the Procuring agency in writing. The Procuring agency will respond in writing to any request for clarification of the bidding documents which it receives no later than three working days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.

vii Amendment of Bidding Documents

vii.a At any time prior to the deadline for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by a interested Bidder, may modify the bidding documents by amendment.

vii.b All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.

vii.c In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

1. **Scope** 1.1 The NED University of Engg. & Tech., Karachi intend to Procure / Supply of **"Procurement / Supply, Installation & Commissioning of CCTV System"** through National Competitive Bidding Single Stage one Envelope Procedure as per SPPRA Rules-2010 (Amended 2013).
2. **Language of Bid** 2.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the English language.
3. **Documents Comprising the Bid** 3.1 The bid prepared by the Bidder shall comprise the following components:
 - a) Technical Proposal
 - b) Price Schedule completed in accordance with ITB Clauses 4, 5 and 6.
 - c) bid security furnished in accordance with ITB Clause-9.
4. **Bid Prices** 4.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.
4.2 The prices shall be quoted on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location specified in the schedule of Requirements. No separate payment shall be made of the incidental services.
4.3 Prices quoted by the 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 Bid Data Sheet.
4.4 Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet.
5. **Bid Form** 5.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.
6. **Bid Currencies** 6.1 Prices Shall be quoted in Pak Rupees.
7. **Bidder's Eligibility** 7.1 As defined in Bid Data Sheet.

8. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

8.1 The documents evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and Data, and shall consist of:

- (a) a detailed description of the essential technical and performance characteristics of the goods;
- (b) the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specification are intended to be descriptive only and not restrictive :till stated otherwise in Technical Specifications or Bid Data Sheet .The Bidder may substitute alternative standards, brand names , and /or catalogue numbers in its bid , provided that demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the in the Technical Specifications

9. Bid Security

9.1 The bid security is required (in the amount specified in the bid data sheet) to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's forfeiture. The bid security shall be denominated in the currency of the bid:

- a) at the Bidder's option, be in the form of either demand draft/call deposit or an unconditional bank guarantee from a reputable Bank;
- b) be submitted in its original form: copies will not be accepted;
- c) remain valid for a period of at least 14 days beyond the original validity period of bids, or at least 14 days beyond any extended period of bid validity.

9.2 bid security shall released to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.

9.3 The successful Bidder's bid security shall be discharged upon the Bidder signing the contract, and furnishing the performance security.

9.4 The bid security may be forfeited:

- a) if a Bidder withdraws its bid during the period of bid validity or
- b) in the case of a successful Bidder, if the bidder fails:
 - (i) to sign the contract in accordance or
 - (ii) to furnish performance security

13.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in such case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline.

14. **Late Bids**

14.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribes by the Procuring agency shall be rejected and returned unopened to the Bidder.

15. **Modification and Withdrawal of Bids**

15.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.

15.2 No bid may be modified after the deadline for submission of bids.

15.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security.

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E. Opening and Evaluation of Bids

16. **Opening of Bids by the Procuring agency**
- 16.1 The Procuring agency shall open all bids in the presence of bidder's representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register/attendance sheet evidencing their attendance.
- 16.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presences or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may consider appropriate, will be announced at the opening.
17. **Clarification of Bids**
- 17.1 During evaluation of the bids, the Procuring agency may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.
18. **Preliminary Examination**
- 18.1 The Procuring agency shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 18.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 18.3 Prior to the detailed evaluation, the Procuring agency will determine the substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself.
- 18.4 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.
19. **Evaluation and Comparison of Bids**
- 19.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive.

- 19.2 The Procuring agency's evaluation of a bid will be on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location and shall exclude any allowance for price adjustment during the period of execution of the contract.
20. **Contacting the procuring agency**
- 20.1 No Bidder shall contact the procuring agency on any matter relating to its bid, from the time of bid opening to the time the announcement of Bid Evaluation Report. If the Bidder wishes to bring additional information to the notice of the procuring agency, it should do so in writing.
- 20.2 Any effort by a Bidder to influence the Procuring agency in its decision on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

Award of contract

21. **Post – Qualification**
- 21.1 In the absence of prequalification, the procuring agency may determine to its satisfaction whether that selected Bidder having submitted the lowest evaluation responsive bid is qualified to perform the contract satisfactorily.
- 21.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Claus-7 as well as such other information as the Procuring agency deems necessary and appropriate.
- 21.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to perform satisfactorily.
22. **Award Criteria**
- 22.1 The Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.
- 22 a **Procuring Agency's right to vary quantities at the time of award**
- Subject to relevant provision of SPP RULES 2010 (Amended 2013), the Procuring agency 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.

23. **Procuring agency's Right to Accept any Bid and to Reject any or All Bids**
- 23.1 Subject to relevant provisions of SPP Rules 2010 (Amended 2013), the Procuring agency 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.
- 23.2 Pursuant to Rule 45 of SPP Rules 2010 (Amended 2013), Procuring agency shall hoist the evaluation report on Authority's web site, and intimate to all the bidders seven days prior to notify the award of contract.
24. **Notification of Award**
- 24.1 Prior to the expiration of the period of bid validity, the Procuring agency shall notify the successful Bidder in writing, that its bid has been accepted.
- 24.2 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 26, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security.
25. **Signing of Contract**
- 25.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 25.2 Within fourteen (14) days, or any other period specified in BDS, of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.
26. **Performance Security**
- 26.1 Within seven (07) days, or any other period specified in BDS, of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 26.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 25 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

27. **Corrupt or Fraudulent Practices**

27.1 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2009 and Rules made there under:

(a) **"Corrupt and Fraudulent Practices"** means either one or any combination of the practices given below;

(i) **"Coercive Practice"** means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;

(ii) **"Collusive Practice"** means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;

(iii) **"Corrupt Practice"** means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;

(iv) **"Fraudulent Practice"** means 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;

b) **"Obstructive Practice"** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent,

coercive or collusive practice; 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 acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.

Part-III General Conditions of Contract

1. Definitions

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

- (a) **“The Contract”** means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) **“The Contract Price”** means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) **“The Goods”** means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to the Procuring agency under the Contract.
- (d) **“The Services”** means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
- (e) **“GCC”** mean the General Conditions of Contract contained in this section.
- (f) **“SCC”** means the Special Conditions of Contract.
- (g) **“The Procuring agency”** means the Sindh Public Procurement Regulatory Authority (SPPRA), Government of Sindh.
- (h) **“The Supplier”** means the individual or firm supplying the Goods and Services under this Contract.
- (i) **“SPP Rules 2010”** means the Sindh Public Procurement Rules 2010 (Amended 2013).

(j) "Day" means calendar day.

2. Standards

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

3. Patent Rights

The Supplier shall indemnify the Procuring agency against all third- party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Islamic Republic of Pakistan.

4. Performance Security

4.1 Within seven (07) days, or any other duration as specified in SCC, of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.

4.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

4.3 The performance security shall be denominated in the Pak rupees and shall be an unconditional bank guarantee, pay order, call deposit as, provided in the bidding documents or another form acceptable to the Procuring agency;

4.4 The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.

5 Inspections and Tests

5.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

5.2 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.

5.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival shall in no

way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Manufacturer.

5.5 Nothing in GCC Clause 5 shall in any way release the Supplier from any warranty or other obligations under this Contract.

6. Packing

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage.

7. Delivery and Documents

Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping/ transportation and/or other documents to be furnished by the Supplier are specified in SCC.

8. Insurance

No need of Insurance for Local Supplies, However Supplier is responsible to deliver the goods in perfect condition to the end user.

9. Transportation

The Supplier is required under the Contract to transport the Goods to a specified place of destination and shall be arranged by the Supplier, and related costs shall be deemed to have been included in the Contract Price.

10. Incidental Services

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

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

11. Spare Parts

11.1 The Supplier should provide any or all of the notifications, and

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information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Procuring agency may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the Procuring agency of the pending termination, in sufficient time to permit the Procuring agency to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the Procuring agency, the blueprints, drawings, and specifications of the spare parts, if requested.

12. Warranty

- 12.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of desired models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 12.2 This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract
- 12.3 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract.

13. Payment

- 13.1 The firm should submit stamp duty as per Government Rule before execution of work.
- 13.2 100% payment to be made within 30 days after the issuance of inspection certificate and consignee's receipt certificate.
- 13.3 If the supply is not according to the specifications or unsatisfactory, the Contract will be rejected and cancelled at the risk and cost of Firm
- 13.4 If the firm fails to execute the contract/supply order as per condition, action will be taken against them which may be their

black listing and Earnest Money. / Security Deposit will be forfeited.

13.5 In case of late delivery @ 0.1% per day will be charged on bid amount deducted from the bill, but not more than 10% of contract value.

13.6 The currency of payment is Pak. Rupees.

14. Prices

Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid,

15. Contract Amendments

No variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

16. Delays in the Supplier's Performance

16.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring agency in the Schedule of Requirements.

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

16.3 Except as provided under GCC Clause 19 a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 17 unless an extension of time is agreed upon pursuant to GCC Clause 16.2 without the application of liquidated damages.

17. Liquidated Damages

Subject to GCC Clause 19, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 18.

**18. Termination
for Default**

- 18.1 The Procuring agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:
- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 16; or
 - (b) If the Supplier fails to perform any other obligation(s) under the Contract.
 - (c) If the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- 18.2 In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 18.1, the Procuring agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and supplier shall be liable to the Procuring agency for any excess costs for such similar Goods or services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

19. Force Majeure

- 19.1 Notwithstanding the provisions of GCC Clauses 16, 17 and 18, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 19.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 19.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**20. Termination
for Insolvency**

- 20.1 The Procuring agency may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such

termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the procuring agency.

21. Termination for Convenience

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

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

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

22. Resolution of Disputes

Resolution of dispute shall be through Mechanism for Redressal of Grievances as provided in the rules or through Arbitration Act 1942.

23. Governing Language

The Contract shall be written in English language all correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

24. Applicable Law

The Contract shall be interpreted in accordance with the SPP Rules 2010 (amended 2013).

25. Taxes and Duties

Supplier shall be entirely responsible for all taxes, duties (including stamp duty), license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.

26. Overriding effect of Sindh Public Procurement Rules 2010 (Amended 2013)

In case of conflict or primacy of interpretation the provisions of SPP Rules 2010 (amended 2013) shall have an overriding effect notwithstanding anything to the contrary contained in these bidding documents

Part-IV
Bid Data Sheet

The following specific data for “Procurement / Supply, Installation & Commissioning of CCTV System” to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Part One. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

Introduction	
ITB 1	Name of Procuring Agency: NED University of Engg. & Tech., Karachi. Telephone No. 021-992161261-68 Ext-_____, Fax 021-99261255.
	Name of Contract. “Procurement / Supply, Installation & Commissioning of CCTV System”
Bid Price and Currency	
ITB 4	Prices quoted by the Bidder shall be “fixed” and in” Pak Rupees”
Preparation and Submission of Bids	
ITB 7	<p>Submission of Tender / Bidding Procedure</p> <ol style="list-style-type: none"> i. The bidding procedure as given in clause 46(2) of the SPPRA Rules i.e. Single Stage-two envelope procedure, will be followed in this Bid. A single package containing two separate envelopes clearly marked “Technical Proposal” and ‘Financial Proposal’ may be submitted as a bid. ii. Proposals must include the complete address of bidder’s office with name, mailing address and telephones number of the person the Company should be contacted regarding the proposal. iii. A certified copy of the certificate of incorporation or charter or an equivalent document for proof of registration of the bidding entity must be attached with the proposal. iv. Furthermore, provision of a documentary proof of the competent and authorized signatory on behalf of the entity into contract with the company is mandatory at the time of proposal submission. v. Proposals must confirm that the bidder will comply with all provisions in this bidding document. vi. Proposals must be signed by a company officer empowered to bind the executing agency. A bidder’s failure to include these items in the proposal may cause the proposal to be determined as non-responsive and the proposal may be rejected. vii. Technical proposal should be submitted as per format attached at Form-II-A viii. Financial proposal should be submitted as per B.O.Q. attached as Form-II-B. ix. Required Review: Questions and concerns regarding this document must be made in writing and received by the concerned officer mentioned below at least ten working days before the proposal submission deadline. x. Amendments: If an amendment is issued, it will be communicated at all locations where the tender documents were originally placed. <p><u>Qualification requirements/ Bidders eligibility:</u></p> <ol style="list-style-type: none"> 1. Bidders must be a direct authorized agent of the manufacturer of required items with a minimum of five (05) years of experience in manufacturing or supplies; as applicable.

	<ol style="list-style-type: none"> 2. Authorized agent should be in possession of a valid verifiable Authorization Certificate. 3. Bidder /Supplier should have a documented track of completing at least 3 similar assignments, during last 3 (three) years, involving the supply, installation, and after sale support. 4. They should have annual sale volume of at least Rs.03 (three) million in of last 3 years, relevant documents should be provided. 5. Valid Registration with tax authorities is required 								
ITB 9	Amount of bid security. 2% of Bid Value								
ITB 10	Bid validity period. 90 days								
ITB 11	Number of copies. One original One Photo Copy								
ITB 13	Deadline for bid submission. . . . at 11.00 AM								
ITB 19.1	<p>Bid Evaluation Criteria, Conditions and Process.</p> <ol style="list-style-type: none"> 1. Only those bids will be evaluated which successfully meet the mandatory criteria given as follows: <ol style="list-style-type: none"> a. Proof of Certificate of incorporation or Registration or equivalent b. Proof of NTN Certificate and GST Registration Certificate (if applicable) c. Affidavit that the Bidder is not insolvent and bankrupt. d. Affidavit that Bidder has not been black listed or debarred by Public Procurement, Government, Semi-Government, Private, Autonomous body or any other international organization. 2. Final assignment award will be on the basis of combined technical and Financial score in the following manner: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Proposal</th> <th>Weightage</th> </tr> </thead> <tbody> <tr> <td>Technical</td> <td>80%</td> </tr> <tr> <td>Financial</td> <td>20%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </tbody> </table> 3. Technical evaluation criteria can be seen at Form –II-A. 4. The bids scoring less than 60% marks in the Technical Evaluation will be rejected and their financial bid envelope will be returned unopened. 5. The final score of technical bid will be added to the financial score and final award of contract decision will be based on total of technical score plus financial score. <p>Selection – Evaluation Process</p> <ol style="list-style-type: none"> 1. An evaluation committee will review in detail all proposals that are received to determine the extent to which they comply with bid document requirements. 2. Proposals that fail to meet bid document requirements may be rejected. 3. Proposals containing false or misleading statements regarding requirements of bidding documents may be rejected. 4. Financial/Bid price will be checked only if a proposal is determined to be technically qualified. 	Proposal	Weightage	Technical	80%	Financial	20%	Total	100%
Proposal	Weightage								
Technical	80%								
Financial	20%								
Total	100%								

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Part-V
Special Conditions of Contract

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

1. Definitions (GCC Clause 1)

GCC 1 (g)—The Procuring Agency is: Office of the _____, NED University of Engg. & Tech., Karachi.

2. Performance Security (GCC Clause 4)

GCC 4—The amount of performance security, as a percentage of the Contract Price, shall be: 10%.

3. Inspections and Tests (GCC Clause 5)

Inspection of NEDUET shall inspect the procured good and ensure that it meets the tender specifications before its acceptance

4. Delivery and Documents (GCC Clause 7)

GCC 10—Supplier shall supply and install the good within 30 Days after signing the contract and shall submit the following.

- (i) Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) Packing List identifying the contents of Supply;
- (iii) Delivery note.
- (iv) Warranty and guarantee certificate;

5. Warranty (GCC Clause 12)

The equipment shall bear Standard warranty (with free parts & labor) from the date of installation / acceptance. Upon expiration of warranty, Purchaser at its option may enter into a Service Level Maintenance Agreement upon expiry of the warranty period in accordance with terms embodied in Appendix-A hereto

6. Payment (GCC Clause 13)

Hundred percent (100%) of the Contract Price shall be paid upon delivery, and satisfactory Installation, integration and testing of the products at the Project site (s), subject to the production of installation and Operational Acceptance Certificates duly signed by authorized Inspection Committee of NEDUET.

7. Liquidated Damages (GCC Clause 17)

If the Supplier fails to deliver the goods or perform the services within the time period(s) specified in the contract, the Purchaser shall, without prejudice to its other remedies under the contract deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.07 percent of the Contract Price for each day of delay until actual delivery or performance, up to a maximum deduction of 10% of the Contract Price. Once the maximum is reached, the purchaser may consider termination of the contract.

8. Resolution of Disputes (GCC Clause 22)

In the case of a dispute between the Procuring agency and the Supplier, the dispute shall be referred to the dispute resolution mechanism as defined in rule 31, 32 and 34 of the (SPPR 2010) Amended 2013

9. Applicable Law (GCC Clause 24)

GCC 24 Contract shall be interpreted in accordance with the Sindh Public Procurement law of Sindh.

The de

S. No

Note

Part-VI
SCHEDULE OF REQUIREMENTS

The delivery schedule hereafter expressed the date of delivery required.

S. No	Item	Quantity	Time of Delivery from date of Award	Location of Supply

Note : **specifications of above items are attached**

PART-VII
SAMPLE FORMS

Form-I

Letter of Acceptance

Date: _____

To:

NED University of Engineering & Technology,
Karachi,

Dear Sir:

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver the required item in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

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

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to Five (5) percent of the Contract Price/Pay order for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid for a period of 15 days from the date fixed for Bid opening under Clause 10 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

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

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

Dated this _____ day of _____ 2016 _____.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of _____

EVALUATION OF PROPOSALS

Parameters of Technical Evaluation

Sections	Score	Score obtained
A. Profile	15	
B. Experience	15	
C. Technical staff	10	
D. Technical Bid Completeness / Closeness to Specification	60	
Total	100	

Technical Evaluation Criteria:

A. Profile (15)					
S. No.	Attributes	Max Score	Score Distribution	score obtained	Requirements
1	Financial Strength	8	8		More than or equal to 50 Million turnover
			5		40 Million turnover
			3		Up to 20 Million
2	Company established (No. of years)	5	5		10 or more years
			3		3 or more years
			2		2 or more years
3	Location of Offices	2	2		Offices at Karachi and other places of Pakistan
			1		Office in only one city
Total		15			

B. Experience (15)					
S. No.	Attributes	Max Score	Score Distribution	score obtained	Requirements
4	Successfully completion of projects of other organizations	07	07		Government Sector
			04		Private Sector organization
5	Projects of similar nature, particularly in public sector organizations/universities	05	05		More than 05 projects
			03		More than 03 projects
6	Number of referenceable completion certificate	03	03		5 or more completions
			02		3-4 completions
			01		1- 2 completions
Total		15			

C. Technical Staff (10)					
S. No.	Attributes	Max Score	Score Distribution	score obtained	Requirements
7	Total Strength of relevant Technical Staff	10	10		Firm having more than 10 relevant technical Staff, 02, having specialization
			8		Firm having more than 05 relevant technical Staff, 01 having specialization
			5		Firm having at least 05 relevant technical Staff, 01, having specialization
Total		10			

D. Technical Bid Completeness / Closeness to Specification (60)					
8	Technical Bid Completeness / Closeness to Specification (Documentary Proof, Broachers, Diagrams, Presentations etc.)	60	60		Between 95% to 100% Closeness / Completeness
			50		Between 85% to 95% Closeness / Completeness
			40		upto 80% Closeness / Completeness
	Total	60			

TECHNICAL PROPOSAL REQUIREMENTS

The Contractor / Firm required to submit the following which are mandatory for technical proposal.

- Manufacturing License / Authorization Letter
- Valid Income Tax Registration
- Valid General Sales Tax Registration (Status active with FBR)

- Undertaking on Judicial Paper that the firm is not blacklisted and not involved in litigation with any of provincial or Federal Government Department, Agency, Organization or autonomous body anywhere in Pakistan. In case involved in any litigation process, proof of dispute resolution is required.

A. Profile

- Company Profile showing Financial Strength and turn over for last 03 years
- No of years company is serving in the filed
- Locations / Address of Company Offices in all over Pakistan

B. Experience

- Documents / Certificates showing complete past Projects.
- Documents / Certificates of completion of similar nature of Projects from Clients

C. Technical Staff

- List of Technical / Engineering Staff, Supporting Staff etc.
- List of personnel / staff having specialization in relevant filed.

D. Technical Bid Completeness / Closeness to Specification

- Details of specifications of respective offering items on manufacturer / dealer's letter along with catalogue, brochures, diagrams, presentation, all other relevant documents etc.

Contract Form

THIS AGREEMENT made the ____ day of _____ 20____ between *NED University of Engineering & Technology, Karachi*. (hereinafter called "the Procuring agency") of the one part and [*name of Supplier*] of [*city and country of Supplier*] (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring agency invited bids for certain goods and ancillary services, viz., Procurement / Supply of _____ for Department of _____ Engineering, NEDUET, Karachi. has accepted a bid by the Supplier for the supply of those goods and services in the sum of [*contract price in words and figures*] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

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

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

Signed, sealed, delivered by _____ the _____ (for the Procuring agency)

Signed, sealed, delivered by _____ the _____ (for the Supplier)

Performance Security Form

To:

NED University of Engineering & Technology,
Karachi.

WHEREAS [*name of Supplier*] (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. [*reference number of the contract*] dated _____ 2014 ____ to supply [*description of goods and services*] (hereinafter called "the Contract").

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

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of [*amount of the guarantee in words and figures*], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of [*amount of guarantee*] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

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

Signature and seal of the Guarantors

[*name of bank or financial institution*]

[*address*]

[*date*]

Manufacturer's Authorization Form

To:

NED University of Engineering & Technology,
Karachi.

WHEREAS *[name of the Manufacturer]* who are established and reputable manufacturers of *[name and/or description of the goods]* having factories at *[address of factory]*

do hereby authorize *[name and address of Agent]* to submit a bid, and subsequently sign the Contract with you against NIT No. *[reference of the Invitation to Bid]* for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 12 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

[signature for and on behalf of Manufacturer]

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

PART-VIII
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY
SPECIFICATIONS AND QUANTITIES

Note: All quotes must include standard warranty period as mentioned in the specifications or otherwise (i.e. if not mentioned in the specifications).

Signature & Stamp of Tenderer

BOQ (Billed Bill of Quantity)

NAME OF WORK: CCTV Surveillance System for NED University
Main Campus

Sr. No.	Description of work/Items	Unit	Qty.	Unit Price	Total Amount
1	<p>Speed Dome Camera 18 units each</p> <ul style="list-style-type: none"> • 2 Megapixel Speed Dome Camera, resolution: 1920x1080 at 30fps. • HDTV in real time video H.264 multiple streams • 30X Optical Zoom / 12 Digital zoom • Auto-tracking 120dB. • Hardware WDR IP66 Waterproof Pedestal and auto-recovery • System DeJog feature Pre/post even video buffer • 150m IR light • 3D privacy mask True day and night 3D noise reduction • Motion detection, Tampering alarm • DC/AC power -40/ 55°C Working temperature • ONVIF 2.4.1 / Profile S • Local storage / NAS storage • Lightning and surge protection 	Nos.	2		
2	<p>Bullet Camera of equivalent</p> <ul style="list-style-type: none"> • 2 Megapixel Bullet Camera • High performance Texas Instruments DSP, Low lux progressive CMOS sensors, • 100m long distance IR light Varifocal / Auto-iris lenses, manual/remote focus. • Full metal IP66 waterproof housing / IK10, • H.264/MJPEG high efficiency video compression. • Wide Dynamic Range. • Multiple streams, Real day & night, auto switch ICR filter. • 3DNR Noise reduction. • Micro SD card local storage, up to 64GB. • DC/ACB power • Region of Interest (ROI). • 4-PTZ, RS-485 / Alarms, Privacy mask, • Motion detection. • 2 way audio bracket with junction box. • Five CMS included • Onvif 2.4.1 and profile S compliant 	Nos.			

BOQ

otherwise (i.e. if

er

NED University of Engineering and Technology

BOQ (Priced Bill of Quantity)

NAME OF WORK: CCTV Surveillance System for NED University
Main Campus

Sr. No.	Description/Specifications	Unit	Qty.	Unit Price Pak Rupees	Total Amount Pak Rupees
1	<p><u>Speed Dome Camera</u> or equivalent</p> <ul style="list-style-type: none"> • 2 Megapixel Speed Dome Camera, resolutions 1920x1080 at 30fps. • HDTV in real time video H.264 multiple streams 30X Optical Zoom / 12 Digital zoom • Auto-tacking 120dB. • Hardware WDR IP66 Waterproof Redundant and auto-recovery • System Defog feature Pre/post even video buffer • 150m. IR light • 3D privacy mask True day and night 3D noise reduction • Motion detection, Tampering alarm • DC/AC power -40/65° C. Working temperature • ONVIF 2.4.1 / Profile S • Local storage / NAS storage • Lightning and power surge protection 	Nos.	2		
2	<p><u>Bullet Camera</u> or equivalent</p> <ul style="list-style-type: none"> • 2 Megapixel Bullet Camera, • High performance Texas Instruments DSP, Low lux progressive CMOS sensors, • 100m. long distance IR light Varifocal / Auto-iris lenses, manual/remote focus, • Full metal IP66 waterproof housing / IK10, • H.264/MJPEG high efficiency video compression, • Wide Dynamic Range, • Multiple streams, Real day & night, auto switch ICR filter, • 3DNR Noise reduction, • Micro SD card local storage, up to 64Gb, • DC/POE power, • Region of Interest (ROI), • e-PTZ, RS-485 / Alarms, Privacy mask, • Motion detection, • 2 way audio, Bracket with junction box, • Free CMS included • Onvif 2.4.1 and profile S compliant 	Nos.	9		

3 ✓	<p>Network Video Recorder or equivalent</p> <ul style="list-style-type: none"> • NVR 32 Channel recording in HDTV/1080p. • Standalone Linux NVR • Embedded OS to avoid system damage • Real time 1080p. • Recording 8x 3.5" hard drive / 1 eSATA 32TB. • Recording capacity Local display in 1080p. • Remote access through internet Mobile phone application • HDMI connection Onvif 2.2 		1		
4 ✓	<p>Workstation or equivalent</p> <p>Core i7 PC with License windows 8 NVADIA Dual Display Graphic Card x 2</p> <ul style="list-style-type: none"> • Processor Type : Intel Core i7 5th Generation • Processor Speed : 3.6GHz • Processor Cache : 8MB • RAM : 12GB DDR3 • HDD : 12TB SATA • Graphic Card : NAVDIA Dual Display Graphic Card x 2 • DVD/RW • WINDOWS 8 : License • Casing - Rack Mounted 	Nos.	1		
5 ✓	<p>LED TV or equivalent</p> <ul style="list-style-type: none"> • 48" Smart LED TV, • Resolution 1.920x1.080 Full HD, • Dolby MSIO/DTS Studio Sound, • DTS Premium Audio 5.1, • HDMI x 4/ USB x 3/ Component/Composite/Digital Audio. 	Nos.	3		
6 ✓	<p>Cables or equivalent</p> <ul style="list-style-type: none"> • HDMI Cables 20 Meter - 5 QTY • USB Cable 20 Meter - 5 QTY • DVI to HDMI Converter - 4 QTY • Cage Nuts - 50 QTY • PDU - 1 QTY • KVM Switch - 1 QTY 	No.	1		
7 ✓	<p>Data Cabinet Rack or equivalent</p> <ul style="list-style-type: none"> • 27U Standard Equipment Rack / Cabinet / Enclosure - • 27U, 19" (W600 x D1000 x H1388mm) , • Two Trays, • One PDU • Four Fans • All other accessories required for proper completion of work 	No.	1		
8 ✓	<p>Hard Disk or equivalent</p> <ul style="list-style-type: none"> • 4TB 3.5" SURVEILLANCE (DESIGNED FOR VIDEO RECORDING) ST4000VX000 	Nos.	8		

<p>9 ✓</p>	<p><u>Optical Distribution Box</u> or equivalent</p> <ul style="list-style-type: none"> • ODF - 24 Ports, SC/UPC type • 19" Standard installation, adjustable in forward and backward directions • Suitable for being installed in different kind of Rack of cabinets • Six-pack Adapter panels mounted in the front board are selectable with FC/SC/ST/LC Type • Unique plastic retainer clips for optical fibers are attached, protecting the spliced fiber sufficiently • Fiber guiding hoops in front and rear side protect fibers from mechanical damage, and are arranged to ensure bending radius protection • Capacities and heights : 24 core with 2U height 	<p>No.</p>	<p>1 ✓</p>	
<p>10 ✓</p>	<p><u>24 Port SFP Switch</u> or equivalent</p> <p>20 (SFP) Combo Ports</p> <ul style="list-style-type: none"> • 4 (10/100/1000 BASE-T/SFP) Open Slot for 10-Gigabit <p>Uplink Modules</p> <ul style="list-style-type: none"> • 3 RS-232 Console Port • 1 Physical Stacking Optional Module for Stacking • Single-Port DEM-410CX or DEM-410X Maximum Number of Stacking Ports Optional • 2 CX4 or XFP Ports Stacking Speed (Per Port) • 20Gbps (Full-Duplex) No. of Units Per Stack • 12 Optional 10-Gigabit Uplink (Transceivers sold separately) Single XFP Slot Module (DEM-410X) • Yes Single CX4 Port Module (DEM-410CX) • Yes 10GBASE-SR (300 m Multi-Mode Fiber) <p>Support</p> <ul style="list-style-type: none"> • Yes 10GBASE-LR (10 km Single-Mode Fiber) <p>Support</p> <ul style="list-style-type: none"> • Yes Maximum Number of 10-Gigabit Uplinks Installable • 3 Performance Switch Fabric • 108Gbps Packet Forwarding Rate • 80.36Mpps Packet Buffer • 2MB MAC Address Table • 16K Entries IP v4 Routing Table • 12K Entries IP v6 Routing Table • 6K Entries IP v4 Host Table • 8K Entries IP v6 Host Table • 4K Entries Jumbo Frame Size • 9,216 Bytes Power Power Supply 	<p>No.</p>	<p>1 ✓</p>	

		<ul style="list-style-type: none"> • 100 to 120VAC, 200 to 240VAC, 50/60Hz, Internal Power Supply Power Consumption (Maximum) • 77 Watts Optional Redundant Power Supply • DPS-500 Physical/Environmental Heat Dissipation • 262.74 BTU/Hr Dimensions (W x D x H) • 17.4in x 15.3in x 1.7in (441mm x 389mm x 44mm) <p>Size</p> <ul style="list-style-type: none"> • 19-Inch Rack-Mount Width, 1U Height Weight (Without Optional Module) • 12.1 lbs (5.5 kg) Temperature • Operating: 32°F to 104°F (0°C to 40°C) • Storage: 14°F to 158°F (-10°C to 70°C) Humidity • Operating: 10% ~ 90% RH • Storage: 5% ~ 90% RH 			
11	✓	<p>24 Port Layer 2 Switch or equivalent</p> <p>SF300-24port 10/100 Managed Switch with 2 Gigabit Uplink</p> <ul style="list-style-type: none"> • 24 x 10/100 (PoE) + 2 x combo Gigabit SFP + 2 x 10/100/1000 • RADIUS, Secure Shell (SSH), TACACS+ • Static IPv4 routing • CLI, SNMP 3, SSH, SSH-2, Telnet, HTTP, HTTPS, RMON 1, RMON 2, RMON 3, RMON 9, SNMP 1, SNMP 2c 	No.	1	
12	✓	<p>3KVA UPS True Online & Sinewave UPS or equivalent</p> <p>3KVA UPS with Battery Bank, On-line double conversion with automatic by-pass</p> <ul style="list-style-type: none"> • 220/230/240/380/400/411/VAC 3 Phase (320 to 470VAC) - Stabilizer Built-in. • 50Hz +- 10%. (5-65Hz) 220/230/240/380/400/415 +- 1% (Selectable) (3 Phase). • 3:1 • TRUE SINEWAVE. • NIL/ZERO (TRUE ONLINE) DOUBLE CONVERSION • SEALED MAINT, FREE 3 - 6 YEARS LIFE. • 90-120 Minutes (With External battery Bank) r/P 99% & O/P.92%50 dbA. • BUILT-IN ISOLATION TRANSFORMER. • 125%for 10 MINS. & 150%for 1 MIN. • MICRO PROCESSOR BASED • SHORT CIRCUIT, OVERLOAD, NOISE, SURTENS, SPIKE PROTECTIONS. • LCD FRONT UPS STATUS DISPLAY. • STATIC LINE INTERCHANGE BYPASS. • GENERATOR COMPATIBLE • VFI VOLTAGE FREQUENCY INDEPENDENT • STABILIZED VOLTAGE & FREQUENCY (No need of AVR) 	No.	1	

	<ul style="list-style-type: none"> • REMOTE/NO LOAD SHUTDO'W. • A TO MA T I C B A T T E R I E S M A I N T E N A N C E. • ISO 9001 CERTIFIED 			
13	<p>Patch Cord SC-UPC or equivalent</p> <p>Patch Cord SC-UPC</p> <ul style="list-style-type: none"> • Consists of SC/UPC connector at 1 end and SC/APC on other end • Allows 9/125 μm bend radius to offer enhanced performance • Simplex, singlemode cable for 1-way data transfer • Measures 1.6-mm dia x 10-ft L • Comes in yellow color • Round patch cord provides maximum flexibility, handling and performance • Riser rated 	Nos.	30	
14	<p>Adopter SC-UPC or equivalent</p> <p>Adopter SC-UPC</p> <ul style="list-style-type: none"> • SC/UPC singlemode coupling adapter • Push-pull mechanism for high repeatability • Durable plastic sleeve and zirconia ceramic centering sleeve • Compatible with 3M™ Fiber Distribution Terminals CTB-FTB, BTI, PBPO and PBO as well as 3M™ Fiber Dome Stubbed Terminals • Comes in blue color • Measures 1.078 in x 0.606 in • RoHS 2011/65/EU Compliant • 1/pack, 60 packs/case 	Nos.	30	
15	<p>UTP Cable or equivalent</p> <p>Supply & Installation of CAT6 UTP Cable</p> <ul style="list-style-type: none"> • CAT6 4 pair cable • Unshielded Twisted Pair (UTP) • 24AWG conductors • PVC or LSZH jacket • Supplied in 305m box • Cable diameter 4.8mm 	Meters	650	
16	<p>Supply & Installation of CLT -12 Core Fiber Optic Cable SM G.652.D (Meters) or equivalent</p> <ul style="list-style-type: none"> • CLT Type • Outdoor 	Meters	4000	
17	<p>12 - Fiber Joints Enclosures (Pole Mounted) or equivalent</p> <ul style="list-style-type: none"> • Single Fiber Tray • Black Color • Water Proof 	Nos.	25	
18	<p>HDPE Pipe 40 mm with complete accessories or equivalent</p> <ul style="list-style-type: none"> • Coupler • End Caps 	Meters	4000	

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	<ul style="list-style-type: none"> • Black Color 				
19 ✓	Pre Cast Hand Hole 2' x 2' x 2.5' with installation or equivalent <ul style="list-style-type: none"> • Concrete Ratio 1:2:4 • Wall Thickness 4" • Precast 	Nos.	12 ✓		
20 ✓	15 Feet Pole Schedule 40 pipe for Fixed Camera including all civil work or equivalent <ul style="list-style-type: none"> • 3" Dia • Mounting Bracket • Powder Coated with Color 	Nos.	10 ✓		
21 ✓	35 Feet Pole RCC or equivalent <ul style="list-style-type: none"> • Prestressed concrete spun • Top Dia 8" • Bottom Dia 18" • Crack resistance 3-5 times 	No.	1 ✓		
22 ✓	Outdoor DB Powder Coated, 3' x 1.5' x 2.5' Pole Mounted or equivalent	Nos.	11 ✓		
23 ✓	Supply & Installation of Power Cable 4 mm sq. 3 core <ul style="list-style-type: none"> • 100% Copper or equivalent 	Meters	4000 ✓		
24 ✓	Breakers 1A or equivalent <ul style="list-style-type: none"> • Small Size – L x W x H, mm: 81 x 18 (Per Pole) x 75 • DIN Rail Mount • Two Trip Curves: C – 7-10 Times Rating; D – 10-14 Times Rating • Positive Indication of Contact Disconnect 	Nos.	11 ✓		
25 ✓	Branded Extension Board or equivalent <ul style="list-style-type: none"> • EPB4 Schneider 13A Extension 4 Socket 	Nos.	12 ✓		
26 ✓	Media Converter 1550 Nm and 1310 NM or equivalent <ul style="list-style-type: none"> • Provide one fiber connector and one UTP connector • Fully Complies with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, • Auto-detection of half/full duplex transfer mode for Tx port • Auto-negotiation of 10/100Mbps rate and Auto-MDI/MDIX for Tx port • Provide switch configuration of half/full duplex transfer mode for Fx port • Extend fiber distance up to 2km for multi-mode fiber and 20-120km for single-mode fiber • Indication light: RX, TX, FX, POW, 10/100 • Easy-to-view LED indicators provides status to easily monitor network activity • Internal power supply 	Nos.	11 ✓		
27 ✓	NMS Software or equivalent <ul style="list-style-type: none"> • Monitoring of events when link goes down/up • Maintain MRTG graphs of links • Data storage in SQL of link status • Email notification • Alarm generating if abnormality observe in any 	No.	1 ✓		

	link Pre-car				
✓ 28	Project Engineering Cost, Installation, Testing & Commissioning Charges or equivalent	Job	1 ✓		
✓ 29	Digging 3 ft depth (Soft, Soil) Sand layer, Pipe laying and Refilling or equivalent	Meter	4000 ✓		
✓ 30	Road Cutting or equivalent	Meter	500 ✓		
✓ 31	Concrete or Asphalt works / reinstatement or equivalent	Meter	500 ✓		
✓ 32	Supply & Installation of 1" PVC Pipe with all accessories	Meter	100 ✓		
✓ 33	Installation of OFC through HDPE/PVC Pipe or equivalent	Meter	4000 ✓		

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BOQ (Priced Bill of Quantity)

NAME OF WORK: CCTV Surveillance System for NED University LEJ Campus

Sr. No.	Description/Specifications	Unit	Qty.	Unit Price Pak Rupees	Total Amount Pak Rupees
1	<p>Speed Dome Camera or equivalent</p> <ul style="list-style-type: none"> • 2 Megapixel Speed Dome Camera, resolutions 1920x1080 at 30fps. • HDTV in real time video H.264 multiple streams 30X Optical Zoom / 12 Digital zoom • Auto-tracking 120dB. • Hardware WDR IP66 Waterproof Redundant and auto-recovery • System Defog feature Pre/post even video buffer • 150m. IR light • 3D privacy mask True day and night 3D noise reduction • Motion detection, Tampering alarm • DC/AC power -40/65° C. Working temperature • ONVIF 2.4.1 / Profile S • Local storage / NAS storage • Lightning and power surge protection 	No.	1		
2	<p>Bullet Camera or equivalent</p> <ul style="list-style-type: none"> • 1.3 Megapixel Bullet Camera, • High performance Texas Instruments DSP, Low lux progressive CMOS sensors, • 50m. long distance IR light Varifocal / Auto-iris lenses, manual/remote focus, • Full metal IP66 waterproof housing / IK10, • H.264/MJPEG high efficiency video compression, • Wide Dynamic Range, • Multiple streams, Real day & night, auto switch ICR filter, • 3DNR Noise reduction, • Micro SD card local storage, up to 64Gb, • DC/POE power, • Region of Interest (ROI), • e-PTZ, RS-485 / Alarms, Privacy mask, • Motion detection, • 2 way audio, Bracket with junction box, • Free CMS included • Onvif 2.4.1 and profile S compliant 	Nos.	7		
3	<p>Network Video Recorder or equivalent</p> <ul style="list-style-type: none"> • NVR 16 Channel recording in HDTV/1080p. • Standalone Linux NVR • Embedded OS to avoid system damage • Real time 1080p. Recording • 2x 3.5" hard drive 8TB. Recording capacity Local 	No.	1		

	<p>display in 1080p.</p> <ul style="list-style-type: none"> • Remote access through internet Mobile phone application • HDMI connection Onvif 2.2 				
4 ✓	<p>LED TV or equivalent</p> <ul style="list-style-type: none"> • 48" Smart LED TV, • Resolution 1.920x1.080 Full HD, • Dolby MSIO/DTS Studio Sound, • DTS Premium Audio 5.1, • HDMI x 4/ USB x 3/ Component/Composite/Digital Audio. 	No.	1 ✓		
5 ✓	<p>Cables or equivalent</p> <ul style="list-style-type: none"> • HDMI Cables 20 Meter - 3 QTY • USB Cable 20 Meter - 2 QTY • DVI to HDMI Converter - 4 QTY • Cage Nuts - 24 QTY • PDU - 1 QTY • KVM Switch - 1 QTY 	No.	1 ✓		
6 ✓	<p>Data Cabinet Rack or equivalent</p> <ul style="list-style-type: none"> • 6U Standard Equipment Rack / Cabinet / Enclosure - • 6U, 19" (W600 x D1000 x H1388mm) , • One Trays, • One PDU • Four Fans • All other accessories required for proper completion of work 	No.	1 ✓		
7 ✓	<p>Hard Disk or equivalent</p> <p>4TB 3.5" SURVEILLANCE (DESIGNED FOR VIDEO RECORDING) ST4000VX000</p>	Nos.	4 ✓		
8 ✓	<p>Optical Distribution Box or equivalent</p> <ul style="list-style-type: none"> • ODF - 16 Ports, SC/UPC type • 19" Standard installation, adjustable in forward and backward directions • Suitable for being installed in different kind of Rack of cabinets • Six-pack Adapter panels mounted in the front board are selectable with FC/SC/ST/LC Type • Unique plastic retainer clips for optical fibers are attached, protecting the spliced fiber sufficiently • Fiber guiding hoops in front and rear side protect fibers from mechanical damage, and are arranged to ensure bending radius protection 	No.	1 ✓		

<p>9 ✓</p>	<p>24 Port Layer 2 Switch or equivalent SF300-24port 10/100 Managed Switch with 2 Gigabit Uplink</p> <ul style="list-style-type: none"> • 24 x 10/100 (PoE) + 2 x combo Gigabit SFP + 2 x 10/100/1000 • RADIUS, Secure Shell (SSH), TACACS+ • Static IPv4 routing • CLI, SNMP 3, SSH, SSH-2, Telnet, HTTP, HTTPS, RMON 1, RMON 2, RMON 3, RMON 9, SNMP 1, SNMP 2c 	<p>No.</p>	<p>1 ✓</p>	
<p>10 ✓</p>	<p>2KVA UPS True Online & Sinewave UPS or equivalent 2KVA UPS with Battery Bank, On-line double conversion with automatic by-pass</p> <ul style="list-style-type: none"> • 220/230/240/380/400/411/VAC 3 Phase (320 to 470VAC) - Stabilizer Built-in. • 50Hz +- 10%. (5-65H2,) 2 2 0/2 3 0/2 4 0/3 8 0/4 0 0/4 I 5 +- 1 % (S e lectab le) (3 P h as e). • 3:1 • TRUE SINEWAVE. • NIL/ZERO (TRUE ONLTNE) DOUBLE CONVERSION • SEALED MAINT, FREE 3 - 6 YEARS LIFE. • 90-120 Minutes (With Erternal battery Bank) r/P 99% & O/P 92%50 dbA. • B UILT.I N I S O L A T I O N T R A N S F O R M E R. • 125% for 10 MINS. & 150% for 1 MIN. • MICRO PROCESSOR BASED • SHORT CUIRCUIT, OVERLOAD, NOICE, .suRct^s, s PIKE S PRO TE CTIONS. • LCD FRONT APS STATUS DISPLAY. • S T A T I C N, I A I N T E N A N C E B Y P A S S. • GENERATOR COMPATIBLE • VFI VOLTAGE FREQUENCY INDPENDENT • STABILIZED VOLTAGE & FREQaENCY (No need of AVR) • REMOTE/NO LOAD SHUTDO'W. • A T O M A T I C B A T T E R I E S M A I N T E N A N C E. • ISO 9001 CERTIFIED 	<p>No.</p>	<p>1 ✓</p>	
<p>11 ✓</p>	<p>Patch Cord SC-UPC or equivalent Patch Cord SC-UPC</p> <ul style="list-style-type: none"> • Consists of SC/UPC connector at 1 end and SC/APC on other end • Allows 9/125 μm bend radius to offer enhanced performance • Simplex, singlemode cable for 1-way data transfer 	<p>Nos.</p>	<p>20 ✓</p>	

	<ul style="list-style-type: none"> Measures 1.6-mm dia x 10-ft L Comes in yellow color Round patch cord provides maximum flexibility, handling and performance Riser rated 				
12	<p>Adopter SC-UPC or equivalent</p> <p>Adopter SC-UPC</p> <ul style="list-style-type: none"> SC/UPC singlemode coupling adapter Push-pull mechanism for high repeatability Durable plastic sleeve and zirconia ceramic centering sleeve Compatible with 3M™ Fiber Distribution Terminals CTB-FTB, BTI, PBPO and PBO as well as 3M™ Fiber Dome Stubbed Terminals Comes in blue color Measures 1.078 in x 0.606 in RoHS 2011/65/EU Compliant, 1/pack, 60 packs/case 	Nos.	20		
13	<p>UTP Cable or equivalent</p> <p>Supply & Installation of CAT6 UTP Cable</p> <ul style="list-style-type: none"> CAT6 4 pair cable Unshielded Twisted Pair (UTP) 24AWG conductors PVC or LSZH jacket Supplied in 305m box Cable diameter 4.8mm 	Meter	700		
14	<p>Supply & Installation of CLT -12 Core Fiber Optic Cable SM G.652.D or equivalent</p> <ul style="list-style-type: none"> CLT Type Outdoor 	Meter	1500		
15	<p>12 - Fiber Joints Enclosures (Pole Mounted) or equivalent</p> <ul style="list-style-type: none"> Single Fiber Tray Black Color Water Proof 	Nos.	11		
16	<p>Supply & Installation of 1" PVC Pipe with all accessories or equivalent</p>	Meter	1500		
17	<p>15 Feet Pole Schedule 40 pipe for Fixed Camera including all civil work or equivalent</p> <ul style="list-style-type: none"> 3" Dia Mounting Bracket Powder Coated with Color 	Nos.	8		
18	<p>Outdoor DB Powder Coated, 3' x 1.5' x 2.5' Pole Mounted or equivalent</p>	Nos.	8		
19	<p>ODF Joints or equivalent</p>	Nos.	11		
20	<p>Supply & Installation of Power Cable 1.5 mm sq. 3 core</p> <ul style="list-style-type: none"> 100% Pure Copper or equivalent 	Meter	1500		
21	<p>Breakers 1A or equivalent</p> <ul style="list-style-type: none"> Small Size – L x W x H, mm: 81 x 18 (Per Pole) x 75 DIN Rail Mount Two Trip Curves: C – 7-10 Times Rating; D – 	Nos.	8		

22 ✓

23 ✓

24 ✓

25 ✓

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	10-14 Times Rating • Positive Indication of Contact Disconnect				
22 ✓	UPVC Box 8x8 Department Cameras <u>or equivalent</u>	Nos.	8 ✓		
23 ✓	Branded Extension Board <u>or equivalent</u> EPB4 Schneider 13A Extension 4 Socket	Nos.	8 ✓		
24 ✓	Media Converter 1550 Nm and 1310 NM <u>or equivalent</u> <ul style="list-style-type: none"> • Provide one fiber connector and one UTP connector • Fully Complies with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, • Auto-detection of half/full duplex transfer mode for Tx port • Auto-negotiation of 10/100Mbps rate and Auto-MDI/MDIX for Tx port • Provide switch configuration of half/full duplex transfer mode for Fx port • Extend fiber distance up to 2km for multi-mode fiber and 20-120km for single-mode fiber • Indication light: RX, TX, FX, POW, 10/100 • Easy-to-view LED indicators provides status to easily monitor network activity • Internal power supply 	Nos.	8 ✓		
25 ✓	Project Engineering Cost, Installation, Testing & Commissioning Charges <u>or equivalent</u>	Job	1 ✓		

NED University of Engineering and Technology

BOQ (Priced Bill of Quantity)

NAME OF WORK: CCTV Surveillance System for NED University City Campus

Sr. No.	Description/Specifications	Unit	Qty.	Unit Price Pak Rupees	Total Amount Pak Rupees
1	<p>Speed Dome Camera or equivalent</p> <ul style="list-style-type: none"> • 2 Megapixel Speed Dome Camera, resolutions 1920x1080 at 30fps. • HDTV in real time video H.264 multiple streams 30X Optical Zoom / 12 Digital zoom • Auto-tacking 120dB. • Hardware WDR IP66 Waterproof Redundant and auto-recovery • System Defog feature Pre/post even video buffer • 150m. IR light • 3D privacy mask True day and night 3D noise reduction • Motion detection, Tampering alarm • DC/AC power -40/65° C. Working temperature • ONVIF 2.4.1 / Profile S • Local storage / NAS storage • Lightning and power surge protection 	No.	✓ 1		
2	<p>Bullet Camera or equivalent</p> <ul style="list-style-type: none"> • 1.3 Megapixel Bullet Camera, • High performance Texas Instruments DSP, Low lux progressive CMOS sensors, • 50m. long distance IR light Varifocal / Auto-iris lenses, manual/remote focus, • Full metal IP66 waterproof housing / IK10, • H.264/MJPEG high efficiency video compression, • Wide Dynamic Range, • Multiple streams, Real day & night, auto switch ICR filter, • 3DNR Noise reduction, • Micro SD card local storage, up to 64Gb, • DC/POE power, • Region of Interest (ROI), • e-PTZ, RS-485 / Alarms, Privacy mask, • Motion detection, • 2 way audio, Bracket with junction box, Free CMS included • Onvif 2.4.1 and profile S compliant 	Nos.	✓ 9		
3	<p>Network Video Recorder or equivalent</p> <ul style="list-style-type: none"> • NVR 16 Channel recording in HDTV/1080p. • Standalone Linux NVR • Embedded OS to avoid system damage • Real time 1080p. Recording • 2x 3.5" hard drive 8TB. Recording capacity Local display in 1080p. 	No.	✓ 1		

	<ul style="list-style-type: none"> Remote access through internet Mobile phone application HDMI connection Onvif 2.2 				
4 ✓	<p>LED TV or equivalent</p> <ul style="list-style-type: none"> 48" Smart LED TV, Resolution 1.920x1.080 Full HD, Dolby MSIO/DTS Studio Sound, DTS Premium Audio 5.1, HDMI x 4/ USB x 3/ Component/Composite/Digital Audio. 	No.	1		
5 ✓	<p>Cables or equivalent</p> <ul style="list-style-type: none"> HDMI Cables 20 Meter - 3 QTY USB Cable 20 Meter - 2 QTY DVI to HDMI Converter - 4 QTY Cage Nuts - 24 QTY PDU - 1 QTY KVM Switch - 1 QTY 	No.	1		
6 ✓	<p>Data Cabinet Rack or equivalent</p> <ul style="list-style-type: none"> 6U Standard Equipment Rack / Cabinet / Enclosure - 6U, 19" (W600 x D1000 x H1388mm), One Trays, One PDU Four Fans All other accessories required for proper completion of work 	No.	1		
7 ✓	<p>Hard Disk or equivalent</p> <p>4TB 3.5" SURVEILLANCE (DESIGNED FOR VIDEO RECORDING) ST4000VX000</p>	Nos.	4		
8 ✓	<p>Optical Distribution Box or equivalent</p> <ul style="list-style-type: none"> ODF - 16 Ports, SC/UPC type 19" Standard installation, adjustable in forward and backward directions Suitable for being installed in different kind of Rack of cabinets Six-pack Adapter panels mounted in the front board are selectable with FC/SC/ST/LC Type Unique plastic retainer clips for optical fibers are attached, protecting the spliced fiber sufficiently Fiber guiding hoops in front and rear side protect fibers from mechanical damage, and are arranged to ensure bending radius protection 	No.	1		
9 ✓	<p>24 Port Layer 2 Switch or equivalent</p> <p>SF300-24port 10/100 Managed Switch with 2 Gigabit Uplink</p> <ul style="list-style-type: none"> 24 x 10/100 (PoE) + 2 x combo Gigabit SFP + 2 	No.	1		

	<ul style="list-style-type: none"> x 10/100/1000 RADIUS, Secure Shell (SSH), TACACS+ Static IPv4 routing CLI, SNMP 3, SSH, SSH-2, Telnet, HTTP, HTTPS, RMON 1, RMON 2, RMON 3, RMON 9, SNMP 1, SNMP 2c 			
10 ✓	<p>2KVA UPS True Online & Sinewave UPS or equivalent</p> <ul style="list-style-type: none"> 220/230/240/380/400/411/VAC 3 Phase (320 to 470VAC) - Stabilizer Built-in. 50Hz +- 10% (5-65Hz), 220/230/240/380/400/415 +- 1% (Selectable) (3 Phase). 3:1 TRUE SINEWAVE. NIL/ZERO (TRUE ONLTNE) DOUBLE CONVERSION SEALED MAINT, FREE 3 - 6 YEARS LIFE. 90-120 Minutes (With Erternal battery Bank) r/P 99% & O/P 92% 50 dbA. BUILT IN ISOLATION TRANSFORMER. 125% for 10 MINS. & 150% for 1 MIN. MICRO PROCESSOR BASED SHORT CIRCUIT, OVERLOAD, NOISE, SURGES, SPIKES PROTECTIONS. LCD FRONT PANEL STATUS DISPLAY. STATISTICAL MAINTENANCE BYPASS. GENERATOR COMPATIBLE VFI VOLTAGE FREQUENCY INDEPENDENT STABILIZED VOLTAGE & FREQUENCY (No need of AVR) REMOTE/NO LOAD SHUTDOWN. ATMATIC BATTERIES MAINTENANCE. ISO 9001 CERTIFIED 	No.	1	
11 ✓	<p>Patch Cord SC-UPC or equivalent</p> <p>Patch Cord SC-UPC</p> <ul style="list-style-type: none"> Consists of SC/UPC connector at 1 end and SC/APC on other end Allows 9/125 μm bend radius to offer enhanced performance Simplex, singlemode cable for 1-way data transfer Measures 1.6-mm dia x 10-ft L Comes in yellow color Round patch cord provides maximum flexibility, handling and performance Riser rated 	Nos.	14	
12 ✓	<p>Adopter SC-UPC or equivalent</p> <p>Adopter SC-UPC</p>	Nos.	14	

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	<ul style="list-style-type: none"> • SC/UPC singlemode coupling adapter • Push-pull mechanism for high repeatability • Durable plastic sleeve and zirconia ceramic centering sleeve • Compatible with 3M™ Fiber Distribution Terminals CTB-FTB, BTI, PBPO and PBO as well as 3M™ Fiber Dome Stubbed Terminals • Comes in blue color • Measures 1.078 in x 0.606 in • RoHS 2011/65/EU Compliant, 1/pack, 60 packs/case 			
13 ✓	<u>UTP Cable or equivalent</u> Supply & Installation of CAT6 UTP Cable <ul style="list-style-type: none"> • CAT6 4 pair cable • Unshielded Twisted Pair (UTP) • 24AWG conductors • PVC or LSZH jacket • Supplied in 305m box Cable diameter 4.8mm	Meter	600 ✓	
14 ✓	<u>Fiber Optic Cable or equivalent</u> Supply & Installation of CLT -12 Core Fiber Optic Cable SM G.652.D (Meters) <ul style="list-style-type: none"> • CLT Type • Outdoor 	Meter	1500 ✓	
15 ✓	<u>12 - Fiber Joints Enclosures (Pole Mounted) or equivalent</u>	Nos.	11 ✓	
16 ✓	<u>Supply & Installation of 1" PVC Pipe with all accessories (Meters) or equivalent</u>	Meter	800 ✓	
17 ✓	<u>15 Feet Pole Schedule 40 pipe for Fixed Camera including all civil work or equivalent</u> <ul style="list-style-type: none"> • 3" Dia • Mounting Bracket • Powder Coated with Color 	Nos.	8 ✓	
18 ✓	<u>Outdoor DB Powder Coated, 3' x 1.5' x 2.5' Pole Mounted</u>	Nos.	8 ✓	
19 ✓	<u>ODF Joints or equivalent</u>	Nos.	8 ✓	
20 ✓	<u>Supply & Laying of Power Cable 1.5 mm sq. 3 core</u> <ul style="list-style-type: none"> • 100% Pure Copper 	Meter	1500 ✓	
21 ✓	<u>Breakers 1A or equivalent</u> <ul style="list-style-type: none"> • Small Size – L × W × H, mm: 81 × 18 (Per Pole) × 75 • DIN Rail Mount • Two Trip Curves: C – 7-10 Times Rating; D – 10-14 Times Rating • Positive Indication of Contact Disconnect 	Nos.	8 ✓	
22 ✓	<u>UPVC Box 8x8 Department Cameras or equivalent</u>	Nos.	8 ✓	

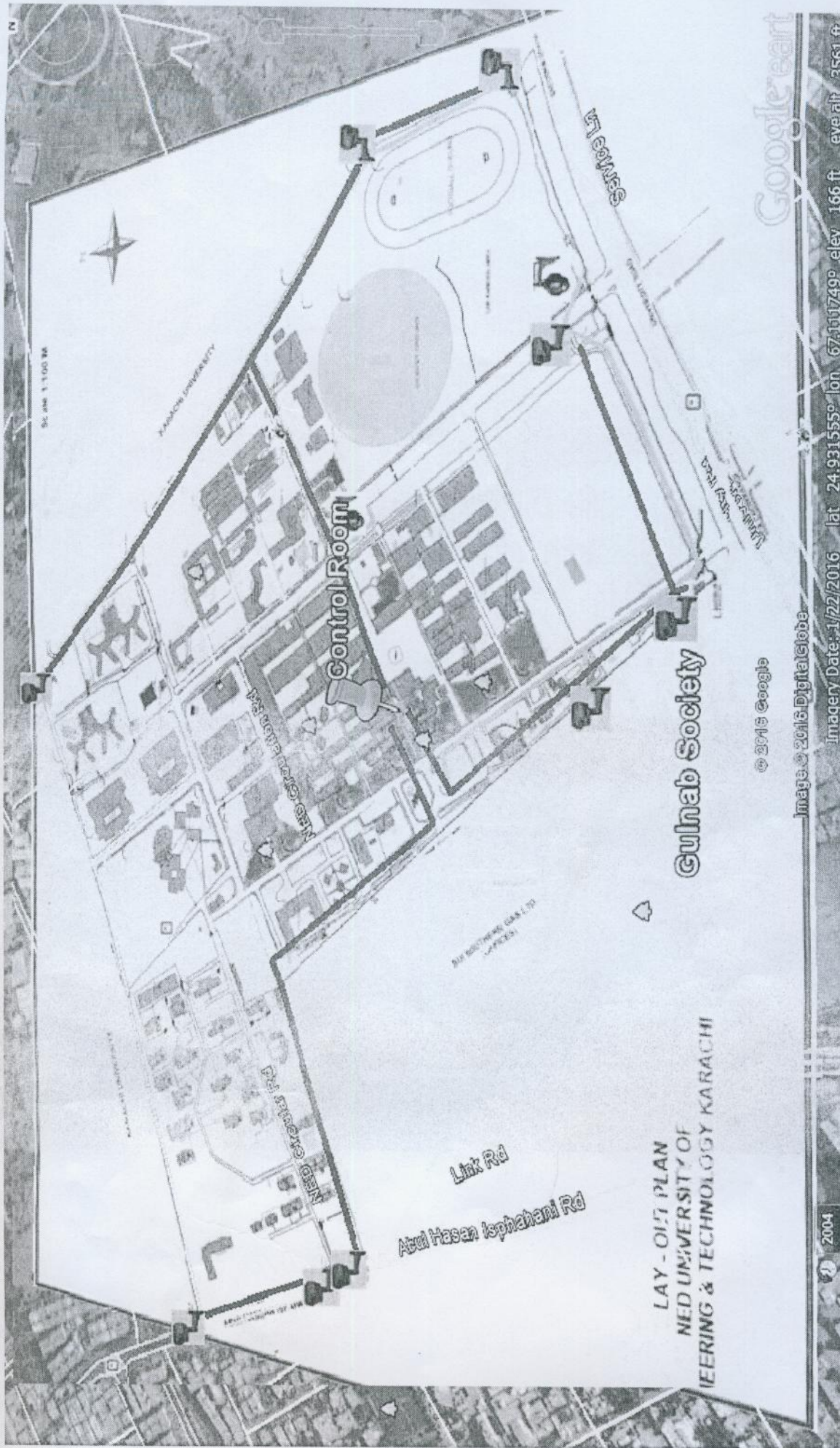
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23 ✓	Branded Extension Board <u>or equivalent</u> EPB4 Schneider 13A Extension 4 Socket	Nos.	8 ✓		
24 ✓	Media Converter 1550 Nm and 1310 NM <u>or equivalent</u> <ul style="list-style-type: none"> • Provide one fiber connector and one UTP connector • Fully Complies with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, • Auto-detection of half/full duplex transfer mode for Tx port • Auto-negotiation of 10/100Mbps rate and Auto-MDI/MDIX for Tx port • Provide switch configuration of half/full duplex transfer mode for Fx port • Extend fiber distance up to 2km for multi-mode fiber and 20-120km for single-mode fiber • Indication light: RX, TX, FX, POW, 10/100 • Easy-to-view LED indicators provides status to easily monitor network activity • Internal power supply 	Nos.	8 ✓		
25 ✓	Digging 3 ft depth(Soft, Soil) Pipe, Sand Layer and refilling <u>or equivalent</u>	Meter	750 ✓		
26 ✓	Concrete or Asphalt works / reinstatement <u>or equivalent</u>	Nos.	80 ✓		
27 ✓	HDPE Pipe 40 mm with complete accessories <u>or equivalent</u> <ul style="list-style-type: none"> • Coupler • End Caps • Black Color 	Meter	700 ✓		
28 ✓	Pre Cast Hand Hole 2' x 2' x 2.5' with installation <u>or equivalent</u> <ul style="list-style-type: none"> • Concrete Ratio 1:2:4 • Wall Thickness 4" • Precast 	Nos.	3 ✓		
29 ✓	Project Engineering Cost, Installation, Testing & Commissioning Charges <u>or equivalent</u>	Job	1 ✓		
30 ✓	Installation Charges of HDPE Pipe 40 mm with complete accessories <u>or equivalent</u>	Meter	700		

Main series 19

LIST OF APPROVED MANUFACTURERS / SUPPLIERS

S.No.	Materials	Brand 1	Brand 2	Brand 3	Brand 4
01	Rack/ Cabinet	Toten	IBM	COMPAQ	Panduit
02	CCTV Camera	TANZ	Tyco	Pelco	Dallmeier
03	NVR	TANZ	Tyco	Pelco	Dallmeier
04	Computer	HP	Dell	IBM	-
05	LED Display	LG	Samsung	Sony	-
06	Cat-6 FTP Cable	3M (USA)	Schneider (USA)	Panduit (European)	-
07	Switch	Cisco	HP	Netgear	Edge Core
08	UPS	APC (Schneider USA)	Emerson (USA)	GE (USA)	-
09	Power Cable	Pakistan Cable	Million	-	-
10	Extension Board	Schneider	Orange	-	-
11	Breaker	Clipsal	Schneider	-	-



Scale: 1:100 M

KARACHI UNIVERSITY

Control Room

WASIM AHMED GATE

Dr. Farooq Gate

Link Rd

Azul Hasan Isphahani Rd

VI COMES

Culnab Society

LAY - OUT PLAN
NED UNIVERSITY OF
ENGINEERING & TECHNOLOGY KARACHI

Google Earth

© 2015 Google

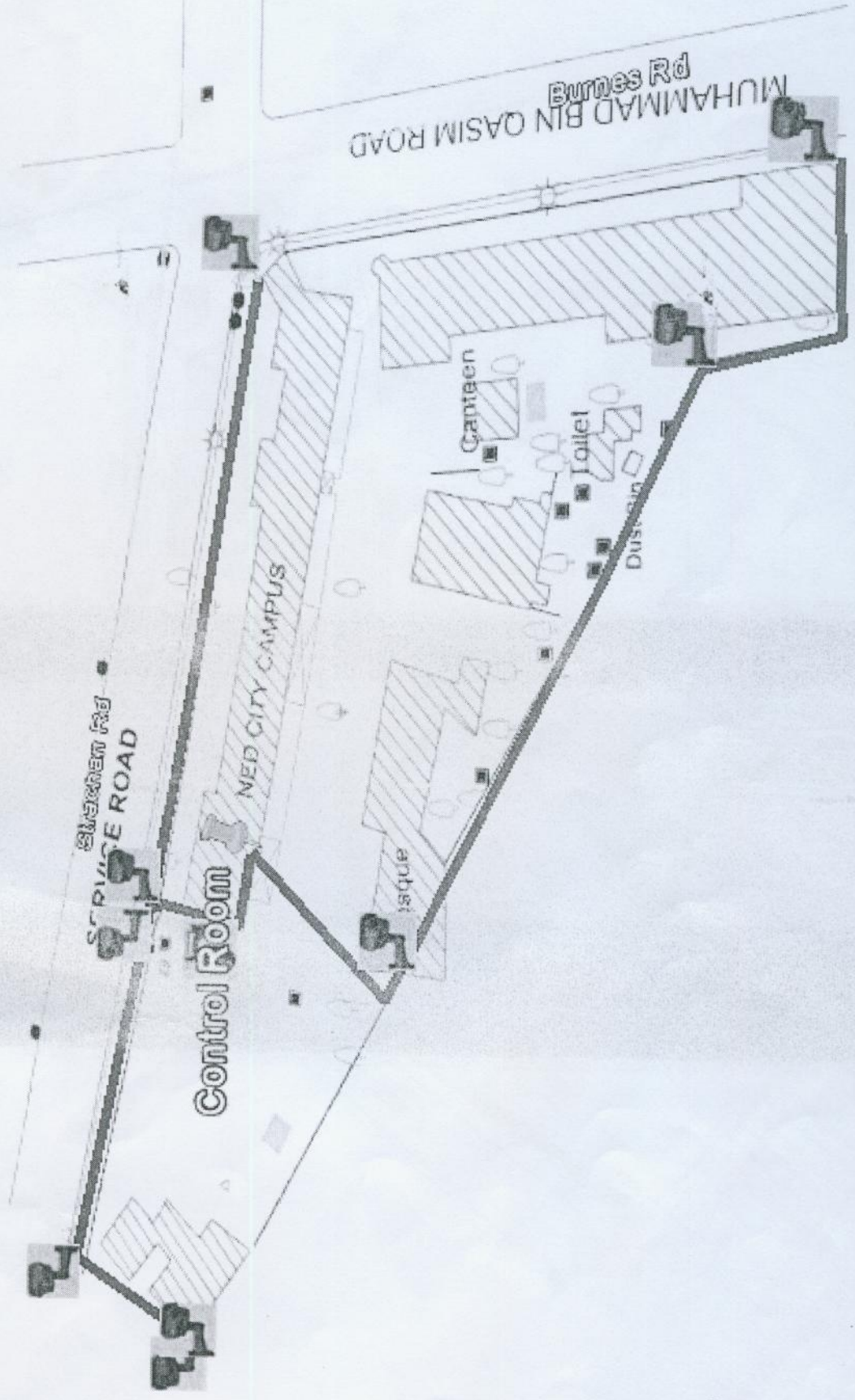
Image © 2016 DigitalGlobe

Imagery Date: 1/22/2016

lat: 24.931555° lon: 67.111749° elev: 166 ft eye alt: 3561 ft

2004

NED CITY CAMPUS
Area
2.0 Acres Approximately



BRD





F/QSP 10/04/00

PURCHASE SECTION
NED UNIVERSITY OF ENGINEERING & TECHNOLOGY, KARACHI.
BY REGISTERED A.D./COURIER SERVICE.

CONTRACT SCHEDULE

1. Contract No:
2. Name & Address of Contractor:
3. Contractor's Tender No. & Date:
4. Indenter's Name & Address:
5. Indenter's Indent No & Date:
6. Particulars of stores:

Dated: _____ 20

As below.

Item No.	Description of Store	Acctg Unit	Price per A/U	Total Qty Reqd.	Total Value
01					
		
		

INSTRUCTIONS:

- Store must be delivered to Central Store in due period which will be issued by the Central Store to the Indenter.
- A copy of Delivery Challan must be delivered to Purchase Officer on same day after delivery of Store.
- Bill should be submitted Assistant Director Finance (Purchase) along with GST Invoice.
- Inspection Certificate may be issued by Central Store within Prescribed period as mentioned in clause 15 of the Indent Form.

GRAND TOTAL (Value in Words)

7. Date of Delivery:
8. Place of Delivery: NED University Campus/Consignee.
9. Name & Address of Consignee:

10. Dispatch Instruction.

Stores should be delivered at firm's premises/free to the consignee at NED University of Engineering and Technology.

11. Inspecting Officer.

The consignee/ Indenting officer or his authorized representative.

12. Place at which to be inspected.

At firms premises/ Consignee's end.

13. Payment.

- i. 100% payment to be made on the proof of inspection and Consignee's receipt certificate during year 2015-2016.
- ii. ___% Payment in advance along with contract/and balance after complete delivery and in proof of consignee's receipt during the year 2015 - 2016
- iii. If the supply is not according to the specifications or unsatisfactory, the contract will be rejected and cancelled at the risk and cost of firm.
- iv. If the firm fails to execute the contract/supply order as per condition action will be taken against them which may be their black listing and E.M.S.D. will be forfeited.
- v. In Case of late delivery L.D. charges @ 2% per month will be imposed.

Part payment against part supply is/ not allowed.

NOTE

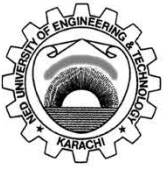
1. The firms may send the Inspection call with-in delivery period under intimation to the Assistant Director Finance Purchase in writing.
2. The Bill in duplicate along with Inspection certificates on form F/QSP 09/10/00 may be sent to the P.O for payment.

**Assistant Director Finance (Purchase)
For & on behalf of Vice Chancellor
NED University of Engg. Tech.**

The cost is debitable to Head of Account as mentioned in the Sanction order (office order). This issues with the sanction and approval of the Vice Chancellor/Director of Finance/ Indenting officer.

Copy to

1. Resident Auditor
2. Indenting Officer
3. Case File
4. Master File
5. Manager Central Store

**NED UNIVERSITY OF ENGINEERING & TECHNOLOGY****INVITATION TO TENDER**

PRICE Rs. 1,000/- (NOT REFUNDABLE/ TRANSFERABLE)

From:
Project Director (M-III)
NED University of Engineering and
Technology, Karachi.

To:

M/s. _____

**Name of Work: Fiber Optic Connectivity between IT Department
to various Departments.**

Invitation to Tender No. PD(M-III)/NED/ITD/FOC/197/16Due on 19-07-2016

Dear Sir/ Sirs,

1. You are hereby invited to submit your tender for the items as detailed in the schedule to this invitation. Your offer must be subject to the conditions laid down in the instructions (overleaf). Every tenderer quoting against this invitation to tender shall be deemed to have read and understood these conditions and details, specifications, etc. of items required.
2. The tenderer shall also sign the certificate given to the effect that the items shall be supplied exactly in accordance with requirements specified in the schedule. If there is any deviation, it should be clearly stated by tenderer; otherwise it would be presumed that the offer is strictly in accordance with the requirements of the Tendered Specifications/ Notice.
3. Items required for delivery as stated in the schedule. If, however, it is not possible to deliver by the specified date, tenderer shall give guaranteed date by which he can deliver the items.
4. Failure to submit the tender in the manner prescribed will render it liable to be ignored/discarded.
5. The Tenderer is at liberty to quote for full tendered items and shall supply at rates quoted in his quotation. Part items shall not be considered for award of work.

Yours faithfully,

Project Director (M-III)
Phone: 99261261-68 Ext: 2460
Fax: 99261255

P.T.O.

SPECIAL INSTRUCTIONS

1. The items are required within three weeks. Tenderers may, however, give their **shortest guaranteed delivery period** by which the supply will be completed. In absence of such period, delivery period shall be treated as three weeks after tender acceptance.
2. The tenderers shall quote their firm & final prices, in local currency, on **NED University Campus basis** for the items strictly according to indicating also where items will be offered for inspection particulars given in the invitation to tender.
3. Tenderers are required to specify the **country of origin of items offered, make of year, name of manufacturer, model no. and furnish detailed technical descriptive catalogue/literature alongwith their offer.**
4. Tenderers are required to deposit the **Earnest Money @ 2.50 %** of total bid amount in the form of pay order in favour of Director Finance, NED University.
5. **Performance Bond:** Performance Bond in shape of Pay Order / Demand Draft / Bank Guarantee equal to 5% cost of the order shall be furnished within 07 days of acceptance of Purchase order and shall remain in force for 06 months after completion of work. The validity of the Bond will be extended if required.
6. The offer shall remain open for 60 days from the date of opening of tender and the **rates should be inclusive of all taxes. SST must be quoted separately.** If the offer is with-drawn or amended during the validity period of the offer and or if acceptance of tender issued during the validity period of the offer is not accepted by the tenderer, the **earnest money** is liable to be forfeited and further action taken against the defaulter as per SPPRA rules.
7. The purchaser reserves the right to accept any tender or reject any or all tenders under relevant clause of SPPRA Rules 2010.
8. Bidders must provide the Non-Black List Certificate (confirming that bidder has never been black listed from any Government / Semi Government Organization) and must have paid and valid Professional Tax Certificate.
9. **Payment Terms:**
 - i) The firm should submit stamp duty as per Government Rules of order value before execution of work.
 - ii) 5% Retention Money to be deducted from each Bill and to be released after completion of warranty / maintenance period.
 - iii) Payment to be made within 30 days after the issuance of inspection certificate and consignee's receipt certificate.
 - iv) If the supply is not according to the specifications or unsatisfactory, the Contract will be rejected and cancelled at the risk and cost of Firm.
 - v) If the firm fails to execute the contract/supply order as per condition, action will be taken against them which may be their black listing and E.M. / S.D. will be forfeited.
 - vi) In case of late delivery @ 0.1% per day will be charged on bid amount deducted from the bill, but not more than 10% of contract value.
10. **Eligibility Criteria: (Single Stage One Envelope Procedure / Method)**
 - (a) **Tender and Bidding documents of this method shall contain the following Eligibility Criteria:**
 - (i) Relevant Experience
 - (ii) Turn-over of at least Three (03) Years
 - (iii) Registration with Income Tax, Sales Tax, SRB and Pakistan Engineering Council (where applicable).
 - (b) **Each bid shall comprise One Single Envelope containing the financial proposal and required information mentioned at clause (a) above.**

11. **Evaluation Criteria:** In comparing bids, the Purchaser will consider such factors as compliance with specifications, relative quality.
12. The tenderers shall enclose with their tender a certificate as under; failing which their tender is liable to be considered non-responsive.

CERTIFICATE

We guarantee to supply the stores in accordance with requirements specified in this invitation to tender.

Signature of Tenderer

Name and full Address

Office Stamp

Phone No.

Fax No.

E-mail Address:



NED UNIVERSITY OF ENGINEERING & TECHNOLOGY.

PURCHASE INFORMATION FORM

PRICE Rs. 1,000/- (NOT REFUNDABLE/ TRANSFERABLE)

Firm's Registration No. **Not Applicable**

Schedule to Invitation of Tender No. **PD(M-III)/NED/ITD/FOC/197/16**

Date of Receipt of Invitation to Tender by Supplier.....

Time for Receipt of Tender in University..... **on 19-07-2016** up to **10:00 A.M**

Time for Opening of Tender..... **on 19-07-2016** at **10:30 A.M**

Offer shall remain open for 60 days from the date of opening.

The tenderer shall quote on free delivery to Consignee at NED University of Engineering and Technology, including all Taxes.

S.No.	Product Descriptions	Qty.	Unit	Unit Price	Total Price
				Rupees	
1	48-Core Single mode 9/125µm Duct type G.652 D Fibre Optic Cable.	700	Meters.		
2	4-Core Single mode 9/125µm Duct type G.652 D Fibre Optic Cable.	730	Meters.		
3	48-Core Single mode Dual Side Fibre Optic Cable Joint Closure Direct Burial with Splice tray and accessories.	6	Nos.		
4	1U Modular Patch Panel with up to 1 Splice Trays, Partially loaded with Splice Trays and Crimp Splice Protectors and equipped with 6 SC Duplex, Single mode Modules, Pigtails high-grade Steel. Gauge Size 1U).	10	Nos.		
5	1U Modular Patch Panel with up to 4 Splice Trays, Partially loaded with Splice Trays and Crimp Splice Protectors and equipped with 12 SC Duplex, Single mode Modules, Pigtails high-grade Steel. Gauge Size 1U).	2	Nos.		
6	Fibre Optic SC to SC / SC to LC Patch Cord Single mode 9/125µm 3 meters in length (Factory Finished).	20	Nos.		
7	Fibre Optic SC to ST Patch Cord Multimode 62.5/125µm 3 meters in length (Factory Finished).	13	Nos.		
8	Fibre Optic SC to SC Patch Cord Single mode 9/125µm 3 meters in length (Factory Finished).	10	Nos.		
9	Cat-6 UTP Patch Panel including 24 I/Os, with integrated strain relief with rear cable management.	15	Nos.		
10	Front cable organizer.	13	Nos.		
11	Cat-6 UTP Cable.	20	Box.		
12	Cat-6 UTP Patch Cord, 1.0 meter in length (Factory Finished).	154	Nos.		

S.No.	Product Descriptions	Qty.	Unit	Unit Price	Total Price
				Rupees	
13	Cat-6 UTP Single I/O with Module Hosing and Dual Shutter Face Plate with Blank Port Insert, Bright White to be installed on PVC Back Box.	150	Nos.		
14	15U Wall Mounted Cabinet Dual Section with lockable front glass door and two way Exhaust fan communication cabinet and 4 Socket Power Panel (Clipsal / Schneider) (Structure of Cabinet: 20 Gauge, Mounting Frame : 16 Gauge) (Titan RD) Brand or Equivalent.	3	Nos.		
15	12U Wall Mounted Cabinet Dual Section with lockable front glass door and two way Exhaust fan communication cabinet and 4 Socket Power Panel (Clipsal / Schneider) (Structure of Cabinet: 20 Gauge, Mounting Frame : 16 Gauge) (Titan RD) Brand or Equivalent.	7	Nos.		
16	PVC Channel Original (ADAMJEE) 100x100.	148	Meters.		
17	PVC Channel Original (ADAMJEE) 60x40.	50	Meters.		
18	PVC Channel Original (ADAMJEE) 40x40.	180	Meters.		
19	PVC Channel Original (ADAMJEE) 16x38.	300	Meters.		
20	PVC Channel Original (ADAMJEE) 25x25.	150	Meters.		
21	GI Flexible Pipe Liquid Tight Conduit (1.5 Inches) Dia (Sample available).	105	Meters.		
22	GI Pipe 12 Gauge ILL (1.5 Inches).	58	Meters.		
23	Poly Ethylene (PE) Duct outer diameter 63 mm, wall-thickness 5.3 mm, ILL, Dadex or Equivalent. Unit length 50 meters with (PE) coupler (63 x 63 mm) (DADEX) or Equivalent.	736	Meters.		
24	Fibre Optic Cable Route Locators Metallic Superior Quality with fluorescent paint.	84	Nos.		
25	Concrete Hand-Hole (Cast-on-site or Pre-cast) Supply & Install (2.5 x 2.5 x 3 ft) with compact cover, with caution written onto it, " Caution, Fibre Optic Network NEDUET", top painted with Yellow Colour embossed with " F.O Cable " in Black.	23	Nos.		
26	Adnet AN-UMG130/150 series Gigabit Ethernet WDM Media Converter Single Fibre Single mode SC upto 20 Km Or Equivalent.	22	Nos.		

S.No.	Product Descriptions	Qty.	Unit	Unit Price	Total Price
				Rupees	
27	Adnet WDM Media Converter 14 Slot chassis with Dual Power Or Equivalent	2	No.		
28	Cisco Catalyst 4500 48-Port 1000Base-X line card. WS-X4448-GB-SFP Compatible with Cisco 4510R switch with Supervisor Engine V and IOS 12.2 (25) SG4 or Equivalent.	1	No.		
29	Cisco 1000Base-LX SFP Transceiver (Singlemode).	4	Nos.		
30	Cisco 1000Base-SX SFP Transceiver (Multimode).	3	Nos.		
31	RJ 45 Connector TYCO	10	Box.		
32	3M UY2 Connector	10	Box.		
33	Cisco SF100D-08,08 Port 10/100 Model SD208 Network Switch with Standard Warranty.	10	Nos.		
34	HP 3Com model V1905 / Linksys 24 port 10/100 + 4 ports Gigabit Switch or Equivalent. Standard Warranty must be from a Value Added Distributor for Pakistan.	5	Nos.		
35	ONIXS SERVO MOTOR CONTROL STABILIZER. (Model # ST-30) or Equivalent. Capacity Load: 30 KVA , Three Phase Input Voltage: 380 / 400VAC Four Wire with Ground Input Voltage Range: 140 V ~ 260 V (242VAC-449VAC) Output Voltage: 3 Phase + 400VAC RMS Stabilized 3 Phase + 400VAC RMS Stabilized Frequency: 50/ 60 Hz ± 5% Response Time: < 1 Secandy Against 10% Input Votage Deviation Power Factor: 0.8 Ambient Temperature: -10°C to + 40°C Relative Humidity: 90% (without condensate) Waveform: Non Addition Wave Form Distortion Insulation Resistance: > 2 MΩ Material: Pure copper wire Cooling System: Free Convection Warranty/SAL: 1 year Parts X Labour X On-site support and provisioning of Backup unit with maximum response time of 24 hours.	2	No.		
				Price of Item # 1 to 35 excluding SST :	
				SST on item # 1 to 35 :	
				Total Price including SST :	

S.No.	Product Descriptions	Qty.	Unit	Unit Price	Total Price
				Rupees	
36	INSTALLATION Supply, Installation & Commissioning of Optical Fibre Link from IT Department to Various Departments using above mentioned equipment with allied accessories should be done according to the guidelines given below and restoration of Fiber Optic Cable for Electronics Engg. Deptt.	1 Job	Various		
	a) The Depth of the Excavation should not be less than 3ft. for Fibre Optic Cable.				
	b) The Depth of the Excavation should not be less than 2ft. for Copper Cable.				
	c) The 48 and 4 Core Single Mode Fibre Optic Cable Should be laid down using the following. i) (1.5 Inches) GI Pipe with all Fittings 12 Gauge ILL in corridor area, in site open area conduit, wall mounting and road crossing for Fibre Optic and Copper Cable. ii) Poly Ethylene (PE) Duct outer diameter 63 mm, wall-thickness 5.3 mm, ILL, Dadex or Equivalent . Unit length 50 meters with (PE) coupler (63 x 63 mm) (DADEX) in open area conduit for Fibre Optic Cable. iii) GI Flexible Pipe Liquid Tight Conduit (1.5 Inches) Dia in manhole, Rooms and at all turning points for Fibre Optic Cable. iv) PVC Channel Original (Adamjee) 16x38, 40x40, 60x40, 100x100 and 25x25 for wall Mounting for Copper and Fibre Optic Cable.				
	d) The size of the Concrete Hand-Hole (Cast-on-site or Pre-cast) Supply & Install (2.5 x 2.5 x 3 ft) with compact cover, with caution written onto it, " Caution, Fibre Optic Network NED UET", top painted with Yellow Colour embossed with " F.O Cable " in Black.				
	e) The Back Filling should be carried out as per the Section illustrated in the diagram titled " FIBRE SECTION".				
	f) Route locators should be placed at an intervals of 35 ft or as per requirement with a Concrete base of dimension 1 ft x 1 ft x 1.5ft. The Route locaters should be of Yellow Colour (Sample is available).				
	g) End-to End Optical Fibre termination using connectors, couplers and splicing of all cores of the cable being used.				
	h) Copper connectivity between Girl Hostel (C) to Girl Hostel (A) is required.				
	i) Copper connectivity between Girl Hostel (C) to Girl Hostel (B) is required.				

S.No.	Product Descriptions		Qty.	Unit	Unit Price	Total Price
					Rupees	
	j)	End-to-End Fluke Testing Reports of all Copper Nodes and Optical Fibre Cores.				
	k)	Tagging of all Network Points on Patch Panel, Switches, Face Plate & Apps.				
	l)	Restoration of Fiber Optic Cable for Electronics Engg. Deptt.				
	m)	Installation and Testing of 60 Nos. Network Points of Cat-6 UTP Copper Cable, Termination on Patch Panel and I/O's Installation of Switch & APs.				
37	<p><u>TRAINING OF OPTICAL FIBRE NETWORK DESIGN & MAINTENANCE</u></p> <p>Hands-On Comprehensive Training (Local or International) for Fibre Optic Networks, Installation and troubleshooting. The training would be provided to 3 participants and should comprise the following (please read terms and conditions below).</p>		1 Job	Various		
	a)	i)	Complete multimode and single-mode fibre optic system build.			
		ii)	Theory and principles of fibre optics			
		iii)	Fibre types and fibre manufacturing techniques: multimode and single- mode fibres			
		iv)	Cable types and manufacturing techniques: loose tube and tight-buffered cables			
		v)	Fire code and NEC considerations			
		vi)	Cable installation and placement techniques for outside plant (interbuilding), duct, aerial, direct-buried and inside plant (intrabuilding) applications			
		vii)	Sheath removal and installing wire mesh pulling grip: loose tube and tight-buffered cables			
		viii)	Hardware types and applications			
		ix)	Cable preparation techniques for splicing and connectorization			
		x)	Termination methods for field-installable connectors, pigtails and preconnectorized assemblies			
		xi)	Installing the LC, ST Compatible, SC and MT_RJ connectors, in addition to anaerobic and heat-cured connectors.			
		xii)	Use and operation of the Optical Time Domain Reflectometer (OTDR): uses, principle of operation and typical display			
		xiii)	Splicing: applications, fusion, mechanical and termination methods			
		xiv)	Fusion splicing with troubleshooting tips			
		xv)	Single-fibre mechanical splicing			

S.No.	Product Descriptions		Qty.	Unit	Unit Price	Total Price
					Rupees	
	xvi)	Cable preparation techniques for splicing and connectorization				
	xvii)	Optical attenuation test set procedures: one, two and three jumper references				
	xviii)	Network testing and documentation: procedures and requirements				
	xix)	Emergency restoration planning: Emergency Restoration Kits (ERK kits), system design and plan of attack				
	xx)	Safety: chemical safety, laser safety and fibre handling precautions				
Price of Item # 36 to 37 excluding SST :						
SST on Item # 36 to 37 :						
Total Price including SST :						
<u>SUMMARY</u>						
Grand Total of Item # 1 to 36 including SST :						
<u>TERMS AND CONDITIONS</u>						
i)	If any floor / wall tiles lies in the excavation path, first of all it should be removed and then same colour / brand / quality tiles should be re-fitted after the back filling.					
ii)	In case, if any road is to be damaged, it should be reconstructed on " As It Was " basis.					
iii)	The depth of Excavation and back filling may vary due to any power cable or any other critical service, after inspection and permission of the concerned authorities.					
iv)	Equipment list and quantities of all items are approximately stated. Actual survey by the vendor is required before tender submission.					
v)	The vendor is required to submit the test report of end-to-end optical fibre or copper Cable or WiFi link.					
vi)	End-to-End optical fibre & copper cable characteristics should meet EIA/TIA & ISO/IEC optical fibre and Copper Cable standards.					
vii)	End-to-End WiFi characteristics should meet IEEE 802.11n standards.					
viii)	The vendor is required to submit a product warranty of optical fibre and copper cable at least for 10 years from the manufacturer in the name of NED University.					
ix)	The vendor is required to submit a Letter of Authorised Distributor / Integrator from the manufacturer of optical fibre and Copper Cable.					
x)	The Vendor is required to produce suitable Warranty for the Network job.					
xi)	Standard Warranty for all equipment.					
xii)	For items No. 1 to 11 The brands should be Corning Future Link / Panduit / 3M / FCI / Premier Cable or Equivalent.					
xiii)	For item No. 37 The vendor must quote the complete training charges along with boarding and lodging charges (if any).					
xiv)	For item No. 35 On-load testing of stabilizer will be arranged by the vendor at its facility.					
xv)	In case of billing in part, the vendor must specify the details of billing separately.					

FIBRE SECTION

