



**GOVERNMENT COLLEGE OF ENGINEERING, KALAHANDI, BHAWANIPATNA,
ODISHA- 766 003**

(An Affiliated College of Biju Patnaik University of Technology, Odisha)

At- Bandopala, Po- Bhawanipatna Engg. College S.O., Kalahandi, Odisha- 766003

www.gcekbpatna.ac.in, Email: principal@gcekbpatna.ac.in

(Tender Ref. No.: GCEK/1138, Date: 10/06/2026)

TENDER CALL NOTICE

Sealed tenders are hereby invited from reputed and eligible agencies/firms having valid registration, GST, PAN, and relevant experience in the field of networking and surveillance systems for the “Supply, Installation, Configuration, Testing and Commissioning of a Fully Integrated Wi-Fi Network and CCTV Surveillance System” for the Academic Buildings, Hostels, and College Campus of Government College of Engineering, Kalahandi (GCEK), Bhawanipatna.

The scope of work includes supply of all required hardware, accessories, structured cabling, network components, CCTV cameras, switches, storage systems, mounting accessories, installation, configuration, testing, commissioning, and maintenance support for seamless operation of the integrated system.

The detailed tender document containing technical specifications, eligibility criteria, scope of work, terms and conditions, and schedule of submission may be downloaded from the official website www.gcekbpatna.ac.in.

The interested bidders are required to submit their sealed tenders along with all supporting documents within the stipulated date and time as mentioned in the detailed tender schedule.

The authority reserves the right to accept or reject any or all tenders without assigning any reason thereof.

Sd/-
PRINCIPAL

Tender Document for supply, installation, configuration and commission of a fully integrated wifi network and a CCTV surveillance system for Academic Building, Hostels and College Campus at GCEK, Bhawanipatna, Kalahandi.

PART-I (TECHNICAL BID)

Submitted by

Name of the Bidder:

Postal Address for Communication:

Mobile No:

Email Id:

Date of availability of Tender Document : 10/06/2026
Tender Estimated Cost : **Rs.1, 47, 00,000/-**
Tender EMD Cost : **Rs. 4, 41,000/-**
Last Date and Time of Submission of : 02/07/2026 Tender by Registered/Speed Post Only
Cost of Tender Document : Rs. 1000/- (Rupees One Thousand Only) to be submitted in the form of DD in favour of “Principal, Government College of Engineering, Kalahandi” drawn in any Nationalized Bank payable at Bhawanipatna.
Date & Time of Opening of Technical bid : 03/07/2026 12 AM
Date & Time of Opening of Price bid : 10/07/2026 3PM

The Document is consisting of Pages-1 to 82.

Terms and Conditions for Submission of Bid

1. **Bidder's Eligibility Criteria:** The bidder should verify its eligibility criteria as mentioned below before submitting the tender and enclose the required documents in the technical bid in the sequence listed below, to avoid rejection or disqualification of the tender. The bidder should meet the following criteria.
 - a) The Bidder should be OEM (Original Equipment Manufacturer) or Authorized system Integrator/ Authorized Dealer of the OEM of the offered product. OEM has to submit up-to-date copy of the Industry Registration of offered products and Tax Registration Certificate issued by the competent authority. The Authorized Dealer/System Integrator has to submit OEM's authorization letter, in original, on the OEM's letterhead duly ink-signed by the authorized signatory of OEM.
 - b) Original Equipment Manufacturer/Authorized system Integrator/Authorized Dealer for Wifi and CCTV Surveillance System shall have a base with technical support function and service network across India. The Bidders has to submit OEM's authorization, in original, on the OEM's letter head, in support of OEM's service/support centers located at Bhubaneswar/ Bhawanipatna in the state of Odisha, duly ink-signed by OEM.
 - c) Must be a reputed system integrator having an agreement/certificate of technical collaboration with any reputed Wireless Access Point (WAP) and IP Camera manufacturer and Video Management and Analytics software.
 - d) The Bidder must have wide experience in providing solutions related to Wi-Fi Network and IP-Based CCTV Surveillance Systems for an entire Campus having an approximate area of 35 (Thirty-Five) Acres or more. Necessary supporting documents such as Work Orders, Work Completion Certificates, and Payment Certificates, etc., for the last Seven (7) years from Government Organizations or Government Educational Organizations (NITs / IITs / Universities) must be submitted along with the offer.
 - e) The bidder should be a registered company making a profit for the last Five years, having a good business track record. The average annual turnover of the company should be more than Rs. 3 Crore in the last Five years.
 - f) The bidder should be a registered firm in India, having valid GST/CST/VAT/ PAN/TIN/Service Tax etc.

- g) Bidder Should have Their Registered Office in Odisha having Odisha GST.
 - h) Bidder should have BIS certification for quoted WAP and IP based CCTV System and it's accessories.
 - i) Bidder shall have to provide operational Training for wifi network and CCTV Surveillance System to Officials at the Consignee site at least for 7 days. Training must include user training, account creation, coordination, logs, controls, hand holding, running and up-keeping, and troubleshooting/maintenance/repair to be done for the network being created.
 - j) All after-sales support should be provided directly by the OEM through the bidder.
 - k) The bidder should provide 5-years Standard Warranty for all hardware (equipment/spares/accessories/any item etc) and software supplied for complete wifi and CCTV network System and 1-year Standard Warranty for free technical support and maintenance obligation. After expiry of 1-year free maintenance obligation, the bidder must have willingness to provide maintenance service for next 4-years under Comprehensive Annual Maintenance Contract (CAMC) for new network system.
 - l) The bidder should not have been blacklisted by any organization.
 - m) Bidder should have ISO 9001-2015 certificate. Certificate needs to be submitted along with the bid as a documentary proof.
 - n) Bidder should be a regular supplier of IT products and Solutions to Govt. R&D Organization/Govt. Educational Institutions like (IIT,/NIT,/Universities etc.) since last 10 years. Documentary evidence to be submitted along with the Bid.
2. Bidders may visit the college, at their own expense, in any working day during office hours so as to acquaint themselves with the (i) site conditions (ii) scope and extent of work etc where the job is to be carried out before quoting the rates.
 3. The Bidder shall have the single point responsibility for the complete Turnkey solution including supply, installation, testing & commissioning and maintenance.
 4. **Cost of tender documents:** The tender documents can be downloaded from the Institute website www.gcekbpatna.ac.in and have to deposit a Demand Draft equal to the cost of tender documents of Rs. 1000/- (Rupees One Thousand Only) (Non-refundable, Non-adjustable and Non-transferable) in favor of “Principal, Government College of Engineering, Kalahandi, Bhawanipatna” drawn in any Nationalized Bank payable at Bhawanipatna.
 5. **Earnest Money Deposit of Rs. 4,41,000/-** in the shape of a Demand Draft in favour of

“Principal, Government College of Engineering, Kalahandi, Bhawanipatna” drawn in any Nationalized Bank payable at Bhawanipatna. The EMD of unsuccessful bidder shall be returned within fifteen days of finalization of the work order. The Institute shall not be responsible for any non-receipt of the EMD by post.

6. This tender document must reach to “The Principal, Government College of Engineering, Kalahandi, Bhawanipatna, Bhandopala, Kalahandi-766 003 (Odisha)” by the last date of submission under a sealed cover by registered/speed post only. The tenders received after the due date & time is liable to be rejected. The College is not responsible for any delay, loss or non-receipt of tender documents sent by post. Submission of tender by online mode will not be entertained.
7. The tender documents must be filled in completely and signed by the authorized signatory of the bidder on all the pages as acceptance of the guidelines, terms and conditions laid in this tender document, otherwise the bid shall become invalid. (This document should be printed on both side of the A4 size paper sheet).
8. The tenders shall be opened in the presence of the bidder or their authorized representative on due date and time as specified in the tender document. The name and address of the representative authorized to attend the opening of the tenders on behalf of bidder should be indicated in the tender. The representative so deputed should also bring with him a letter of authorization from the firm for having been authorized to be present at the time of opening of tenders and are required to sign an attendance sheet. Only one representative per firm shall be permitted to attend the opening of the tenders.
9. If the date of opening of tender happens to be a holiday, a revised schedule will be notified. However, in absence of such notification, the tender will be opened on the next working day. The time and venue remains unaltered.
10. Any additional information, bidders wish to provide may be attached separately.
11. **Documents Comprising the Bid:** The bid prepared by the bidder shall be in English and shall comprise of two parts i.e. (1) The Technical Bid and (2) Financial Bid. In case, any bidder encloses the financial bid within technical bid, the same shall be rejected.

Part I (Technical Bid): To qualify in the Technical bid, the bidder should have the minimum eligibility criteria as under and the bidder in this regard must submit the following documents in support of his eligibility criteria;

- a) Demand Draft (non-refundable) towards the cost of tender documents in favour of “Principal, Government College of Engineering, Kalahandi, Bhawanipatna” drawn in

Seal and Full Signature of the Bidder

any Nationalized Bank payable at Bhawanipatna. Demand draft towards EMD in favour of “Principal, Government College of Engineering, Kalahandi, Bhawanipatna” drawn in any Nationalized Bank payable at Bhawanipatna. Both DDs should be made separately.

- b) Duly filled-in Information Sheet of the bidder along with enclosures (**Annexure-I**)
- c) Profile of the organization along with list of personnel including skills and competence in organization.
- d) Unconditional acceptance letter of undertaking for the terms and conditions of this tender documents in the prescribed format (**Annexure-II**)
- e) Self-attested copy of up-to-date IT PAN of the firm, VAT registration, VAT clearance and service tax and GST registration certificate etc., issued by appropriate government authority for the required services with sale.
- f) Financial Status: The average annual turnover of the firm should be more than Rs. 3 Crore in last Five years. Copies of profit & loss account and balance sheet duly authenticated by a chartered accountant for the last three years. It is mandatory to submit one certificate from the chartered accountant showing the average annual turnover for the last three financial years.
- g) Copy of Income Tax return acknowledgement for last three year.
- h) Bidders should submit copy of up-to-date valid certificate of OEM/Business partner/ Authorized system Integrator/Partner for wifi networking and CCTV Surveillance System and its Components. Tender Specific authorized Letter from OEM’s must be submitted.
- i) Bidder should submit a declaration letter on OEM letter head duly ink-signed and stamped, declaring that the supplied products are of five years warranty.
- j) List of user’s clients related to experience of execution of similar work in central/ state Govt departments, PSU’s, Autonomous bodies, Large Industrial, Educational campus, where similar services (supply and installation of wifi network and IP-based CCTV Surveillance equipment’s) are provided by the agency for the clients along with address and telephone numbers with supporting documents like work orders, work completion certificate, payment certificate etc. for last Seven years to this effect must be submitted along with the offer (**Annexure-III**).
- k) The bidders must enclose a self-declaration that he has never been black listed or punished by any court for any criminal offence/ breach of contract and no police/vigilance enquiry/criminal case is pending against him or company/agency as the

case may be.

- l) Two self-attested envelopes of size 11” x 5” (or above) with complete address with pin and contact no written for future correspondence.
- m) Two self-addressed slips of size 6” x 3” (or above) with complete address with pin and contact no. written for future correspondence.
- n) Technical compliance form for the technical Specification of items with make & model must be filled up properly without any ambiguity as per **Annexure-IV** failing which the tender paper shall be rejected. The bidder has to furnish one make & one model of each item looking into the compatibility of the system. The bid shall be rejected quoting more than one make/model.
- o) Detailed literature along with make, model, topology, design, data sheet, pamphlets/catalogue and performance curves as applicable. The bidder has to submit a schematic diagram/drawing of network system.
- p) Other Annexure duly filled-in and signed with official seal
- q) Any other document in support of the eligibility of the bidder.

Part II (Price Bid): The price bid shall specify the following.

- a) The hard copy of the price bid for Supply, Installation, Testing and Commissioning of wifi network and IP-based Digital CCTV Surveillance System for College campus and Hostels at GCEK, Bhawanipatna as per technical specification and scope of work in Indian Rupees only in the **Annexure- VIII (A)**.
- b) Charges for CAMC of integrated wifi network and IP based CCTV Surveillance System at GCEK, Bhawanipatna in the **Annexure- VIII (B)**.

12. Submission of Tender: Sealing and Marking of Bids

The bidder shall wax seal the technical bid and financial bid in two separate envelopes, clearly super scribing on the covers “**Part I – Technical bid for fully Integrated Wifi and IP based CCTV Surveillance System**” and “**Part II – Price Bid for fully Integrated Wifi and IP based CCTV Surveillance System**” and also indicating on each of the covers the “**Tender call Notice Number & Date**” and **Due date and time of submission** as mentioned in Tender Call Notice. These envelopes (Part I and Part II separately) should be addressed to “The Principal, Government College of Engineering, Kalahandi, Bhawanipatna, Bandopala, Kalahandi (Odisha)-766 003.

Envelopes 1 & 2 should be submitted in a 3rd big envelope super-scribing “SITC of fully integrated Wifi network and IP based CCTV Surveillance System for

GCEK, Bhawanipatna” and addressed to “The Principal, Government College of Engineering, Kalahandi, Bhawanipatna, Bandopala, Kalahandi (Odisha)-766 003.

13. The tender is liable to be cancelled, and the EMD shall be forfeited in the event of any failure to comply with any of the clauses of the terms and conditions of this tender call document or in the event of the bidder withdrawing his offer before/after finalization of this selection process. Bid without the required EMD amount will be summarily rejected.
14. Bid shall remain valid for 120 days after the date of bid opening. The bid valid for a shorter period shall be rejected by the College as non-responsive. In exceptional circumstances, the College may request for the consent of the bidder for an extension to the period of bid validity.
15. To assist evaluation and comparison of the bids, the College at its discretion may ask the bidder for clarification of the bid. The clarification and response from the bidder shall be in writing.
16. The College reserves the right at the time of award of the order to increase or decrease the quantity of the goods and services specified in the schedule of requirements without any change in unit price of the ordered quantity and to exclude specific goods listed in the schedule of requirements from the order.
17. The College reserves the right to reject any or all the tenders without assigning any reason and the decision of the College shall be final and binding.
18. The College reserves the right to call the bidders and conduct negotiations, if necessary and has the right to select more than one bidder, one bidder for one or more items at its discretion.
19. Any deviation in specification, terms and conditions shall not be entertained. The College reserves the right to add/delete/change/modify any of the specifications, terms and conditions of this tender call document if it is necessary during the process of execution of the work.
20. The College reserves the right to order all or part or none of the items and/or services given in this schedule. The College also reserves the right to order additional services based on the rates finalized as a result of this tender.
21. At any time prior to date of submission of tenders, the College may, for any reason, or decision, modify the terms & conditions of the tender document by a corrigendum displayed on the website of GCEK, Bhawanipatna (www.gcekbpatna.ac.in). In order

to provide reasonable time to take the amendment into account in preparing their bid, the College may or may not at its discretion, extend the date and time for submission of tenders.

22. Technical Evaluation of Bids

- a) Detailed technical evaluation shall be carried out by the Technical Evaluation Committee pursuant to conditions in the tender documents to determine the responsiveness of each tender. For this clause, the substantially responsive bid is one that confirms all the eligibility and terms and conditions of the tender without any material deviation. The College's determination of bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence. The college shall evaluate the technical bids to determine whether they are complete, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are in order.
- b) The technical evaluation committee may call the responsive bidders for discussion or presentation to facilitate and assess their undertaking of the scope of work and its execution. However, the committee shall have sole discretion to call for discussion/presentation.
- c) Financial bids of only those bidders who qualify the technical criteria will be opened, provided all other requirements are fulfilled.
- d) A bid determined as subsequently non-responsive will be rejected by the College.
- e) GCEK, Bhawanipatna shall have the right to accept or reject any or all tenders without assigning any reason thereof.

23. Financial Evaluation and Comparison of Bids

- a) The financial bid shall be opened of only those bidders who have been found to be technically eligible as enumerated earlier. The financial bids shall be opened in the presence of representatives of technically eligible bidders, who may like to be present. The College shall inform the date, place, and time for the opening of the financial bid.
- b) The rates must be quoted as per the format prescribed. The quoted price must be inclusive of all taxes including GST, freight, packing, forwarding, transit insurance, installation and commissioning etc. and must be shown clearly against each entity for delivery at the site. The installation, commissioning, demonstration and training shall be at the supplier's cost.
- c) Bidder shall quote the rate price of all taxes and other costs while quoting for the tender in "**Part -II: Financial bid**" to be kept in Envelop No. 2. Income Tax will be deducted

at source from the bills as applicable.

- d) Arithmetic errors shall be rectified on the following basis. If there is a discrepancy between the unit price and total price, the unit price shall prevail and the total price shall be corrected by the College. If there is a discrepancy between words and figures, the lesser amount shall be considered valid. If the supplier does not accept the correction of the errors, his bid shall be rejected.
- e) Quoting the minimum rate just for acquiring the tenders will not be the only criteria for the award of the contract. Therefore, bidders should carefully assess the work before offering the rates. The tenders will be evaluated based on total cost which will include the capital cost quoted for the system and the rates quoted for CAMC for a period of 4 years. Payment terms for CAMC will be as half-yearly payment after satisfactory completion of the service.
- f) The purpose of bid evaluation is to determine substantially responsive bid with **the lowest evaluated price**, but not necessarily **the lowest submitted price**, which should be recommended for award.
- g) The total evaluated cost will be the total cost required for the work in **Annexure-VIII (A)** and rate quoted for the CAMC in **Annexure-VIII (B)**, which will be considered for the ranking/evaluation.
- h) The GCEK, Bhawanipatna does not bind himself to accept the lowest bid or any bid and reserve the right of accepting the whole or any part of the bid or portion of the job offered and the bidder shall provide the same at the rate quoted. The GCEK, Bhawanipatna reserves the right to reject any or all offers received in response to the tender or cancel or withdraw the tender notice without assigning any reasons, whatsoever.

24. Bid Price and its validity

- a) The bidder shall give the total composite price inclusive of all levies and taxes (inclusive of taxes) as per the price schedule given in **Annexure VIII**.
- b) The bid is strictly on an item rate basis. However, the college may increase or decrease the quantity before placing the order, without assigning any reason thereof.
- c) The bidders must quote the final rates in clear and unambiguous terms in Indian Rupees only. No foreign exchange will be made available by the institute.
- d) Bidders are requested to quote their prices on firm & fixed basis for the entire period of the contract. Bids of the firms received with prices quoted on a variable basis shall be

rejected without assigning any reason and no communication in this regard shall be made.

- e) The tender along with the prices shall remain valid initially for a period of 120 days from the date of opening of Part II of tender, which period may be further extended by mutual agreement in writing by bidder and the bidder shall not cancel or withdraw the tender during this period.

25. Award of Contract: Placement of Order

- a) The College shall consider the placement of work order for the job which has been found technically, commercially and financially acceptable. The College reserves the right to counter offer price against the price quoted by any bidder. The evaluated lowest bidder will be awarded the work order to execute the work. Since the College has to ensure the seamless integration of the CCTV surveillance system with Wi-Fi system the bidder should submit a logical execution report with its diagram (Pre-network design document) for approval of the technical committee/ Professor In Charge (PIC). After due approval of report, the work order shall be issued.

26. Performance Bank Guarantee

The successful Bidder shall furnish Performance Bank Guarantee within 21 days after the issue of work order for an amount equal to 5 % (Five Percent) of the Contract Price in favor of “Principal, Government College of Engineering, Kalahandi, Bhawanipatna, issued by any Nationalized Bank valid up to sixty two (62) months (**Annexure-VII**).

The Performance Bank Guarantee shall be refunded after sixty two (62) months from the date of successful completion of the work as per order.

No interest will be paid on Performance Bank Guarantee/ Earnest Money Deposit.

The Performance Bank Guarantee is liable to be deducted/forfeited for any or all the following reasons:

- a) Unusual delay in complying the service request (if any).
- b) Termination of contract or delivery defaulters.
- c) Any default, failure or negligence in fulfilling the contract, Losses incurred by the Purchaser during warrantee period.

27. Payment Terms

No advance payment is allowed by the Purchaser to the supplier for any deal. The standard payment terms (subject to recoveries, if any) upon submission of required documents shall be as follows:

The supplier should submit the bills in triplicate on printed forms only. The billing must

Seal and Full Signature of the Bidder

be done with GST billing norms. The 90% of the billed amount (except CAMC) will be released only after receiving the items in good condition, successful installation, demonstration and commissioning of the fully integrated wifi and IP-based CCTV Surveillance System on premises as per the specification along with other terms and conditions stipulated in the work order and certified by PIC. The balance 10% will be released after 60 days of satisfactory on-site performance from the final date of installation and commissioning of all hardware against the **Bank Guarantee of 5%** of the total project value. All payments will be released based on separate invoices submitted to the college by the bidder.

28. Standard Warranty and Comprehensive Annual Maintenance Contract

The bidder will provide Standard Warranty/guarantee for all hardware (equipment /spares/accessories), software etc and software for complete wifi and CCTV network System for five years. However, if any individual component has standard warranty more than five years offered by manufacturers, the same will prevail.

The bidder shall provide onsite support/ free maintenance/services for first year only. Further, after one year of standard warranty for free maintenance, the bidder should be able to provide free maintenance/services through CAMC for remaining 4 years for complete wifi and CCTV Systems and the cost of which should be quoted separately for 4 years. It is the bidder's responsibility to handle all maintenance tasks, whether minor or major, and to have adequate standby equipment on hand to ensure the system remains functional within 24 hours of any disruption.

- a) The successful Bidder has to warrant that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the work Order.
- b) The successful Bidder further has to warrant that the Goods supplied under this Work Order shall have no defect arising from design, materials or workmanship (except when the design and/or materials required by the College's specifications) or from any act or omission of the successful Bidder, that may develop under normal use of the supplied goods.
- c) All the equipment including the accessories supplied as per the technical specification as mentioned in the bidding document should carry standard warranty (including all spares and accessories) for a period mentioned in this documents. During this period, the successful Bidder shall replace all defective parts / accessories/consumables and

attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful Bidder during warranty period. The items which are not covered under warranty should be clearly mentioned along with rate of the items.

- d) On expiry of the comprehensive warranty period, the successful Bidder shall be willing to provide after sales support for an additional period prescribed in this document.
- e) The prospective Bidder shall submit an undertaking from the Original Equipment Manufacturers (OEM) that they are willing to provide spare parts for the period of warranty as mentioned and also during the additional CAMC period, if awarded. The OEM shall also assure continuity of service to their product, in the event of change in dealership or the Bidders – their existing dealers couldn't provide service during the warranty / CAMC period. The undertaking from OEM is an essential document forming part of the Technical Bid, without which the tenders will be rejected summarily in the first round itself.
- f) After sales service center in Bhubaneswar/Kalahandi (Odisha) should be available as a part of the pre-qualification and the Bidder shall provide proof of their capability to undertake such maintenance/repair within the stipulated time.
- g) The successful Bidder shall provide preventive maintenance as per the frequency mentioned in this document during the warranty period. The Bidder shall attend any number of break down/repair calls as and when informed by the College authority without any extra cost.
- h) Upon receipt of such notice for repair/breakdown from the College, the successful Bidder shall, within the period as specified in this document, and with all reasonable speed, repair or replace the defective goods or parts thereof, without cost to the college.
- i) If the successful Bidder, having been notified, fails to rectify the defect(s) within the period specified in this document, the College may proceed to take such remedial action as may be deemed necessary, at the successful Bidder's risk and cost and without prejudice to any other rights which the College may have against the successful Bidder under the contract.
- j) Failure to attend the repairs in time or failure to attend the stipulated preventive maintenance visit or failure to replace the defective equipment or to provide stand by equipment if the fault/down time exceeds the stipulated period or to ensure the

stipulated up-time in an year shall lead to forfeiture of the performance Bank Guarantee and/or may lead to blacklisting/debarring of the defaulting Bidder.

- k) The equipment which requires quality assurance test shall be done at free of cost immediately after installation, during the comprehensive warranty period, by the demand of User and also when major spares are replaced.
- l) Any mandatory approval required for installation shall be obtained by the successful bidder in liaison with the respective authorities.
- m) The Bidder shall submit the parameters which require calibration and the frequency of calibration required.
- n) The Bidder shall undertake on-site calibration of the equipment every year as part of the after sales service during the period of comprehensive warranty, or on demand from the user.
- o) The Bidder shall also have to submit whether periodic replacements of consumable items are required for proper functioning of their quoted machine/Equipment If yes they should submit the list of such consumables along with price list and frequency of replacement per year, if the same is not replaced free of cost during warranty / guarantee period.
- p) The offered warranty also includes:
 - i). Visits to the user's College at frequencies prescribed as part of preventive maintenance.
 - ii). Testing & calibration as per technical/service/operation manual of the manufacturer or as per the period specified or as per the demand of the user.
 - iii). Quality Assurance tests (if applicable).
 - iv). The cost of labour for all repairs/ and all spares required for replacement during repairs all kinds of accessories
 - v). The exclusion of warranty of any vital equipment parts will be compared with offers of other Bidders during evaluation of the bids and this may be taken into consideration in deciding the successful Bidder on the basis of expert advice.
 - vi). The Bidder shall provide up-time warranty of complete equipment as mentioned in this document, the uptime being calculated on 24 (hrs) X 7 (days) basis failing which warranty period will be extended as per the provisions of CAMC agreement.

Comprehensive Annual Maintenance Contract: (CAMC)

- a) The decision to enter into CAMC for onsite support/ services will be determined on the

- basis of cost and complexity of the equipment by the College, at its discretion, prior to the expiration of standard warranty period for onsite support.
- b) The Comprehensive Annual Maintenance Contract (CAMC) is otherwise an extended warranty that covers the repair & maintenance of a product beyond 1-year standard warranty. The charges for CAMC shall include on-site support/ repair & maintenance /routine check-up charges only (all equipment/spares are covered under 5-year standard warranty). All the terms and conditions agreed by the successful Bidder for executing 1-year Standard Warranty for free repair & maintenance shall be extended for next 4-years during the period of CAMC, only difference being the payment of CAMC charges for maintenance services is absent during the period of initial 1-year standard warranty.
 - c) The cost of CAMC for next 4-years may be quoted along with service taxes, as applicable, if any. The taxes to be paid extra, to be specifically indicated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
 - d) Failure/refusal on the part of the successful bidder supplying/installing the equipment to enter into CAMC with the college , at the end of the Comprehensive Warranty Period, if the College, as the case may be, desires so, may also result in the blacklisting/debarring of the Bidder.
 - e) The successful Bidder shall also indicate the rates for the CAMC in price bid form and such rates are binding on the successful tenders after the expiration of the warranty period. The yearly rates for CAMC shall remain the one and the same as quoted in the price bid form for the extended years.
 - f) Cost of CAMC will be considered for Ranking/Evaluation purpose.
 - g) The payment of the agreed CAMC charges will be made as per frequency of payment after satisfactory completion of said period, on receipt of service report/ break down report from the user.
 - h) Payment of Comprehensive Annual Maintenance Contract would be made on half yearly basis after completion of work and satisfactory working report. Firm have to provide a minimum Uptime Guarantee of 95% (95% of 365 Days) per year during the warranty period as well as during the Comprehensive Annual Maintenance Contract.
 - i) While calculating the total unit price of the item/system to be procured, expenditure to be incurred in maintenance of the quoted item /system for a period of 1 year shall also be taken into consideration. Accordingly, it is mandatory for the bidders to submit the

rate for Comprehensive Annual Maintenance Contract for maintenance for a minimum period of 4 years.

29. **Demonstration of Technical expertise:** The firm/OEM/Bidder/ Agency will be required to demonstrate the technical capabilities of the entire network and functioning of each installed equipment at the place and time determined by the institute at their own expenses.

a) **Other Conditions**

b) **The successful bidder shall submit full address with phone no., fax no. and e-mail ID of the Contact person for after-sales service.**

- c) The consignee shall not adopt call log procedure for call logging through IVR system of the OEM for service or complain launching.
- d) The successful bidder is required to take care of change in technology and supply higher version of the hardware available at the time of delivery at the same total cost as per the order. The operating manuals and tools must be supplied.
- e) No interest on any deferred claim arising out of this purchase shall be payable in any case whatsoever. No payment will be made for goods rejected at site during installation and commissioning.
- f) The Purchaser will not pay separately for transit Insurance. The supplier is completely responsible for the delivery of goods in perfect condition and shall replace/ rectify the missing/defective parts if any at his own cost.
- g) The goods to be supplied under the Contract shall be fully insured against loss or damage incidental to the manufacture or acquisition, transportation, storage & delivery of the goods from the Warehouse / Factory / Ex- shop of the supplier to the delivery on “All Risk” basis including war Risks and Strike.
- h) The bidder should have enough spare parts and backup configuration and setup etc. to provide standby in case of any repair in the equipment, cables, software etc., and the repair/placement of the original equipment should be done within 24 hours.
- i) The bidders must include 5 years of 24×7 hardware & software support, threat intelligence subscription and any other annual fee required as part of the bidder’s solution.
- j) The bidders must perform monthly post-implementation health checks/preventive maintenance throughout the period (60 months) to ensure the solution is correctly configured and functioning optimally on-site. A detailed report of each visit must be

submitted to the Professor In Charge (PIC). The AMC amount will be disbursed to the bidder semi-annually based on these reports. These health checks must be conducted proactively, without requiring any request from the Institute.

k) All bidders should watch and follow everyday our website www.gcekbpatna.ac.in for any updation.

l) The Institute reserves the right to cancel an item as ordered or cancel the whole order, if the college does not agree to a change of specification suggested by the bidder or if the bidder is not able to supply an item as per the changed specification required by the college or if there is no agreement on the revision price.

m) The College may reject the bid even if it is accepted but the successful bidder fails to execute any of the terms and conditions mentioned herein.

30. Jurisdiction and Right to Amend Rules: The College reserves the right to amend the rules of operation whenever and wherever considered necessary and appropriate. The same shall be intimated to the firm in due course. The College rules shall be binding for execution of the contract. Further, in case of any dispute arising out of or in connection with the aforesaid contract either during subsistence of the contract or thereafter, the Principal of the College is the sole arbitrator to decide the same and his decision is final and binding on both the parties. If differences persist even after attribution and there are compelling reasons to go to the court, it will be decided in the proper Court of Law at Bhawanipatna, Kalahandi District only within the State of Odisha.

31. Odisha Small Manufacturing Enterprises (OSMEs): Odisha Small Manufacturing Enterprise (OSMEs) shall be given relaxation as per Odisha Procurement Preference policy for Micro and Small Manufacturing Enterprises- 2023 (MSME Department Notification No. 566/MSME dated 24.01.2024). To avail such relaxation the bidder must produce a valid Udyam Registration Number (URN) and submit an undertaking in the shape of an affidavit in the format as given in **Annexure IX** along with the technical bidding document.

32. Delivery & Billing Address : The Principal,
Government College of Engineering,
Kalahandi, Bhawanipatna, Bandopala, PO:
Bhawanipatna Engg College SO, Dist.
Kalahandi (Odisha) 766 003.

SCOPE OF WORK

The scope of the work is to provide Turnkey Solution that should cover Supply, Installation, Implementation, Commissioning, Training, providing a user manual, providing 60 months Warranty for the total solution including all hardware, software, materials, services, and support etc. which should provide an fully Integrated wifi and CCTV Surveillance System for College and Hostels of GCEK, Bhawanipatna. The college includes Academic building, workshop, SAC building, main gate, side gate, staff quarters and their peripherals.

Overview and Ensuring Solution of Wifi and CCTV Surveillance System:

1. The purpose is to design, supply, install, configure, test, commission, and maintain a secure high-speed Wi-Fi network across the entire college campus to provide uninterrupted wireless internet connectivity for students, faculty members, staff, laboratories, libraries, hostels, administrative offices, and common areas. The CCTV Integrated Video Surveillance system shall be IP based & ONVIF System compliant with a distributed architecture having a separate control room for the viewing facility at GCEK, Bhawanipatna. Day and Night Surveillance Cameras shall be used at the required location. All the cameras should be capable of recording all the activities even at zero light and if any hard disk is crashed/defected then the bidder shall recover footage without data loss.
2. The proposed solution should allow GCEK officials to access wifi and centrally monitor the CCTV system. The CCTV surveillance system and Wi-Fi network infrastructure will be deployed using a common structured cabling system.
3. The Solution should capture, store, and analyze digital Video images with audio to enable central monitoring, increase operational efficiency, reduce liability, minimize risk, and secure people & property.
4. The system should be provided with weatherproof Wi-Fi Protected Access (WPA), IP dome cameras, PTZ & fixed bullet cameras, lenses, housing & mountings to access internet and capture video with which, would be viewed & controlled through the Video Management Software, recorded, and stored.
5. Supply, installation, testing & commissioning of two (02) numbers of **3 KVA Online** UPS for access point and the CCTV system. The power supply of the UPS should be taken from the nearest Emergency DB and the non-UPS Rack power supply should be

taken from UPS DB.

6. The NVR shall make continuous recording of all cameras for 24 hrs × 7 days with hardware should have adequate storage for a period of 15 days. If necessary, additional storage in the form of a hard disk drive shall be provided by the Bidder. Bidder should provide a Wireless mouse & keyboard for viewing & managing NVR/server/workstation.
7. Laying, terminating & connecting Single mode 6-core Optical Fiber cable (OFC) in ring Topology with redundancy between cameras & control room by using necessary Accessories like LIU, pigtail, fiber patch cords etc. The proposed Solution should allow Institute officials to locally and centrally monitor its facilities from a remote location on a Portable/Fixed personal computer monitor.
8. Wall mounting of Racks with 24-p patch panel & 24-p PoE switches in different locations with power supply provision
9. Installation of I/O port in position equals to number of cameras.
10. Supply & Laying of Cat-6 UTP from switch to I/O port with casing & capping.
11. Supply & installation of weatherproof enclosure and surge & lightning protection for PTZ camera.
12. Arranging tools, tackles, machinery, test instruments, consumables, skilled manpower, etc. complete in all respects for installation, testing, and commissioning of the system by the bidder.
13. On completion of the works and before the issue of the certificate of completion, the bidder shall provide inbuilt documents including manuals and operating instructions, software, software keys/passwords, and training to GCEK personnel in all aspects of system design, theory of operation of equipment, functional details, troubleshooting and familiarization with systems as per the scope of work, etc.
14. The bidder shall submit the complete bill of materials, drawings (Softcopy and 3 sets Hardcopy), technical data, information, technical literature for operation and maintenance, and other details required to fully establish the capability and performance of the equipment.
15. The materials offered by the Bidder as covered under the specifications of this work shall be fully in Compliance with the requirements stated herein.
16. The bidder has to lay a new OFC for the CCTV network separately if required. This should be surveyed before bidding. The fiber cable laying through HDPE Pipe/ GI pipe as required in a 1-meter depth underground. The cable route marker shall be installed at

the ground as required without any extra charges as per the direction of the PIC in charge.

17. Applications of the proposed System include tracking movements/Verification and recognition, through high-quality images, of persons and Objects including vehicles. The recordings of the scene of the Jurisdiction shall be helpful in case of enquiries etc. in establishing the truth. If required for any incident, GCEK has the right to call the bidder & bidder has to provide the event, time, day, Motion, etc. Recording to GCEK official.
18. All T&P, Scaffolding ladders/Hydra, Electrical instruments/meters for maintenance, consumable and Contingent Articles required for the execution of the work shall be arranged by the Agency. Nothing extra shall be paid on this account.
19. Chases, holes & drilling works, etc. shall be done using power-operated tools at the cost of the Contract. No extra will be paid for the same.
20. The successful vendor shall submit a detailed acceptance test procedure designed to demonstrate compliance with contract requirements at least 2 weeks before the start of testing. This procedure is to be approved prior to the start of the testing.
21. After all components (WLAN Controllers, Wifi Access points, Cameras, NVRs, NVMS data switches, etc.,) have been commissioned, the vendor shall verify the overall system performance as specified.
22. Prior to system program commissioning, verify that each component has been installed according to the tender requirement and test, and bring on-line.
23. The vendor shall complete all testing, adjusting the focus, picture clarity, right field of view & depth of view of cameras, etc., configuring the camera & NVR sets, etc., before requesting the client for testing.
24. Establishing CCTV control room with desired configuration, operation, monitoring & maintenance with Supply of one high resolution 55” LED Display for monitoring purposes, installation, configuration & customization of video software from the Control Room.
25. Software should be able to trigger & pop-up Real-Time videos on the trigger of any Video Analytic Alarm. The software should be able to record for all the cameras with time stamping.
26. Drawings and Data Requirements to be submitted by the Bidder for the complete system like:

- ❖ Technical Architecture of the System.
 - ❖ Complete Bill of Quantity (BOQ)
 - ❖ Complete Data Sheet
 - ❖ Test Records and Commissioning Documents.
 - ❖ Diagrams and Wiring connection.
 - ❖ Operation and Maintenance Manual
 - ❖ As-built drawings & rack elevation along with patching details i.e. acrylic laminated (Hard copy of visible size must be fixed on the wall of each rack lactation along with their soft copy)
 - ❖ Warranty certificate of the installed products on the letterhead of OEM with duly signed and stamped.
27. The GCEK and its representative shall have the right to inspect and test each equipment at all stages of installation, testing, and commissioning of the system. During Site Acceptance Tests the performance of each equipment and system as a whole shall be measured and documented. Any failure/equipment switchover shall be documented. List of all equipment, spares/components etc. shall be prepared. If during the 'Site Acceptance Test' any defect is noticed in the system, the Bidder shall rectify/ replace the same to the satisfaction of GCEK at no extra cost.

Installation and Commissioning

The Supplier shall be liable to complete all installation and commissioning of the fully integrated wifi and IP based CCTV Surveillance System at the site within **60 days** from the date of receipt of the work order. All packing must be opened at the site and handed over to the consignee, at the suppliers cost in presence of our Technical Committee Member (s)/ PIC . Installation and Commissioning shall include the following:

- a) Installation of WLAN controller, wifi assess point, the camera with manufacturing equipment/accessories should be done by the bidder as per OEM's manual/instructions.
- b) It will be the responsibility of the bidder to provide all necessary spares and consumables, which may be required during installation and commissioning, at no extra cost to the purchaser.
- c) The bidder is to bring their own instruments required for installation, testing, and commissioning, which can be taken back after completion.
- d) Installation must be completed within 60 days after delivery on site.
- e) The bidder should provide all necessary raw materials and consumables for running the system during commissioning.

- f) A completion certificate regarding the commissioning of wifi and CCTV surveillance system to be furnished by the bidder.
- g) After completion of the work a joint inspection report is to be submitted duly signed by the bidder and Technical Committee Member (s)/ PIC of the College.
- h) In case, guaranteed performance is not established, the bidder shall be given the opportunity to rectify/replace the items of the network, and restart the 7 days continuous trial operation, at the risk and cost of the bidder.
- i) The bidders will have to follow all the security instructions applicable from time to time. If the engineers deputed by the firms are found guilty of any violation of security norms, they will be liable to be prosecuted under the law.

Training and Documentation:

Bidder shall provide complete technical documentation of hardware, related software, operating systems configurations, and customizations along with necessary diagrams. Bidder shall also provide project and design documentation. The documents shall include but not be limited to:

- Factory/ Site test certificates of various equipment supplied.
- Original Manufacturers manual and warranty cards.
- Installation certificates of all equipment, description of configuration profile as executed for different equipment.
- Troubleshooting chart for all equipment, Standard OEM checklist for installation, maintenance, etc., if any, Training documents. System Integrator shall provide training for a minimum of 7-days of installation, configuration, commissioning, monitoring, and troubleshooting of various equipment like wifi controller, access points, CCTV cameras, NVR, storage, Backup system, access associated software, etc. to GCEK officials. The detailed contents, coverage, and Methodology for training will be decided mutually by the System Integrator and GCEK.

PTZ Camera Poles

The GI poles shall be of at least 6 mtr high. It shall be hot-dipped galvanized to withstand outdoor conditions. The necessary concrete support shall be provided below & above the ground. The pole shall be tapered while it is going up & shall have a necessary provision to mount PTZ/Fixed cameras with lock & various cable arrangements for camera & network equipment. Provision shall be made in civil works & also on the pole to allow cables to enter inside the pole for connecting the camera.

The vendor shall ensure that no cables are visible outside.

Scope of work during Standard Warranty (SW) and Comprehensive Annual Maintenance Contract (CAMC) period:

1. The agency shall be solely responsible for the comprehensive maintenance and upkeep the system in good condition. The CAMC includes only services for high-end & low-end equipment.
2. Quarterly preventive maintenance service should be done as per the maintenance schedule.
3. The preventive maintenance shall be prepared and submitted in advance to the Professor In Charge (PIC) by the Agency. The necessary shutdown may be taken with the prior permission of the PIC.
4. The unlimited breakdown service calls shall be attended as and when required free of cost. The maintenance work should be carried out without hampering the intercom service.
5. The machines will be kept under working conditions throughout the year except for certain eventualities of the service provider.
6. All major and minor jobs including turnkey-based full-phased maintenance jobs are responsibilities of the bidder.
7. The tools and tackles for the maintenance job will be provided by the agency at the site.
8. The scope of a Comprehensive Annual Maintenance Contract (CAMC) for wifi and CCTV shall include all types of maintenance, repair, spares, consumable items, software, and support services to keep the system fully operational.
9. If any damage will occur in the system during the maintenance work shall be rectified immediately by the agency. No extra cost will be paid for this.
10. The service engineer deputed by the agency shall be well-qualified and have enough knowledge in the field of wifi network and IP-based CCTV Systems.
11. The agency shall submit a service report to the PIC after completion of the preventive maintenance and as well as break down maintenance.
12. The Warranty/Guarantee of new spare items installed against the faulty/damaged spares shall be covered.
13. If the bidder fails to give service, then legal action will be initiated against the agency as per rule and work will be done **by encashing their BG.**
14. Schedule of Attendance of complaints: -
 - a) In case of breakdown-within 4 hours call should be attained (Subject to complaint

- logged between 9:00 am to 6:00 pm, Monday to Saturday barring national holidays)
- b) The agency shall respond to all calls and provide 7 × 24 hours and 365 days emergency service failing then legal action will be initiated against the agency as per rule and work will be done by encashing their BG amount by the PIC.
 - c) If the hardware failure is detected, then the same will be rectified within 72 hours failing then legal action will be initiated against the agency as per rule and work will be done by encashing their BG amount by PIC.
 - d) If the software failure is detected, then the same will be rectified within 24 hours failing then legal action will be initiated against the agency as per rule and work will be done by encashing their BG amount by the PIC.
15. All repairs/replacement/servicing/fixing of the entire wifi network and CCTV system shall be carried out only by the contractor / Bidder. GCEK, Bhawanipatna shall not permit or allow any party other than the authorized contractor / successful bidder to handle or deal with the equipment.
 16. Repair/replacement/servicing shall mean system testing, repair, and maintenance of the entire/total equipment for the proper functioning of the wifi and CCTV system. The CAMC includes repairing & maintenance of wifi network (WAP) and CCTV cameras, NVR, network switches, UPS, display, and other associated items e.g. connectors, Ethernet / Optical fiber cable, Power cable, HDPE pipe, etc., or any other item included in the CCTV system. The CAMC charges should include the expenses for preventive maintenance and routine check-ups and attending to breakdown calls as and when required.
 17. The contract is comprehensive and includes replacement, fitment, maintenance, and repair of all types of spare parts (Components/printed circuit board /power supply units/connectors & Electronics sub-systems, etc.), for replacement of defective parts and repair of the existing CCTV system and all related items. No extra charges will be payable by GCEK, Bhawanipatna on account of spares.
 18. Any modification of software/ software upgradation for the change in class of service and to provide the same additional facilities within the existing software provided in the system shall be covered under a warranty period of 5 years.
 19. Cleaning of WAP and CCTV camera and its associated equipment in the project/units, periodically / as and when required so that the performance of system is not deteriorated on this account, is in the scope of Warranty/CAMC.

20. The Agency shall be solely responsible for the maintenance and upkeep of the equipments in good condition.
21. The preventive maintenance schedule shall be prepared and submitted in advance. The necessary shutdown may be taken with the prior permission of the PIC.
22. A suitable complete shutdown shall be given once in a year for preventive maintenance of the complete system. All the equipment should be thoroughly checked and maintained for proper functioning/operations of the equipment.
23. In case of any fault in the installation covered under this work requiring immediate rectification of the same to put the installation in running condition, the firm has to rectify the fault and if any material is required in doing so, shall also arrange the same within a reasonable time.
25. The agency shall keep a minimum of spare and consumable materials in its custody for maintenance and attend the breakdowns.
26. Round-the-clock watch of the equipment shall be the Agency's responsibility and any losses and damage to the equipment shall have to be made good/repaired/replaced as per the original standards /specification of the department, by the Agency at his own cost and nothing extra shall be paid by the department.
27. In case of faults/repairs/damages, the Agency should immediately submit a detailed fault analysis report, citing details of the repair/rectification schedule with details of probable completion which will be executed after due approval of PIC (CIF).
28. On completion of the replacement of spares before the commission of the system, the replacement shall be physically checked and properly tested. These checks and tests shall be conducted by the agency under the supervision of GCEK, Bhawanipatna and the agency shall furnish the final test result to the PIC.

Annexure-IV

Technical Specification for Integrated wifi and CCTV Surveillance System installation

The integrated wifi and CCTV Surveillance system should be an IP based Digital network surveillance system with the following descriptions of items. Technical specification mentioned here is the minimum, any better specification will also be accepted. A list of some known / approved makes for CCTV System as given below is indicative.

List of Approved Makes

Sl. No	Description of item
1	WLAN Controller, Access point, Camera & NVR: STQC/ Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS Approve Make. Matching our All TQ & PQ For the tender clause.
2	Switch & Modules: Cisco / Netgear/Juniper /HP/Aruba/ Digisol or equivalent make of repute.
3	Passive component: Commscope / Siemon/ Panduit / Digisol /Molex or equivalent make of repute.
4	TV: LG/ Sony / Samsung / Panasonic or equivalent make of repute
5	UPS: Vertiv / APC / Numeric / EATON/Emerson or equivalent make of repute
6	Rack: Netrack / Schneider /APW or equivalent make of Repute
7	HDPE: Narayani Polypipes/Shree Narayani/Utkarsh/Oriplast / Magnum or equivalent make of repute
8	PVC Pipe: AKG / Polycab / Finolex/ Precision/Sudhakar or equivalent make of Repute
9	Electrical Socket box: Legrand / Schneider/ Anchor roma or equivalent make of Repute
10	Battery: Exide/Amron (Amara raja) / Cummins or equivalent make of repute
11	Hard drive : WD/Seagate/Toshiba or equivalent make of repute
12	Other Item TO BE DIECIDED BY OFFICER –IN -CHARGE

Please note that camera & NVR should be of same make. Bidder should mention the make, model and technical specification of each item to be supplied in the technical bid. Bidder quoted for substandard products will not be considered and the offered quotations are liable for rejection.

General Conditions apply to OEM for the items as specified in BOQ 1, 2, 3 4, 5, 6 and BOQ 7.

Sl. #	Eligibility Criteria	Compliance (Y/N) with Document
1	All Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs certifications.Model-wise,series-wisedetailsshouldbe available on the BIS website.	
2	In case the OEM is not participating directly, the bidder should be an authorized reseller or channel partner of the OEM. An authorization letter from the OEM needs to be submitted in the original. And we are verified to OEM for bidding Letter for confirmation.	
3	OEM should have provide a letter for 05 years product warranty clearly specifies the warranty terms of the products supplied.	
4	OEM should have own online-dedicated CCTV support center available during working hours and a fully equipped repair and maintenance office in India. Full disclosure should be made to ensure that the OEM can be contacted in case there are any requirements in future.	
5	The BIS certificate should be in the name of the quoted OEM. The CCTV OEM should have its own Factory in India.	
6	The CCTV OEM should not have been detected with any vulnerability before tender submission by STQC in any of its earlier projects. The OEM should give the same undertaking on their letterhead that they have never been rejected by STQC.	
7	The OEM should offer ISO 9001:2015, ISO 14001:2015, ISO 27001:2013, ISO 45000:2018 for their manufacturing process.	
8	The OEM should have CMMI level 5 certification to validate its performance across a range of critical business capabilities, including product development, service excellence, workforce management, data management, supplier management, and cyber security.	
9	The quoted CCTV OEM should be a active member of ONVIF. For verification purposes, all the relevant details should be available on the ONVIF website.	
10	The MAC address of the cameras must be registered in the name of OEM. If the MAC address does not match, it means that the device is not created by the original manufacturer, it's only an assembling or a labeling which has been done, and such party shall be immediately rejected.	
11	The camera OEM should be a genuine manufacturer and should comply with HEVC H.265 and be listed on HEVC website on bid submission date.	
12	CCTV OEM should have manufacturing in India since last Five years and Foreign CCTV OEM should have manufacturing unit globally from last 10 Years. (Documentary evidence should be submitted).	
13	Malicious code Undertaking letter from OEM.	

14	OEM must be certified that the proposed model of CCTV product must not become obsolete/End of Life within a period of 5 years. If it gets EOL due to technology advancement then OEM will support with Equivalent or Higher model. The product which is nearing to the end of sales must not be proposed in the solution.	
15	If the Hard disc crashes then Hard disc OEM should recover the data with replacement of Hard disc in warranty period.	
16	OEM should have crossed 3 Crores annual turnover as of 31 Mar 2024 with positive net worth.	
17	CCTV OEM should not have Hi Silicon chips in their camera for data security and same undertaking need to be provided.	
18	Camera & NVR should be from the same OEM for smooth integration.	
19	Products quoted should support MII initiative, OEM should provide land boarder certificate	
20	OEM should not be banned by any organization in India. Also ONVIF membership	
21	The product datasheet of each item must be available on the OEM website for technical verification. Technical Specifications Compliance Certificate from CCTV OEM need to be submitted along with technical bids in OEM Letterhead.	
22	The Camera OEM should comply to General Data Protection Regulation (GDPR) & Waste Electrical and Electronic Equipment (WEEE). OEM should have valid EPR (Extended Producer Responsibility License/ Authorization No. from Central Pollution Control Board for Electrical & Electronic Equipment E-Waste. OEM need to submit its certificate with technical bid.	

A. SPECIFICATION FOR WIFI AND IP CCTV CMERAS & NVR

BOQ1: WLAN Controller			
Sl no	Technical Specification	Compliance Yes/No	Deviations, if any
1	The WAN Controller support Multi-WAN and Multi-Session: Support bandwidth stacking after enable the multiple network dial up from the same or different ISPs, optimizing network connectivity and enhancing business continuity		
2	The WAN Controller support Powerful VLAN Features: Support port-based VLAN and Tag VLAN, ensures efficient data isolation within the enterprise, effectively safeguarding network security.		
3	The WAN Controller Support Intelligent Policy Routing: Flexibly configure routing policies based on demands, enhancing overall network efficiency.		

4	The WAN Controller Support Efficient Load Balancing: Ensure fair distribution of network traffic to improve user experience.		
5	The WAN Controller Support Port Aggregation: Supports port aggregation to further enhance bandwidth utilization.		
6	The WAN Controller Support Diverse QoS Modes: Flexibly configure Quality of Service based on bandwidth, application priority, IP/domain and protocol to ensure critical applications are prioritized		
7	The WAN Controller Support Comprehensive Security Protections: Offers robust security features including access control, ARP defense, MAC filtering, connection limits, and DDoS protection, providing continuous protection for your network		
8	Comprehensive VPN Support Featuring both VPN server and client functionalities, it supports multiple protocols including IPsec, PPTP, L2TP, and OpenVPN, ensuring secure remote access for users to the corporate network while effectively protecting privacy and data security.		
11	Supports SD-WAN (Software-Defined Wide Area Network) to Drive Digital Transformation for Enterprises With centralized management and flexible deployment through SD-WAN, seamlessly overcome geographic limitations, enhance network performance, reduce operational costs, and strengthen business continuity. This software-driven solution accelerates the digital transformation process for enterprises, making their networks more efficient and agile.		
13	Diverse Authentication Methods to Meet Your Varied Needs Supports Portal, PPPoE, Radius, and SMS authentication, ensuring secure network access while effectively showcasing advertisements to enhance brand influence, perfectly adapting to various scenario requirements!		
15	Dual Machine Hot Backup, Ensuring Network Stability Supports HA master/slave backup, link monitoring, and interface monitoring to achieve intelligent load balancing and parameter/line backups, ensuring your network remains efficient and stable without any worries!		
17	Rapid and Centralized Configuration of Wireless APs for Large-Scale Coverage Supports automatic detection and manage wireless APs. Simplify parameter configuration through group management, easy to deploy the large-scale wireless coverage—a one-stop wireless network solution!		

19	Cloud Remote Management, Easily Control Your Network Support cloud access and remote management through various methods, including device MAC or bound accounts, support device anomaly alert, wherever you are, easily inspect your devices, save time and costs, and monitor network status in real-time, ensuring efficient and smooth management!		
21	Comprehensive Network Fault Diagnosis and Smart Alerts Supports multiple network fault diagnosis features, provides network wake-up options, and includes an anomaly alert mechanism to promptly detect and address network issues, ensuring stable and efficient network operation.		
23	Enhanced Additional Features for Greater Network Flexibility Supports port mapping, UPnP, DMZ, NAT, and NAT fast forwarding, along with various other capabilities such as port mirroring, providing greater flexibility and convenience for your network configuration		
24	Operation Mode	Gateway, Gateway+AP controller, AP controller	
25	Maximum users	1000 under gateway and gateway+AP controller mode	
26	Maximum AP can be managed	2000PCS wireless AP can be managed under AP controller mode	
27	Support WAN	1000PCS wireless AP can be managed under Gateway + AP controller mode	
		Support Multi WAN bandwidth stacking: PPPoE, DHCP, static ip	
		Support one line multi-dial bandwidth stacking	
		Support WAN grouping to implementing batch WAN settings	
28	LAN	Support LAN VLAN, to achieve data isolation function	
29	Policy Routing	Support DNS proxy	
		Policy routing	
		Load balance	
		Line speed measurement, PING detection	
30	Port Aggregation	Manual aggregation and LACP modes	

		MACIP+ port, MAC+IP port aggregation		
		Device status, network status, user login records, system logging function		
31	Routing	QoS function: Based on bandwidth, business priority level, IP/domain name and protocol to limit traffic		
		Multiple security protections: support access control, ARP defense, MAC filtering, connection limit, DDoS defense and other functions		
		Support behaviour management functions based on time groups, IP address groups, domain names, and behaviour recognition		
		Supports VPN server and VPN client, supports PPTP, L2TP, IPsec, OpenVPN and other protocols		
		Support port mapping		
		Support UPNP, DMZ, NAT, DNS Support DDNS		
		Support port mirroring		
		Support NAT fast forwarding		
		Wake-on-LAN		
		Support network fault diagnosis and alarm push		
32	Authentication	Support PPPoE Auth		
		Support Radius Auth		
		Support SMS Auth		
		Support authenticated user management		
33	Support Hot Standby	Set relevant parameters for HA master/slave backup, link monitoring, and interface monitoring to achieve load balancing and parameter/line backup functions		
34	AP Management	AP list checking		
		Wireless parameter template settings		
		AP group management		
		White/Black name list management		
		AP Bulk firmware upgrade		
		DHCP defense		
35	Fault Diagnosis	Support PING detection, TraceRoute, Packet capture diagnosis and other functions		
36	Watchdog	Software watchdog, supports system		

		reset & Remote Maintenance		
37	System Management	Local backup, import, scheduled backup, factory settings, device restart, scheduled restart, local upgrade, online upgrade, etc		
38	Cloud Remote Management	Scene topology generation and management		
		Scene grouping and management		
		Equipment management and grouping		
		Equipment abnormality alarm		
39	Support CPU	Intel Elkhart Lake J6412 CPU, 10nm, 4 core, 2.0GHz, 1.5MB Cache		
40	BIOS	UEFI BIOS		
41	DDR	1 * 3200MHz DDR4 SO-DIMM memory slot, 4GB in default, 32GB maximum		
		1* 6Gb/s SATA interface		
42	Interface	6 × 2.5G RJ45 ports, Intel 225V chipset, Software defined WAN/LAN port		
		USB port 2 * USB 3.0		
		Serial Port 1 * RJ45 port		
		Reset Button 1Nos & 1 * Power button, on the back side, adopts ATX rebound button switch		
43	Power Support	AC:100 ~ 264VAC, 65W		
		1 * Power button, on the back side, adopts ATX rebound button switch		
44	Working Temperature	0-50 Degree & Working Humidity 5% ~85% RH		

BOQ 2: Dual Band Wi-Fi 6 Outdoor Access point				
SI No	Features	Technical Specification	Compliance Yes/No	Deviations, if any
1	2.4GHz Frequency Band	2.4GHz ~ 2.484GHz (802.11 b/g/n/ax)		
2	5GHz Frequency Band	5.150GHz 5.850GHz (802.11 a/n/ac/ax)		
3	Antenna	Two external 2.4GHz/5GHz dual-band waterproof antennas, each with a gain of 5dBi		
4	Wireless Speed	Dual-band concurrent, the maximum wireless concurrent rate can reach nearly 3000Mbps		
5	Support Tx Power	Tx Power 2.4GHz <23±2dBm & 5GHz <22.5±2dBm or Higher		
6	Interface	1 × 10/100/1000Mbps WAN port,		

		supports 48V PoE power supply		
		1 × 10/100/1000Mbps LAN port		
7	Support Working Mode	i. Gateway With AP Mode (Gateway mode: The device is connected to the WAN through the WAN port and then accesses the Internet using static IP, DHCP or PPPoE)		
		ii. AP mode: The device covers other clients and devices with wireless network signals and uses Ethernet to connect to other routers to access the WAN		
8	Wireless Capabilities	i. SSID Broadcast Number of SSIDs: 8 (2.4GHz) + 8 (5GHz), support 8 SSID		
		ii. Wireless encryption: OPEN, WPA/WPA2PSK - TKIP/AES, WPA3PSK - AES		
		iii. Wireless MAC address filtering : support whitelist		
		iv. User isolation: isolation between wireless networks and isolation within Aps		
		v. Transmit power setting		
		vi. Wireless client number limit		
		vii. QoS: WMM		
9	Device Management	i. Backing up configuration information		
		ii. Restore configuration information		
		iii. Restore factory settings		
		iv. Restart includes scheduled restart and immediate restart		
		v. Firmware Upgrade Time management includes system display time and time synchronization System Log		
		vi. Fat and thin AP switching function		
10	Network Features	i. Connection method: static address, obtained from the management server, obtained from the Gateway		
		ii. DHCP server: It can be a built-in DHCP server or an external DHCP server		
		iii. Cloud Platform Server		
		iv. Firewall function		
		v. PPPoE function: Support PPPoE		

		dial- up function		
11	Power Supply	DC2.0 12V/1.5A, PoE802.3af & Power Consumption- < 10W		
12	Protection Level	Outdoor IP67		
13	Work Environment	Normal operating temperature: -30°C to 55°C		
		Storage temperature: -40°C to 70°C		
		Humidity: 5% to 95% (no condensation)		

BOQ 3: 5MP Indoor Dome Camera with 30M IR				
Sl No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Image Sensor	1/2.7"CMOS		
2	Min. Illumination	Color:0.001Lux@(F1.6,AGC ON),B/W:0Lux with IR		
3	Shutter Time	1s~1/100000s		
4	Day&Night	IR-cut filter with auto switch (ICR)		
5	WDR	120dB		
6	Focal Length	2.8mm Fixed focal lens		
7	IR Distance	30m		
8	Video Compression	S+265/H.265/H.264B/H.264M/H.264H		
9	Video Bit Rate	32k~6Mbps		
10	Audio Compression	G.711A/G.711U/ADPCM_D with In-Built Mic		
11	Audio Sampling Rate	8kHz/32kHz/48kHz		
12	Max. Resolution	2592×1944@20fps		
13	Main Stream	PAL:20fps(2592×1944), 25fps(2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720) NTSC:20fps(2592×1944), 24fps(2592×1520, 2560×1440), 30fps(2304×1296, 1920×1080, 1280×720)		
14	Sub Stream	PAL:25fps(704×576, 704×288, 640×360, 352×288) NTSC:30fps(704×480, 704×240, 640×360, 352×240)		
15	BLC	BLC, HLC, AGC, 3D DNR, ROI, Privacy Mask & Defog		

16	Alarm Trigger	Motion Detection; Mask Alarm; Disk Full; Disk R/W Error; IP Address Conflict; Event Input, Event Output		
17	Video Analytics	Tripwire; Perimeter		
18	Protocols	HTTP; HTTPS; TCP/IP; UDP; UPnP; ICMP; DHCP; DNS; DDNS; Easy DDNS; NTP; QoS; IPv4; SSH; Unicast; RTSP; FTP		
19	System Compatibility	ONVIF Profile S/T/G;		
20	Communication Interface	1*RJ-45,10/100 Mbps self-adaptive Ethernet port		
21	Reset Button	Yes		
22	On-board storage	Support microSD/microSDHC/microSDXC card, up to 512 GB with ANR Function		
23	Operating Temperature	-40°C~65°C(No turning on the light)		
24	Operating Humidity	Humidity 95% or less (no condensation)		
25	Storage Temperature	-40°C~65°C		
26	Storage Humidity	Humidity 95% or less (no condensation)		
27	Power Supply	DC12V±25%,MAX 6.5W; POE 802.3af,MAX 7W		
28	Protection	Surge4000V; ESD6000V; IP66		
29	Certification	Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs		

BOQ 4: 5MP Bullet Camera with 50M IR				
Sl No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Image Sensor	1/2.7"CMOS		
2	Min. Illumination	Color:0.001Lux@(F1.6,AGC ON),B/W:0Lux with IR		
3	Shutter Time	1s~1/100000s		
4	Day&Night	IR-cut filter with auto switch (ICR)		
5	WDR	120dB		
6	Focal Length	4mm Fixed focal lens		
7	IR Distance	50m		
8	Video	S+265/H.265/H.264B/H.264M/H.26		

	Compression	4H		
9	Video Bit Rate	32k~6Mbps		
10	Audio Compression	G.711A/G.711U/ADPCM_D with In-Built Mic		
11	Audio Sampling Rate	8kHz/32kHz/48kHz		
12	Max. Resolution	2592×1944@20fps		
13	Main Stream	PAL:20fps(2592×1944), 25fps(2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720) NTSC:20fps(2592×1944), 24fps(2592×1520, 2560×1440), 30fps(2304×1296, 1920×1080, 1280×720)		
14	Sub Stream	PAL:25fps(704×576, 704×288, 640×360, 352×288) NTSC:30fps(704×480, 704×240, 640×360, 352×240)		
15	BLC	BLC, HLC, AGC, 3D DNR, ROI, Privacy Mask & Defog		
16	Alarm Trigger	Motion Detection; Mask Alarm; Disk Full; Disk R/W Error; IP Address Conflict; Event Input, Event Output		
17	Video Analytics	Tripwire; Perimeter		
18	Protocols	HTTP; HTTPS; TCP/IP; UDP; UPnP; ICMP; DHCP; DNS; DDNS; Easy DDNS; NTP; QoS; IPv4; SSH; Unicast; RTSP; FTP		
19	System Compatibility	ONVIF Profile S/T/G;		
20	Communication Interface	1*RJ-45,10/100 Mbps self-adaptive Ethernet port		
21	Reset Button	Yes		
22	On-board storage	Support microSD/microSDHC/microSDXC card, up to 512 GB with ANR Function		
23	Operating Temperature	-40°C~65°C(No turning on the light)		
24	Operating Humidity	Humidity 95% or less (no condensation)		
25	Storage Temperature	-40°C~65°C		
26	Storage Humidity	Humidity 95% or less (no condensation)		

27	Power Supply	DC12V±25%,MAX 6.5W; POE 802.3af,MAX 7W		
28	Protection	Surge4000V; ESD6000V; IP66		
29	Certification	Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs		

BOQ 5: 5MP MOTORISED LENS IP BULLET CAMERA				
SI No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Image Sensor	1/2.7"CMOS		
2	Min. Illumination	Color:0.001Lux		
3	Shutter Time	1s~1/100000s		
4	Day&Night	IR-cut filter w with auto switch (ICR)		
5	WDR	120dB		
6	Angle Adjustment	0~360°(P); 0~90°(T); 0~360°(R)		
7	Lens Type	Motorized		
8	Focus	2.7~13.5mm		
9	IR Distance	80m		
10	Video Compression	S+265/H.265/H.264B/H.264M/H.264H		
11	Video Bit Rate	32k~6Mbps		
12	Audio Compression	G.711A/G.711U/ADPCM_D		
13	Audio Sampling Rate	8kHz/32kHz/48kHz		
14	Max. Resolution	2592×1944@20fps		
15	Main Stream	PAL:20fps(2592×1944), 25fps(2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720) NTSC:20fps(2592×1944), 24fps(, 2592×1520, 2560×1440), 30fps(2304×1296, 1920×1080, 1280×720)		
16	Sub Stream	PAL:25fps(704×576, 704×288, 640×360, 352×288) NTSC:30fps(704×480, 704×240, 640×360, 352×240)		
17	BLC, HLC, AGC, 3D DNR, Corridor Format mode	YES		
18	ROI	8 rectangular static areas		

19	Privacy Mask	4 black static areas		
20	Defog	YES		
21	Alarm Trigger	Motion Detection; Mask Alarm; Disk Full; Disk R/W Error; IP Address Conflict; Event Input, Event Output		
22	Linkage Method	trigger recording; trigger capture; notify surveillance centre		
23	Video Analytics	Tripwire; Perimeter		
24	ANR	Yes		
25	Protocols	HTTP; HTTPS; TCP/IP; UDP; UPnP; ICMP; DHCP; DNS; DDNS; Easy DDNS; NTP; QoS; IPv4; SSH; Unicast; RTSP; FTP		
26	System Compatibility	P2P(Mutually exclusive with Profile G); ONVIF Profile S/T/G; CGI; Milestone		
27	Communication Interface	1*RJ-45,10/100 Mbps self-adaptive Ethernet port		
28	Audio I/O	1; 1		
29	Alarm I/O	1-ch,TTL input,3mA,3.3VDC; 1-ch,TTL output,30mA,12VDC		
30	Reset Button	Yes		
31	On-board storage	Support microSD/microSDHC/microSDXC card, up to 512 GB		
32	RTC	Yes		
33	Operating Temperature	-30°C~65°C(No turning on the light)		
34	Operating Humidity	Humidity 95% or less (no condensation)		
35	Protection	IP67, Lightning protection, surge protection and voltage transient protection meets EN 55035:2017		
36	Certification	Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs		

BOQ 6: 5MP 30x AI PTZ Camera With 200M IR				
Sl No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Image Sensor	1/2.7"CMOS		
2	Min. Illumination	Color:0.001lux@ (F1.6,AGC ON),B/W:0lux with IR		
3	Shutter	1s~1/100000s		

	Time			
4	Day&Nigh t	IR-cut filter with auto switch (ICR) with Smart IR		
5	WDR	120dB		
6	Focal Length	4.7mm~141mm		
7	Optical Zoom	30X & 16X Digital Zoom lens		
	Pan&Tilt			
8	Pan Range	360°		
9	Pan Speed	Manual Speed:0.1°?180°/s Preset Speed:240°/s		
10	Tilt Range	-16°~90° (Default -3°~90°)		
11	Tilt Speed	Manual Speed:0.1°?120°/s Preset:120°/s		
12	3D Position	Yes		
13	Preset	500		
14	Cruise	16,up to 32 presets per cruise		
15	Scan	8		
16	Pattern	8,each with 600s memory or 1000 orders		
17	Scheduled Task	Preset,Cruise,Scan,Pattern		
18	North Point	Yes(Manual setting)		
19	IR Distance	Up to 200m		
20	Video Compressi on	S+265/H.265/H.264B/H.264M/H.264H/Moti on JPEG		
21	Video Bit Rate	32Kbps~16Mbps		
22	Audio Compressi on	G.711A/G.711U/ADPCM_D/AAC_LC		
23	Audio Sa mpling Rate	8KHz/32KHz/48KHz		
24	Max. Resolution	5MP,2880×1620@30fps		
25	Main Stream	PAL:25fps(2880×1620,2688×1520,2560×144 0,2304×1296,1920×1080,1280×960,1280×72 0) NTSC:30fps(2880×1620,2688×1520,2560×14 40,2304×1296,1920×1080,1280×960,1280×7 20)		

26	Sub Stream	PAL:25fps(704×576,704×288,640×360,352×288) NTSC:30fps(704×480,704×240,640×360,352×240)		
27	Third Stream	PAL:25fps(1920×1080,1280×960,1280×720,704×576,640×480,704×288,352×288) NTSC:30fps(1920×1080,1280×960,1280×720,704×480,640×480,704×240,352×240)		
28	Camera Support	BLC, HLC, AGC , Dfog& 3D DNR		
29	ROI	7 rectangular 3D fixed focus areas,supporting 1 rectangular dynamic tracking ROI		
30	OSD	5 regions(Each region can have a maximum of 127 characters ,up to 5 lines); 16*16/24*24/32*32/48*48/64*64/96*96/a daptable size; Vector/Lattice		
31	Privacy Mask	24 regions(Up to 4 blocks in the same scene)		
	Feature			
32	General Alarm	Motion Detection; Mask Alarm; Alarm Input		
33	Exceptions Alarm	Disk Full; Disk R/W Error; Recording Exception; IP Address Conflict; MAC Address Conflict; FTP Server Exception ; Network cable disconnected		
34	Linkage Method	Send Email; Trigger Sound; Trigger Recording; Trigger Capture; Notify Surveillance Center; Alarm Output		
35	Video Analytics	Human/Vehicle Classification; Tripwire; Double Tripwire; Perimeter; Object Abandon; Object Missing; Heatmap; Loitering; Running; Parking; People Counting; Crowded Detection; Safety Helmet Detection; On Duty Detection; Video Abnormal; Audio Abnormal		
36	Auto-Tracking	Yes		
37	Face Mode	Face Capture		
38	Face Capture Performance	Detect up to 32 faces at the same scene; Capture up to 16 faces at the same scene		

	Network			
39	ANR	Yes		
40	Protocols	HTTP; HTTPS; TCP/IP; UDP; UPnP; ICMP; IGMP; SNMP v1\v2\v3; DHCP; DNS; DDNS; Easy DDNS; NTP; SMTP; TLS v1.2; SSL; 802.1x; QoS; IPv4; IPv6; PPPoE; SSH; Unicast; Multicast; ARP; RTP; SRTP; FTP; SFTP		
41	System Compatibility	P2P; ONVIF(Profile S/T/G/M); SDK; CGI; Milestone; RTSP; RTMP		
42	Communication Interface	1*RJ45 (10/100Base-T)		
43	Audio I/O	1*Input Impedance 1k Ω ,2.0~2.4Vp-p; 1*Output Impedance 600 Ω		
44	Alarm I/O	8*Switching; 2*Switching,Voltage \leq DC24V,Current \leq 1A		
45	Reset Button	Yes		
46	On-board Storage	Built-in Micro SD card slot,up to 512 GB		
47	Additional Interfaces	RS-485		
48	Operating Temperature	-40 $^{\circ}$ C~70 $^{\circ}$ C(-40 $^{\circ}$ F~158 $^{\circ}$ F)		
49	Operating Humidity	\leq 95%RH		
50	Storage Temperature	-40 $^{\circ}$ C~70 $^{\circ}$ C(-40 $^{\circ}$ F~158 $^{\circ}$ F)		
51	Storage Humidity	10%~95%RH(non-condensing)		
52	Power Supply	AC24V \pm 25%\DC24V \pm 10%; PoE:IEEE 802.3bt		
53	Power Consumption	20W(IR OFF) ; 38W(IR ON)		
54	Protection	Surge4000V; ESD6000V; IP66 with Metal Housing		
55	Certification	Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs		

BOQ 7: NVR (64CH OR Higher)				
SI No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Video Input	64-ch or Higher		
2	Max Resolution	12MP		
3	Two-way Audio Input	1-ch, 3.5mm		
4	Bandwidth	Incoming Bandwidth 640Mbps & Outgoing Bandwidth 320Mbps		
5	Playback Decoding Capability	16MP(30fps)×3, 12MP×4, 8MP(30fps)×6, 6MP(30fps)×8, 5MP(30fps)×9, 4MP(30fps)×12, 3MP(30fps)×16, 1080P(30fps)×16, 720P(30fps)×16		
6	Third-party Camera Access	ONVIF; RTSP		
7	HDMI Output	HDMI: 800×600(60Hz), 1024×768(60Hz), 1280×720(50Hz/60Hz), 1280×800(60Hz), 1366×768(60Hz), 1440×900(60Hz), 1920×1080(50Hz/60Hz), 2560×1440(30Hz/60Hz), 2560×1600(60Hz), (4K)3840×2160(30Hz/60Hz)		
8	VGA Output	VGA: 800×600(60Hz), 1024×768(60Hz), 1280×720(50Hz/60Hz), 1280×800(60Hz), 1366×768(60Hz), 1440×900(60Hz), 1920×1080(50Hz/60Hz)		
9	Multi-screen Display	Independent Output: HDMI1/VGA1: 1/2/3/4/5/6/7/8/9/10/12/13/16/20A/20B/25/32/36/40/64/80 HDMI2/VGA2: 1/2/3/4/5/6/7/8/9/10/12/13/16/20A/20B/25/32/36/40/64/80		
10	Audio Input	1-ch, 3.5mm		
11	Audio Output	1-ch, 3.5mm; BNC		
12	Two-Way Audio	1-ch, 3.5mm, using the audio input		
13	Video	S+265; H.265; S+264; H.264		
14	Audio	G711A; G711U; AAC; ADPCM_DIV4		

15	Network Protocol	ARP; DDNS; DHCP; DNS; Easy DDNS; FTP; HTTP; HTTPS; ICMP; IGMP; IPv4; IPv6; Multicast; NFS; NTP; PPPoE; RTCP; RTP; RTSP; SMB/CIFS; SMTP; SNMP v1; SRTP; SSH; SSL; TLSv1.2, TLSv1.3; TCP/IP; UDP; Unicast; UPnP		
16	System Compatibility	ONVIF(Profile S/T/G); RTSP; CGI; SDK		
17	Record Mode	Manual Recording; Alarm Recording; Schedule Recording		
18	Storage Method	Local HDD, eSATA		
19	Backup	USB storage device, eSATA, Network		
20	Playback Function	Play/Pause/Stop/Slow/Speed/Backwards 30s/Forwards 30s/Full Screen/Backup (Video Editing)/Step/Digital Zoom		
21	General Alarm	Motion Detection; Mask Alarm; Alarm Input(IPC); Alarm Input(NVR); Manual Alarm		
22	Exceptions Alarm	Video Loss; IP Conflict; MAC Conflict; Network Disconnected; No Disk; Illegal Access; Disk group space alert; Disk Full; Disk R/W Error; Recording Abnormal; Abnormal found in smart of disk; Abnormal temperature of the disk; Hot-spare Exception; Array Exception; Voltage Alarm(IPC); RTC Failure		
23	Intelligent Analytics			
24	AI by Camera	Tripwire; Double Tripwire; Perimeter; Object Abandon; Object Missing; Loiter; Running; Parking; Heatmap; Video Abnormal; Audio Abnormal; ; On Duty Detection; Crowd Detection; Parking Guard; Safety Helmet Detection; Electric Bicycle Detection; People Counting; Human/Vehicle Classification		
25	Face Detection			
26	Face Attributes	Gender; Age; Glasses; Face Mask; Body Temp.		
27	Face Recognition			

28	Face Picture Library	Up to 300 face libraries Up to 100000 base images		
29	Face Picture Comparison	Face Picture Comparison (Cooperate with facial recognition IPC)		
30	Storage			
31	HDD Capacity	Up to 24 TB capacity for each HDD		
32	Disk Group	8 Disk Group		
33	RAID	JBOD, RAID0, RAID1, RAID5, RAID6, RAID10		
34	eSATA	1×eSATA		
35	USB	2×USB2.0; 1×USB3.0		
36	HDMI	2×HDMI(supports up to 4K resolution output)		
37	VGA	2×VGA		
38	Network Interface	2×RJ-45, 10/100/1000 Mbps self-adaptive Ethernet port		
39	SATA	8×SATA interface		
40	RS232	1×RS232		
41	RS485	2×RS485		
42	Alarm I/O	16-ch & ; 4-ch, relay outputs,		
43	Power Supply	100~240V AC		
44	Power Consumption	<18W(HDD not included, idling)		
45	Operating Temperature	-10°C~+55°C (+14°F~+131°F)		
46	Operating Humidity	10%~90%RH (non-condensing)		
47	Storage Temperature	-20°C~+60°C (-4°F~+140°F)		
48	Certification	Bidder should have submit STQC / Security techniques for Cyber security with IS 13252(PART 1):2010/ IEC 60950-1 :2005 Indian BIS with CE , FCC, BIS & Rohs		

BOQ 8: 18TB Surveillance HDD				
Sl. No	Item Description	Detailed Specification	Compliance Yes/No	Deviations, if any
1	Capacity	18TB		
2	Interface	SATA 6Gb/s		
3	Recording Technology	CMR		
4	Drive Design	Helium		
5	Drive Bays Supported	16+		
6	AI Channels	32		
7	AI Real Time Capture Events/Sec	Up to 120		
8	AI Real Time Compare Events/Sec	Up to 96		
9	HD Cameras Supported	Up to 64		

10	RV Sensors	Yes		
11	Max. Sustained Transfer Rate OD (MB/s)	260MB/s		
12	Cache (MB)	256		
13	Load/Unload Cycles	6,00,000		
14	Mean Time Between Failures (MTBF) (hours)	2,000,000hr		
15	Average Operating Power (W)	8W		
16	Voltage Tolerance (5V)	±5%		
17	Voltage Tolerance (12V)	±10%		
18	Height (mm/in, max)	26.11mm/1.028in		
19	Width (mm/in, max)	101.85mm/4.01in		
20	Depth (mm/in, max)	146.99mm/5.787in		
21	Warranty	5 Years		

BOQ 9: 24 port PoE Gigabit switch additional 4 SFP ports (Layer 2)			
Sr No	Technical Specifications	Compliance Yes/No	Deviations, if any
1	General Features		
	The switch should support a minimum of 24 nos. 10/100/1000 PoE Ethernet Ports		
	The switch should support 4 Combo Uplinks		
	The switch should support a total of 28 Ports		
	The switch should support Console port		
2	Performance and Scalability		
	The switch should support Full-duplex Switching bandwidth of 56 Gbps		
	The switch should support 64-Byte Packet Forwarding Rate of 42 Mbps		
	The switch should support a Dual Core CPU		
	The switch should support at least 10 Active VLAN interfaces		
	The switch should support 4096 VLAN IDs		
	The switch should support Jumbo frames of 9216 bytes		
	The switch should support Maximum transmission unit (MTU) of 9198 bytes		
	The switch should support 8000 Unicast MAC addresses		
3	Dimension		
	The Switch should be (WxDxH)(mm) 440x210x44		

	The switch should support Operating temperature from -10°C-50°C		
	The switch should support Operating relative humidity 15% to 90% noncondensing		
	The switch should support cooling fans to maintain the working temperature		
4	Power Supply		
	The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC		
	Power Budget 370W		
5	Standards		
	The switch should support IEEE 802.1D Spanning Tree Protocol		
	The switch should support IEEE 802.1p		
	The switch should support IEEE 802.1Q Trunking		
	The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)		
	The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)		
	The switch should support IEEE 802.1x		
	The switch should support SNMP v1, v2c, and v3		
6	Layer-2 Features		
	The switch should support IEEE 802.1Q VLAN encapsulation		
	The switch should support Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically		
	The switch should support Spanning-tree root guard to prevent other edge switches becoming the root bridge.		
	The switch should support IGMP filtering		
	The switch should support Per-port multicast storm control to prevent faulty end stations from degrading overall systems performance		
	The switch should support Per-port unicast storm control to prevent faulty end stations from degrading overall systems performance		
	The switch should support IGMP v1, v2 Snooping & Filtering		
	The switch should support IGMP v3 Snooping		

	The switch should support Static Routing,RIP, OSPF		
7	Network security features		
	The switch should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.		
	The switch should support Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.		
	The switch should support SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.		
	The switch should support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.		
	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.		
	The switch should support Private VLAN or equivalent		
8	DHCP Features		
	The switch should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addressesDHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port.		
	The switch should support DHCP Option 82 data Insertion		
	The switch should support DHCP Option 82 - Configurable Remote ID and Circuit ID		
	DHCP Server/Client/Relay		
9			
	There should be service center locations available all over India		
	All TAC / Support operations to be available in India for at least 5 years from the date of purchase with free online support		
10	Warranty and Services		

	The switch should be a MII model		
	There should be service center locations available all over India		
	All TAC / Support operations to be available in India for at least 3 years from the date of purchase with free online support		
11	Certifications		
	The product should be TEC certified		
	Should be RoHS compliant		
	The OEM should be based in India for more than 25 years & with manufacturing plant for more than 15 years		
	OEM should possess ISO9001 / ISO:14001 and ISO:45001 certificates		

BOQ 10: Layer 2 Lite Managed 8 port PoE Switch

Sl No	Parameter	Technical Specification	Compliance Yes/No	Deviations, if any
1	Form Factor	19" Rack Mountable. Rack mounting kit to be provided		
2	Architecture	Non Blocking		
3	Ports	8 Port 10/100/1000 with PoE Managed Switch + 4 Combo GE/SFP ports		
4	PoE	140W (PoE+ supported)		
5	Port Status	Display Each port have a dedicated LED status display.		
6	MAC Addresses	Supports Up to 8K MAC addresses		
7	Switching capacity	24 Gbps non blocking		
8	Jumbo Frame	9K bytes		
9	VLANs Supported	Support for up to 4096 VLANs simultaneously Port-based and 802.1Q tag-based VLANs MAC-based VLAN, Voice VLAN		
10	Management	Web Management		
		HTTP/HTTPS; SSH; RADIUS; port mirroring; TFTP upgrade; DHCP client/server; Traceroot; BOOTP; SNMP; ping; syslog; Telnet client		
		RMON		

11	L2 Loop Protection	IEEE 802.1d Spanning tree protocol		
		IEEE 802.1W RSTP(Rapid spanning Tree Protocol)		
		IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)		
12	Link Aggregation	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP)		
		Up to 8 groups		
		Up to 8 ports per group with 16 candidate ports for each (dynamic) 802.3ad link aggregation		
13	QOS Support	4 nos of 802.1p Priority Queues per Port.		
		DSCP, CoS, IP Precedence, SP, WRR		
14	Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer.		
15	TFTP or FTP Support	For Configuration file backup and restore.		
16	Port Security	The ability to lock Source MAC addresses to ports, and limits the number of learned MAC addresses.		
		Storm Control : Broadcast / Unknown Multicast / Unknown Unicast		
17	Access Control	Should support standard and extended ACLS. Should support various types of ACLS like port based/time based.		
18	FAN	FAN less design		
19	Dimension	330(W) x 230(D) x 44(H) mm		
20	Surge Protection	Support 6kV surge protection on RJ45 port		
21	Temperature	Operating: 0 ~ 40°C Storage : -40 ~ 70°C		
22	Power	AC Input 100-240V AC. Power Cable as per Indian Standards to be Provided		
23	Country of Origin	India		
24	Certification	CE		

BOQ 11: 24 port PoE Gigabit Smart Managed switch (24 PoE)			
Sr	Technical Specifications	Compliance Yes/No	Deviations, if any

No			
1	General Features		
	The switch should support a minimum of 24 nos. 10/100/1000 PoE Ethernet Ports		
	The switch should support 4 Combo Uplinks		
	The switch should support a total of 28 Ports		
	The switch should support Console port		
2	Performance and Scalability		
	The switch should support Full-duplex Switching bandwidth of 56 Gbps		
	The switch should support 64-Byte Packet Forwarding Rate of 42 Mbps		
	The switch should support a Dual Core CPU		
	The switch should support at least 10 Active VLAN interfaces		
	The switch should support 4096 VLAN IDs		
	The switch should support Jumbo frames of 9216 bytes		
	The switch should support Maximum transmission unit (MTU) of 9198 bytes		
	The switch should support 8000 Unicast MAC addresses		
3	Dimension		
	The Switch should be (WxDxH)(mm) 440x210x44		
	The switch should support Operating temperature from -10°C-50°C		
	The switch should support Operating relative humidity 15% to 90% noncondensing		
	The switch should support cooling fans to maintain the working temperature		
4	Power Supply		
	The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC		
	Power Budget 370W		
5	Standards		
	The switch should support IEEE 802.1D Spanning Tree Protocol		
	The switch should support IEEE 802.1p		
	The switch should support IEEE 802.1Q Trunking		

	The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)		
	The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)		
	The switch should support IEEE 802.1x		
	The switch should support SNMP v1, v2c, and v3		
6	Layer-2 Features		
	The switch should support IEEE 802.1Q VLAN encapsulation		
	The switch should support Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically		
	The switch should support Spanning-tree root guard to prevent other edge switches becoming the root bridge.		
	The switch should support IGMP filtering		
	The switch should support Per-port multicast storm control to prevent faulty end stations from degrading overall systems performance		
	The switch should support Per-port unicast storm control to prevent faulty end stations from degrading overall systems performance		
	The switch should support IGMP v1, v2 Snooping & Filtering		
	The switch should support IGMP v3 Snooping		
	The switch should support Static Routing,RIP, OSPF		
7	Network security features		
	The switch should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.		
	The switch should support Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.		
	The switch should support SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.		
	The switch should support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the		

	configuration.		
	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.		
	The switch should support Private VLAN or equivalent		
8	DHCP Features		
	The switch should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addressesDHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port.		
	The switch should support DHCP Option 82 data Insertion		
	The switch should support DHCP Option 82 - Configurable Remote ID and Circuit ID		
	DHCP Server/Client/Relay		
9			
	There should be service center locations available all over India		
	All TAC / Support operations to be available in India for at least 5 years from the date of purchase with free online support		
10	Warranty and Services		
	The switch should be a MII model		
	There should be service center locations available all over India		
	All TAC / Support operations to be available in India for at least 3 years from the date of purchase with free online support		
11	Certifications		
	The product should be TEC certified		
	Should be RoHS compliant		
	The OEM should be based in India for more than 25 years & with manufacturing plant for more than 15 years		
	OEM should possess ISO9001 / ISO:14001 and ISO:45001 certificates		

BOQ 12: Single Mode SFP Transceiver LC Type				
Sl No	Parameter	Technical Specification	Compliance Yes/No	Deviations, if any
1	Architecture	1-port mini-GBIC LX SFP 1G Fiber Transceiver		
2	Connector	It should have duplex LC Connector		
3	Flow control.	Support 802.3x		
4	Mode	9/125 um Single mode Fiber Type up to 20 KM.		
5	Support wavelenght	1310nm		
6	Power Support:	3.3V		
7	Manufacturing and Support	The switch should meet the Make-in-India initiative by government of India		
8	Service centers	The OEM should have local service centers situated all over India India with a Toll-free number for online assistance		

BOQ 13: CAT-6 Indoor Cable			
SR. NO.	Technical specification	Compliance Yes/No	Deviations, if any
1	The 4 pair Unshielded Twisted Pair cable shall be UL Listed and Performance verified up to 600 MHZ.		
2	This cable well exceeds the requirements of ANSI/TIA-568.2-D and ISO/IEC 11801-1 CATEGORY 6		
3	Nominal Outer Diameter of Cable should be 6.0 ± 0.4 mm and 23 AWG, Solid bare copper		
4	Construction: 4 twisted pairs separated by internal PE Cross Separator. Full separator. Half shall not be accepted. Rip Cord is must.		
5	Conductor: Solid bare Copper, Outer jacket sheath: FRPVC with UL approved CM rated cable. Jacket color: Grey		
6	Insulation Material: High Density Polyethylene (HDPE)		
7	Dielectric Strength of cable should be 2.5 KVDC for 2 seconds		
8	Bending Radius : < 4X Cable Diameter at -20°C ± 1°C		
	Pulling Force: 25.35 lbs		

9	Electrical Parameters: Insertion loss (Attenuation), NEXT, PSNEXT, ELFEXT (ACRF), PSELFEXT (PSACRF), Return Loss, ACR and PS ACR.		
10	Insertion Loss of 32.8 db/100m at 250 MHz		
	Insertion Loss of 46.0 db/100m at 500 MHz		
	Insertion Loss of 51.0 db/100m at 600 MHz		
11	Cable should support operating temperature from - 20° to +70°C		
12	Cable support Conductor Resistance $\leq 9.38 \Omega/100m$ Max.		
13	Mutual Capacitance of cable should be < 5.6 nF/100m Max.		
14	Resistance Unbalance of cable should be 5% Max.		
15	Capacitance Unbalance of cable should Max. 330 pF/100m		
16	Cable support Delay Skew: < 45 ns/100m, Operating Voltage: 72V		
17	Nominal Voltage of Propagation (NVP): 69% and Current Rating: 1.5 A Max.		
18	Impedance: $100 \pm 15 \Omega$ @100 MHz and Propagation Delay @250 MHz : 536 ns/100m		
19	ETL VERIFIED TO ANSI/TIA-568.2-D AND ISO/IEC 11801-1 CATEGORY 6 250 MHZ, Printed sequential length counter of each meter on outer jacket, ROHS Compliant		
20	Zero-bit error test by Intertek		
21	Category 6 UTP cables shall Support Gigabit Ethernet (1000 base T) standard and Performance verified up to 600 MHZ		
22	Availability of test reports to prove conformity of the Specification from Central Govt. Lab/NABL accredited Lab/ILAC accredited Lab. Test report number and date - Must declare. Agreed to furnish all the test reports and certificates to the buyer on demand		

BOQ 14: CAT-6 Outdoor Cable			
SR. NO.	Technical specification	Compliance Yes/No	Deviations, if any
1	The 4 pair Un-Shielded Twisted Pair cable.		
2	This cable well exceeds the requirements of TIA/EIA-568-C.2 and ISO/IEC 11801		
3	Nominal Outer Diameter of Cable over outer Sheath: 10.0 +/- 0.5mm and Conductor Diameter 0.55 +/- 0.005mm(23 AWG).		

4	Construction: 4 twisted pairs separated by internal PE Cross Separator. Full separator. Half shall not be accepted. Rip Cord is must.		
5	Conductor Solid bare Copper and Twisted 4pair stranded over Cross PE Separator filler, Inner sheath, ECCS Tape Armour and Outer black		
	Polyethylene Sheath.		
	Outer Jacket color: Black PE		
	Inner Sheath: PVC (0.40mm Min. Thickness)		
	& Diameter over inner sheath - 6.5 mm (max.)		
	ECCS Tape Armouring Diameter over Armour - 8.5 mm (nom.)		
	Outer Sheath: Polyethylene		
	Colour: Black		
	Diameter over outer Sheath -10. +/- 0.5mm		
6	Insulation :High Density Polyethylene Solid		
7	Dielectric Strength of cable should be 2.5 KVDC for 2 SECS		
8	Bending Radius : < 12X Cable Diameter at -20°C +/- 1°C		
	Pulling Force: 11.5 kgs (max.)		
9	Electrical Parameters Pair – to – pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR.		
10	Insertion Loss of 32.8 db/100m at 250 MHz		
11	Cable should support operating Temperature from - 20° to +70°C		
10	Cable support Conductor Resistance < 9.38 Ω /100m		
11	Mutual Capacitance of cable should be < 5.6nF/100m		
12	Max Resistance Unbalance of cable should be 5% Max		
13	Capacitance Unbalance of cable should max 330pF/100m		
14	Cable support Delay Skew: < 45nS, Operating Voltage: 72V NVP: 69% and Current Rating : MAX 1.5A		
15	Printed sequential Length Counter of each meter on Outer Jacket		
16	Category 6 Armoured cables shall Supports Gigabit Ethernet (1000 base-T) standard		

BOQ 15: SINGLE MODE OPTICAL FIBER CABLE (ARMOURED)

Sl no	Technical Specification	Compliance Yes/No	Deviations, if any
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1	06 Core, Single mode 9/125 micron primary coated buffers, 10G Ethernet OS2, Armoured Loose Tube, ECCS (Electrolytic Chrome Coated Steel) Tape, Jelly Filled Loose Tube.		
2	Two Steel Wires/Rods embedded in outer periphery of the jacket as strength members. UV Stabilized jacket and protected from Rodent attacks		
3	Complying to ANSI/TIA-568-C.3, ISO/IEC 11801, Telecordia GR-20 Core, ITU-T REC G.652D, IEC 60793-1/60794-1, EN 50173, RoHS Compliant		
4	Suitable for use in indoor/outdoor ducts, direct burial and backbone cabling		
5	Loose tube material : Polybutylene Terephthalate (PBT) with Natural/White Colour having Inner Diameter/Outer Diameter 1.7/2.5 ± 0.1 mm		
6	Peripheral strength member as two steel wires/rods having dimensions as 0.6 ± 0.05 mm		
7	Moisture Barrier as Water Swellable Tape, Armouring ≥ 0.150 mm (ECCS Tape), Number of Ripcords as 01 no polyester based yarns.		
8	Outer sheath material as HDPE with diameter as 7.5 ± 0.5 mm having thickness of 1.5mm nominal		
9	Weight of the cable for 06 core (HDPE): 65.0 ± 10 kg/km,		
10	Fiber colour and Loose tube colour as per ANSI/TIA standards.		
11	Tensile Strength : 1000 N, Crush Resistance : 4000 N/100mm		
12	Minimum bend radius : 20 x Diameter (during installation), Minimum bend radius : 10 x Diameter (during full load)		
13	Fiber Type : G. 652D (OS2)		
14	Attenuation : ≤ 0.38 dB/km (@1310 nm), ≤ 0.25 dB/km (@1550 nm)		
15	Chromatic Dispersion : ≤ 3.5 ps/nm.km (@1285 - 1330 nm), ≤ 18 ps/nm.km (@1550 nm)		
16	Zero Dispersion Wavelength : 1300 - 1324 nm		
17	Zero Dispersion Slope : ≤ 0.092 ps/nm ² .km		
18	Polarisation Mode Dispersion : ≤ 0.2 ps/√km		
19	Cut-off Wavelength : ≤ 1260 nm		
20	Mode Field Diameter : 9.2 ± 0.4 μm (@1310 nm) , 10.4 ± 0.4 μm (@1550 nm)		
21	Core Cladding Concentricity Error : ≤ 0.8 μm		
22	Cladding Diameter : 125 ± 1 μm , Coating Diameter : 245 ± 10 μm		

23	Cladding Non-circularity : $\leq 1\%$		
24	Installation Temperature: -20 °C to +70° C, Operating Temperature : -20 °C to +70° C		
25	Cable Size and Standard Length: 06 F: 4.0 kms $\pm 10\%$		

BOQ 16: Power Cable 3 core X 1.5 Sq mm				
SI No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	Power Cable	3 core X 1.5 Sq mm		
2	Rated Voltage	1100		
3	Material	Plain annealed high conductivity Flexible copper conductor as per Class 5 of IS 8130/2013 latest		
4	Conductor Size in Sq.mm.	1.5		
5	Max. D.C Cond. Resistance at 20 Deg. C. in Ohm/KM	13.3		
6	Shape of Conductor	Bunched Circular		
7	Insulation Material	PVC Type "D"		
8	Insulation Nominal Thickness in mm	0.6		
9	Core Identification	Red, Black & Yellow/Green		
10	Seath Material	Extruded PVC Type 'ST3' as per IS:5831/84		
11	Seath Nominal Thickness in mm.	0.9		
12	Seath Color	Black		
13	Maximum Overall Diameter in mm	9.4		
14	Current Rating in Amps	16		
15	Standards to which the cables confirm	As per IS 8130/2013, IS 694/2010, etc. with latest up to date amendments		

BOQ 17: FIBER RACKMOUNT LIU LOADED DRAWER TYPE 12 PORT			
SI no	Technical Specification	Compliance Yes/No	Deviations, if any
1	The Fiber Rackmount 12 Port LIU loaded having Adapter panel fixed on drawer base frame, with Adapters and with Pigtailed and assembled with splice tray as per the Loaded fiber port requirement and their applicable accessories.		

2	Suitable to mount at different positions (depth wise) on standard 1U 19 inch racks. Drawer type to pull out for easy maintenance when assembled in racks.		
3	Cold Rolled Steel material with black powder coating		
4	Three types of cable entry holes for different size cables through cable glands, covered with rubber cable grommets/covers.		
5	Splicing of 24 fibers in each plastic fiber splicing trays with integrated cable spool design.		
6	Non removable top cover and no rear cover. Drawer type to pull out for better access of interior.		
7	12 no's SC Simplex adapters and 12 no's SC Simplex Pigtails Loaded on Port rackmount LIU		
8	As per the Loaded fiber port requirement Accessories kit consists of Cable management rings/Cable saddles, Cable glands (PG13.5, 2 nos), Splice rods, Blanking clips, Velcro ties, Cable ties, Cable inlet/outlet hole covers(2 types, 2 nos each)		
9	Cable management rings/Cable saddles can be mounted inside the rackmount, no provision to mount outside in front of the adapter panel.		
10	Suitable for storing up to 1 meter of 900 μm tight buffered fiber pigtail per adapter.		
11	Panel Dimensions : 482 x 220 x 44.3 mm (Length x Width x Height)		
12	Splice Tray Dimensions : 220 x 90 x 15 mm (Length x Width x Height)		
13	Port identification numbers printed on the Adapter panel		
14	Standards: Comply as per ANSI/TIA-568-C.3, ISO/IEC 11801, RoHS Compliant.		
15	Operating Temperature : -20 °C to +70° C		
	Installation Temperature : -20 °C to +70° C		

BOQ 18: FIBER RACKMOUNT LIU LOADED DRAWER TYPE 24 PORT			
Sl no	Technical Specification	Compliance Yes/No	Deviations, if any
1	The Fiber Rackmount 24 Port LIU loaded having Adapter panel fixed on drawer base frame, with Adapters and with Pigtails and assembled with splice tray as per the Loaded fiber port requirement and their applicable accessories.		

2	Suitable to mount at different positions (depth wise) on standard 1U 19 inch racks. Drawer type to pull out for easy maintenance when assembled in racks.		
3	Cold Rolled Steel material with black powder coating		
4	Three types of cable entry holes for different size cables through cable glands, covered with rubber cable grommets/covers.		
5	Splicing of 24 fibers in each plastic fiber splicing trays with integrated cable spool design.		
6	Non removable top cover and no rear cover. Drawer type to pull out for better access of interior.		
7	24 no's SC Simplex adapters and 24 no's SC Simplex Pigtails Loaded on Port rackmount LIU		
8	As per the Loaded fiber port requirement Accessories kit consists of Cable management rings/Cable saddles, Cable glands (PG13.5, 2 nos), Splice rods, Blanking clips, Velcro ties, Cable ties, Cable inlet/outlet hole covers(2 types, 2 nos each)		
9	Cable management rings/Cable saddles can be mounted inside the rackmount, no provision to mount outside in front of the adapter panel.		
10	Suitable for storing up to 1 meter of 900 µm tight buffered fiber pigtail per adapter.		
11	Panel Dimensions : 482 x 220 x 44.3 mm (Length x Width x Height)		
12	Splice Tray Dimensions : 220 x 90 x 15 mm (Length x Width x Height)		
13	Port identification numbers printed on the Adapter panel		
14	Standards: Comply as per ANSI/TIA-568-C.3, ISO/IEC 11801, RoHS Compliant.		
15	Operating Temperature : -20 °C to +70° C		
	Installation Temperature : -20 °C to +70° C		

BOQ 19: OFC SC to LC type Patch cord Duplex			
Sl no	Technical Specification	Compliance Yes/No	Deviations, if any
1	Fiber optic patch cord with two core (Duplex) fiber cable terminated with LC connector at one end and SC connector at other end		
2	The terminated connectors in assemblies are designed and are compatible with industry standards (ANSI/TIA-568-C.3, ISO/IEC 11801).		

3	Have good geometrical characteristics of apex offset & radius of curvature & fiber height		
4	100% factory terminated and tested for optical characteristics & fiber end face finish.		
5	Fiber type bend insensitive G. 652 D standard. OS2 (9/125 μ m Corning Clear Curve),		
6	Buffer Diameter : 0.9 ± 0.05 mm, Jacket Thickness : 0.35 ± 0.05 mm, Strength Member as Aramid yarn		
7	Cable Diameter : $2.0 \times 3.8 \pm 0.2$ (Duplex)		
8	Jacket color : Yellow, Jacket Material : LSZH, Length : 3 Mtr		
9	Connector Ferrule : Ceramic, Apex Offset should be <50um, Fiber height should be ± 100 nm		
10	Connector Repeatability ≤ 0.2 dB with 1,000 times mating cycles.		
11	Connector cable retention : 50 N (11.24 lbs), Crush resistance : 100N/100mm, Bend Radius: 20xDiameter of cable		
12	Attenuation : ≤ 0.36 dB/km (@1310 nm), ≤ 0.25 dB/km (@1550 nm)		
13	Chromatic Dispersion : ≤ 3.5 ps/nm.km (@1285 - 1330 nm), ≤ 18 ps/nm.km (@1550 nm)		
14	Zero Dispersion Wavelength : 1300 - 1324 nm		
15	Cut-off Wavelength : ≤ 1260 nm		
16	Mode Field Diameter : 9.2 ± 0.4 μ m (@1310 nm) , 10.4 ± 0.5 μ m (@1550 nm)		
17	Insertion Loss (@1310 &1550nm) : SM (UPC/PC) Type : SC/LC/ST/FC : ≤ 0.3 dB Return Loss (@1310 &1550nm) : SM (UPC/PC) Type : SC/LC/ST/FC : ≥ 50 dB		
18	Insertion Loss (@1310 &1550nm) : SM (APC) Type : SC/LC/ST/FC : ≤ 0.3 dB Return Loss (@1310 &1550nm) : SM (APC) Type : SC/LC/ST/FC : ≥ 60 dB		
19	Standards: IEC 60332-1, ANSI/TIA-568-C.3, ISO/IEC 11801 RoHS Compliant		
20	Installation Temperature : -20 $^{\circ}$ C to $+70$ $^{\circ}$ C, Operating Temperature : -20 $^{\circ}$ C to $+70$ $^{\circ}$ C		
21	Available in 3 meters length		

BOQ 20: 32MM HDPE Pipe				
Sl. No	Parameter	Technical specification	Compliance Yes/No	Deviations, if any
1	Nominal size or Outside diameter (mm)	32.00 - 32.30		
2	Wall thickness (mm)	2.40 - 2.70		
3	Standard dimension ratio(SDR)	SDR- 13.6		
4	Raw material grade	PE-80		
5	Nominal pressure rating	PN-8		

6	Color of pipe	Black with blue identification stripes(3)		
7	Identification Stripes	As per IS:4984- 2016 Clause 6.2.1		
8	Stripes Width & Depth	> 3 mm & 0.2 mm		
9	Surface finish	Internal and External and free from grooving and surface of the pipe shall be smooth other defects.		
10	Ovality(Maximum out of roundness)	1.3 (Max)		
11	Weight per 1 Meter	0.226 kg/meter		
12	Standard Length in Coil	300/500 meter		
13	Marking	Manufactureer name		
		Size of pipe		
		ISI Mark		
		Batch no.		
14	TYPE TESTS	Inspected & Certified by CIPET		

BOQ 21: 27U Floor Mount Network Rack			
Sl. No	Technical specification	Compliance Yes/No	Deviations, if any
1	Racks manufactured out of steel sheet punched, formed, welded and Powder coated		
2	Rack should be from ISO 14001 ,27000 Certified Company & UL Listed		
3	Standard for Racks configuration will be welded frame with integrated side panel and vented top cover		
4	Rack should have Front tinted Glass door and Rear Metal Door.		
5	Rack should have provision to mount racks on Floor.It should be with castor		
6	Rack should be 27U(1U = 44.45 mm) in Height.		
7	It should be 600MM Wide & 600MM Deep		
8	Rack should Conforms to DIN 41494 or Equivalent EIA /ISO / EN/CEA Standard		
9	Rack should have Adjustable mounting depth,		
10	Rack 4 No Adjustable, 19” verticals with Punched 10mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern offers greater mounting flexibility, maximizes usable mounting space.		
11	Rack should have Numbered U positions,		

12	Rack should have 100% assured compatibility with all equipment conforming to DIN 41494 (General industrial standard for equipment)		
13	Powder coated finish with seven Tanks pre-treatment process meeting IS		
14	Rack should have one Hoz. Cable Manager.		
15	Rack should have one Heavy duty shelf.		
16	Rack should have Fan module Mount Provision on top Cover with 2 Fan Housing unit		
17	Rack should have one Server /IT Rack mount power distribution unit, 1Ph, 230V, 8A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5A, Inlet Plug type 6A Indian Round Pin, 8A Fuse - PDU Rating 1.8KVA/Side feed-1.5Mt/ Black		
18	Rack should have provision for cable entry Exit from Both top & Bottom.		
19	Rack should have 1 Packet of mounting hardware, Pack of 20.		

BOQ 22: 9U Wall Mount Network Rack			
Sl. No	Technical specification	Compliance Yes/No	Deviations, if any
1	Racks manufactured out of steel sheet punched, formed, welded and Powder coated		
2	Rack should be from ISO 14001 ,27000 Certified Company & UL Listed		
3	Standard for Racks configuration will be welded frame with Integrated side panel and vented top cover		
4	Rack should have Front tinted Glass door		
5	Rack should have provision to mount racks on Wall		
6	Rack should be 9U(1U = 44.45 mm) in Height.		
7	It should be minimum 550MM Wide & 600MM Deep		
8	Rack should Conform to DIN 41494 or Equivalent EIA /ISO / EN/CEA Standard		
9	Rack should have Adjustable mounting depth,		
10	Rack 4 No Adjustable, 19" verticals with Punched 10mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern offers greater mounting flexibility, maximizes usable mounting space.		
11	Rack should have Numbered U positions		
12	Rack should have 100% assured compatibility with all equipment conforming to DIN 41494 (General industrial standard for equipment)		
13	Powder coated finish with seven Tanks pre-treatment process meeting IS		
14	Rack should have one Hoz. Cable Manager Loop 1U.		

15	Rack should have one Cantilever shelf.		
16	Rack should have Fan module Mount Provision on top Cover with minimum 1 no. 90 CFM Fan		
17	Rack should have one Server /IT Rack mount power distribution unit, 1Ph, 230V, 8A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5A, Inlet Plug type 6A Indian Round Pin, 8A Fuse - PDU Rating 1.8KVA/Side feed-1.5Mt/ Black		
18	Rack should have provision for cable entry Exit from Both top & Bottom.		
19	Rack should have 1 Packet of mounting hardware, Pack of 20.		

BOQ 23: 3 KVA Online UPS with 120 Mins Battery Back Up				
SI No	Parameters	Technical Specification	Compliance Yes/No	Deviations, if any
1	Configuration	3 KVA IGBT based On-Line UPS with flexible External VRLA Battery Option		
2	Capacity	3000 VA / 2400 Watts;		
3	Configuration	1 Phase Input : 1Phase Output		
4	AC Input Voltage Range	176-300 V full load/110-300 V 50 % load		
5	Input Frequency	40...70 Hz auto sensing		
6	AC Input Connection Type	(1) Hard wire 3-wire (1P+N+G)		
7	AC Output Voltage	230 V AC, 1-phase \pm 1% (Sine Wave Out- put)		
8	Rectifier & Inverter type	IGBT		
9	Output Frequency	50 Hz \pm 3 Hz		
10	Operating temperature	0-40 degree C, without deration		
11	Voltage harmonic Distortion	<1% for Linear Loads and <4% for non- linear loads		
12	Output Connections	(1) Hard wire 3-wire (1P+N+G)		
13	Indications & Audible Alarms	Mains On, Inverter On, Overload, Battery Low		
14	Digital Metering	LCD display for measurement of AC Voltage, Battery voltage, Battery Current, Load Current, Output frequency.		
15	UPS	2U size		
16	Form factor	Rack & Tower convertible.		
17	Battery Charger	Min.8A charger capacity		
18	Battery Voltage	72V		

19	UPS Remote Monitoring	The UPS should come with NMC/SNMP Card. The Cloud-based Centralized Management Software shall produce alerts and alarms, providing real-time monitoring of distributed IT infrastructures such as UPS, LiBs etc via SNMP v1, v3, modbus TCP., having ISO 27001 , IEC 62443-4-2 Security Level 2 (SL2) security certifications.		
20	Software Connectivity	Vendor UPS should also have Business Continuity Software which should provide unattended graceful shutdown of standalone servers and virtual machines server (VMs) followed by the cluster and hosts, which helps prevent data corruption. It should work with server OS like Windows, Linux.		
21	SNMP Card	SNMP Card comes with its own ISO 62443-4-2:2019 cyber security certification. Copy of this certificate to be submitted at the time of bidding.		
22	Battery VAH	Battery VAH should be 7200 VAH for 120 mins backup		
23	Battery Back-up & Other Details	The system must be capable of providing 120 Mins battery back-up time as per requirement.		
		UPS Should have integrated Battery testing feature to check the health of Batteries.		
		UPS Should have temperature compensated battery charger.		
24	Operating Environmental conditions	Operating Temperature: 0 to 40 °C		
		Operating Altitude: 0 – 1,000 m at 100% load		
		IP Rating: IP 20		
25	Certification	ISO 9001, ISO 14001,ISO 45001:2018, ISO 50001 certified.		
		ROHS & Reach Certificate		
		BIS		
		IS 16242 (Part 1) : 2014 / IEC 62040-1 : 2008		
		NABL certificate with J55555 certification		
		IEC 62040-2 : 2018		
26	Installation & Commissioning	Bidder/OEM should deliver, install,commission and maintain the UPS system as per Govt Electrical standard practices.		
27	Origin of UPS	The offered solution (UPS & battery) should have >51% local content		

28	After Sales Support & Manufacturer's Credibility	UPS OEM should have its registered office/Authorized service partner office with adequate technical manpower and spares for ensuring 24 x 7 x 365 support as per contract SLA. Contact numbers and addresses to be provided for support centres		
		UPS OEM should have experience for deploying Online 1PH UPS for at least 20 years in India and deployed in any Central/State Govt Organization/PSU/Public Listed Company in last 05 years. Documentary evidence to be furnished		

BOQ 25: Next Generation Firewall			
Sl.No	Specifications	Compliance Yes/No	Deviations, if any
A	General Requirements		
1	The Proposed OEM must be providing network security solution for government segments in India for at least 10 years. The OEM must be provided with the highest security effectiveness of the proposed firewall solution.		
2	Firewall should not use a proprietary ASIC hardware for any kind of performance Improvement. If option to disable ASIC is there than OEM must mention the performance numbers in datasheet. The proposed solution should have Multicore CPU based architecture for better performance.		
3	The Proposed solution shall support HA without any additional licenses and firewall appliance redundancy for future requirement.		
4	The solution must have Firewall, Application visibility and control, IPS, Anti-virus, Anti-malware, Anti-bot ,URL filtering and advanced DNS protection capabilities from day one along with real-time Zero-day threat prevention features.		
5	Licensing should be a per device and not user/IP based (should support unlimited users)		
6	The device should be IPv6 Ready (Both phase 1 and Phase2)		
B	Hardware and Interface Requirements		
1	NGFW Ports (Minimum) - 16 X 10/100/1000 Base-T & 10 x 10G SFP+		
2	The firewall shall support dual Redundant Power Supply which is critical for maintaining uptime in case of hardware failure or power issues.		
3	The Appliance should have dedicated Console, 1x Management and 1x USB ports.		
4	Internal Storage should be minimum 250 GB SSD.		

C	Performance Requirements		
6	The proposed NGFW appliance must provide at least 9 Gbps of IPS Throughput.		
7	The proposed solution should provide at least 7.5 Gbps of threat Protection throughput.		
8	The proposed appliance must provide at least 7 Gbps of IPSec VPN throughput		
9	The proposed appliance must support at least 3 million concurrent connections and at least 85,000 new connections per second.		
10	The proposed NGFW appliance must provide at least TLS throughput 3 Gbps and 295,000 TLS connections.		
D	Architecture Features		
1	Proposed appliances must support high-performance inspection engine performs stream-based, bi-directional traffic analysis, without proxying or buffering, to uncover intrusion attempts and malware and to identify application traffic regardless of port.		
2	The proposed firewall should support single-pass low-latency architecture simultaneously scans for malware, intrusions and application identification in a single architecture.		
3	The security module scans for threats in both inbound and outbound traffic simultaneously to ensure that the network is not used to distribute malware and does not become a launch platform for attacks in case an infected machine is brought inside.		
4	The firewall multi-core architecture provides high DPI throughput and extremely high new session establishment rates to deal with traffic spikes in demanding networks.		
5	The firewall must have single-pass DPI architecture that simultaneously scans for malware, intrusions and application identification, drastically reducing DPI latency and ensuring that all threat information is correlated in a single architecture.		
6	It should support User identification and activity are made available through seamless AD/LDAP/Citrix/Terminal Services SSO integration combined with extensive information obtained through DPI.		
7	The firewall scans all inbound, outbound and intra-zone traffic for viruses, Trojans, key loggers and other malware in files of unlimited length and size across all ports and TCP streams by GAV & Cloud AV.		
8	The firewall Identifies common protocols such as HTTP/S, FTP, SMTP, SMBv1/v2 and others, which do not send data in raw TCP. Decodes payloads for malware inspection, even if they do not run on standard, well-known ports.		
9	The NGFW shall support stateful session synchronization in the event of a fail-over to a standby unit.		
10	The NGFW shall support Active-Active/ Active-Passive stateful High Availability.		
11	The HA solutions should support silent firmware upgrade process that ensures minimum downtime.		

12	The NGFW shall support interface link monitoring failover.		
E	Solution Security Requirements		
1	It should support the filtering of TCP/IP based applications with standard TCP/UDP ports or deployed with custom ports		
2	The NGFW should have 500 firewall Rules or policies support from day 1.		
3	The IPS should scan all parts of the session in both directions and should be able to scan the complete file during the transit.		
4	The NGFW should support authentication protocols like LDAP, RADIUS or TACACS+ authentication servers, and SAML SSO or X.509 digital certificates.		
5	IPS should have the functionality of Geo Protection to Block the traffic country wise in incoming direction, outgoing direction or both.		
6	NGFW Should support Identity Access for Management Access, User Authentication, and SSLVPN authentication.		
7	IPS should be able to detect and prevent embedded threats within SSL traffic.		
8	The AV engine continues scanning when low on memory and GAV scan TCP stream in the proposed firewall.		
9	DNS Filtering Capabilities: Supports Global and Custom DNS Filtering		
	a) Allows wildcard domain entries and interface-specific DNS proxy actions.		
	b) DNS rules can be applied per interface using custom domain categories.		
10	Identifies and blocks command and control traffic originating from bots on the local network to IPs and domains that are identified as propagating malware or are known CnC points.		
11	The firewall shall support following features:		
	a) Malicious files are prevented from entering the network until they have been analysed in the cloud and a verdict returned.		
	b) GAV includes a large cloud DB of AV signatures for greater zero-day protection.		
	c) Unknown/unseen files are sent to multiple engines, rendering verdicts quickly.		
12	Solution should protect from DNS Cache Poisoning, DNS rebinding attacks and prevent users from accessing blocked domain addresses		
13	Should have advanced QoS that guarantees critical communications with 802.1p, DSCP tagging, and remapping of VoIP traffic on the network.		
14	The firewall must decrypt and inspects TLS/SSL encrypted traffic on the fly, without proxying, for malware, intrusions and data leakage, and applies application, URL and content control policies in order to protect against threats hidden inside of encrypted traffic.		

15	The solution must have an easy to use, searchable interface for applications and URLs		
16	Should support Application based routing and Multi Path routing, Quota based Bandwidth Management.		
17	Anti-virus & Content Filtering Service must be able to prevent access to malicious websites		
18	Anti-virus application must be able to inspect SSL encrypted traffic		
19	IPS and Anti-Virus must have real time updates from a cloud-based reputation service.		
20	Anti-Virus & IPS must be able to stop incoming malicious files & scan archive files.		
21	The Appliance should support Deep packet inspection of SSH decrypts and inspect data traversing over SSH tunnels to prevent attacks that leverage SSH.		
22	The solution must provide the ability to Protect against zero-day & unknown malware attacks. sandboxing that detects unknown threats with 100% accuracy and zero false positives, outperforming traditional behaviour-based methods.		
23	Should support min 20K DPI signatures, 70 million Cloud AV signatures and 3500+ Application Signatures from day 1.		
24	The integrated cloud sandbox platform, which includes full system emulation analysis technology, executes suspicious code and analyzes behavior, providing comprehensive visibility to malicious activity.		
25	The integrated cloud sandbox platform Supports analysis of a broad range of file types, including executable programs (PE), DLL, PDFs, MS Office documents, archives, JAR and APK plus multiple operating systems including Windows, Android, Mac OS & multi browser.		
26	The proposed system should be SD WAN Enable without adding any additional hardware components & Necessary licenses, if required, need to be provisioned from day one.		
27	The proposed firewall should zero touch onboarding capabilities using mobile apps.		
28	The proposed firewall shall support stateful synchronization between primary and secondary units. It ensures zero session loss during failover, maintaining uninterrupted user experience and application continuity.		
29	Shall support Stateful HA ensures that VoIP sessions are synchronized between the primary and backup units and allows active voice calls to continue without needing to renegotiate sessions during failover, minimizing call drops and disruptions.		
30	The firewall includes Consistent NAT and SIP Transformation features that enhance VoIP reliability across failovers.		
31	The proposed firewall shall be able to integrate with SIEM, NAC or Microsoft Azure Sentinel for security information event management (SIEM) and security orchestration automated response (SOAR) solution.		

32	Firewall shall support integration and manage DNS security, reputation-based content filtering and at least 1024 DNS proxy rules allowing to optimize the rules when using DNS proxy on VLAN interfaces.		
F	Management & Reporting		
1	Firewall must have its own Centralized Management & reporting platform. Extensive Logging, reporting for the NGFW functionalities offered should be available. It should have dedicated hardware or virtual management or cloud platform along with firewall solution from day one.		
2	The proposed solution must support Packet Monitor, Ping, Traceroute Diagnostics tools for troubleshooting.		
3	The management platform must be capable of role-based administration, enabling different sets of views and configuration capabilities for different administrators subsequent to their authentication.		
4	The management solution must allow the report to be exported into other formats such as PDF, CSV etc and support the report generation on a manual or schedule (Daily, Weekly, Monthly, etc) basis		
5	Centralized Management of Firewalls shall create templates and perform commits at the "All Tenants" . This streamlines updates across all tenants, ensuring consistency, efficiency, and faster deployments.		
6	Should have reporting functionality base on Applications, Users, Threats, Traffic etc.		
7	Should be capable to provide a convenient method for alerting administrators when critical events are encountered, by sending e-mail alert messages to administrator defined e-mail addresses		
8	Solution must allow administrator to choose to login in read only or read-write mode		
G	Services and Support		
1	The complete solution should be provided with a comprehensive warranty, subscription and support for 3 years.		
2	License for NGFW high availability with next generation firewall security applications, including intrusion protection, application control, URL filtering, Anti-Bot, Anti-Virus, DNS protection, advanced threat protection, Anti-Spam, Cloud Management with 7 days reporting and Basic 24x7 Support.		
3	Offered model should have also FCC Class A, CE Class A, VCCI Class A certifications.		
4	Offered product should have in 2019 SVM NGFW report of NSS and above 97% of Block Rate & 94% security effectiveness. Also, should feature in the recommended quadrant of the Security Value Map (SVM) of NSS Labs report 2019 for Next Generation Firewall (NGFW). Report to be submitted by the bidder.		

5	The Proposed NGFW firewall should have under cyber warranty or cyber insurance that offers limited compensation for covered losses that lead to business interruption from Non-volumetric DDOS attack and Unauthorized remote access types of events. OEM must provision the services from day one.		
6	OEM should have TAC and R&D center in INDIA. The proposed solution should support 24x7 remote technical support by OEM through chat/email / remote access.		
7	During Technical evaluations or Prior to Price bid open, Bidder need to do 7-15 Days POC if asked; POC will be at our premises and during POC if found product is not complying with mentioned requirement than authorities have the right to reject the bid during technical evaluations.		
8	The bidder must enclosed the bid specific OEM authorization along with the bid documents.		

BOQ 26: Pole/ Wall mountable outdoor grade Junction Box

Outdoor Junction Box of MS powder Coated with Lockable Door to accommodate the LIU , Switch and Cables. Size W-2ft x H-1.5ft x D-1ft.

BOQ 27: Local Power Distribution Box fitted with Switch Location

The box required with two switches and two socket of 6Amp of repute make.

BOQ 28: 55" LED Display

Sl. No	Parameter	Technical specification		Compliance Yes/No	Deviations, if any
1		Inch	55		
		Resolution	3840 x 2160 (UHD)		
		Refresh Rate	60 Hz		
2	Video	HDR HDR 10 Pro	Yes		
		Game Optimizer	Yes		
3	Audio	Audio Output	10W + 10 W		
		AI Sound	Yes		
		Dolby Atmos	Yes		
		AI Accoustic Tuning	Yes		
4	Smart Function	BT Sound Sync	Yes		
		Processor	a7 Gen8 AI Processor 4K		
		Home Dashboard	Yes		
		Web Browser	Yes		
		Pre-Loaded App	Yes		

		Magic Remote Compatibility	Yes		
		Free Channels (India)	Yes		
5	Connectivity	HDMI eARC	Yes		
		WiFi	Yes		
		Screen Share (Miracast)	Yes		
		Air Play	Yes		
		Bluetooth	Yes		
		Google Assistance	Yes		
		Amazon Alexa	Yes		
		ThinQ AI	Yes		
		Voice Recognition (Standerd)	Yes		
6	Ports	HDMI In	3		
		RF In	Yes		
		USB	yes		
		RJ45	Yes		
7	Dimension & Weight	Dimension with Stand (W x H x D)	968 x 621 x 200 mm		
		Dimension without Stand (W x H x D)	968 x 567 x 67.9 mm		
		Dimension in Shipping (W x H x D)	1055 x 660 x 142 mm		
		Weight Without Packing/Without Stand	7.3Kg		
8	Power (Unit: Watts)	Power Supply (Volt, Hz)	AC 100~240V, 50/60 Hz		
		Stand-by	Under 0.5 W		
9	Certification		BIS		
10	Accessory	Remote Type	Magic Remote		
		Power Cable	Yes (1.5M)		
11	Warranty		3 years Onsite		

BOQ 29: 900Mbps Wireless RF Link				
SI No	Parameter	Specification	Compliance Yes/No	Deviations, if any
1	5G Band	5.150GHz~5.850GHz		
2	5G WIFI Protocol	802.11 a / n /ac		
3	Maximum rate	900Mbps		
4	Antenna	Integrated 27dBi dual polarization dish antenna		
5	5G EVM	802.11a_54M: ≤ -25 dB ; 802.11n_MCS7: ≤ -28 dB ; 802.11AC_MCS9: ≤ -32dB		

6	frequency deviation (ppm)	±20ppm		
7	Port (WAN)	1*10/100/1000M WAN, support 48V POE		
8	Port (LAN)	1*10/100/1000M LAN		
9	Supply	802.3af, DC 12~24V		
10	Consumption	<10 W		
11	Reset Button	Long press for 6-10 seconds to restore factory default configuration		
12	LED	SYS, WAN, LAN, 5G WIFI, signal*4		
13	Size	Φ466mm*260mm		
14	Weight	2.9KG		
15	Environment	Operating temperature: -40°C to 70°C		
		Storage temperature: -40°C to 70°C ; humidity : 5%~95% (No condensation)		
16	IP grade	IP66		
17	ESD	Air +/-15K, Contact +/-6K		
18	Lightning Protection	4kV		

Annexure-V

OEM AUTHORISATION LETTER

Original Equipment Manufacturer's authorisation letter (in Original Letter Head of OEM)

To
The Principal,
Government College of Engineering,
Bandopala, Bhawanipatna Emgg College SO,
Kalahandi-761003

Subject: Direct Manufacturers Authorization

Ref: Tender No:

Name of Work: Supply, Installation, Testing and Commissioning of fully integrated wifi and IP-based CCTV Surveillance System for College and Hostels of GCEK, Bhawanipatna

Dear Sir,

We, an established and reputable manufacturer of CCTV Surveillance System having Corporate/Registered office at (address of OEM) do hereby authorize (name of bidder) and having their office at (bidder's address) as our representative to submit the above bid _____ dt _____ and subsequently negotiate and sign the contract with you for the supply of IP based CCTV Surveillance System manufactured by us and authorize the said firm to act on our behalf in fulfilling to supply, install, train & commission and provide all technical support and maintenance obligation as required by the contract.

We also hereby undertake to provide full guarantee/ full performance warrantee /Comprehensive Annual Maintenance Contract as agreed by the bidder in the event, the bidder is changed or the bidder fails to provide satisfactory after-sales and service during such period of Comprehensive Warranty/ Comprehensive Annual Maintenance Contract and to supply all the spares/accessories/consumables/material/software upgrades/ labour etc. during the said period through the appoint bidder by GCEK, Bhawanipatna.

We also hereby declare that we have the capacity to manufacture and supply the quantity of the equipment tendered within the stipulated time, and provide service to install, and commission through the bidder

We Also Compiled the Technical data sheet attached with the authorized signature and company seal.

Yours faithfully,
for

Signature of Officer Authorized to sign this Document on behalf of the OEM.

Annexure-VI
BANK GUARANTEE FOR PERFORMANCE SECURITY

To

The Principal,
Government College of Engineering,
Bandopala, Bhawanipatna Emgg College SO,
Kalahandi-761003

WHEREAS (name and address of the supplier) (herein after called “the supplier”) has undertaken, in pursuance of contract no..... dated to supply (description of goods and services) (herein after 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 scheduled commercial recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of Rs.....(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.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

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

This guarantee shall be valid until the day of, 20.....

(Signature of the authorized officer of the Bank)

.....
Name and designation of the officer
.....

Seal, name & address of the Bank and address of the Branch

Seal and Full Signature of the Bidder

Annexure - VII

Comprehensive Annual Maintenance Contract Agreement

THIS AGREEMENT made the.....day of, 20__ between the “**The Principal, Government College of Engineering, Kalahandi, Bhawanipatna, Bandopala, Kalahandi (Odisha)-766 003** ” (hereinafter "the Purchaser") of the one part and M/s.....

(hereinafter called "the Supplier") of the other part:

WHEREAS the Purchaser invited bids for certain Goods & ancillary services viz, Supply, Installation, Testing and Commissioning of Fully integrated Wifi and IP-based CCTV Surveillance System for College and Hostel of GCEK, Bhawanipatna including Comprehensive Annual Maintenance Services and has accepted a bid by the Supplier for the instruments & equipment specified below at the Consignee site including Comprehensive Warranty Maintenance Services for a period of 4 Years after one year of standard warranty period from the date of installation & commissioning of the instruments & equipment as per award of Contract No..... dated.....

NOW THIS AGREEMENT WITNESS AS FOLLOWS:

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified above & will include repair and replacement of parts free of cost.
2. Preventive maintenance, monthly once, which includes:
 - 2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
 - 2.2 Cleaning of the above instruments & equipments and checking the System Performance.
3. The Supplier is to furnish the tentative schedule of the preventive maintenance of Warranty Maintenance Contract (WMC) to be carried out.
- 4 The parts replaced must be new parts or equivalent in performance to new parts.
5. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location, if the equipment is shifted by the Purchaser to another place or location at the cost and risk of the purchaser.
6. Any complaint informed through telephone must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification done, that No.

will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.

7. The maintenance shall normally be done during working hours of the customer.
8. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in presence of the officer in charge at the Consignee site.
9. The Supplier should ensure that maintenance job is not hampered/delayed due to paucity of spares/inadequate manpower etc.
10. The Supplier should submit the services call report, to the Consignee for each and every service call without fail.
11. In case of delay/lack of communication, down time will be calculated as mentioned below in WMC Clause.

Comprehensive Warranty Maintenance Contract Clause

Normal response time for repair is 24 hours from the actual time of reporting of the problem to the supplier.

	Period	Extension of CAMC period
Response Time	Above 24 hrs & below 48 hrs	2 days for each day of delay
	Above 48 hrs & below 96 hrs	1 week for each day of delay
	Above 96 hrs	2 weeks for each day of delay
Down Time	Above 24 hrs & below 48 hrs	2 days for each day of delay
	Above 48 hrs & below 96 hrs	1 week for each day of delay
	Above 96 hrs	2 weeks for each day of delay

12. The Supplier evaluation data format for the CAMC of Consignee systems may be filled up for necessary action.

13. All formats after filled up should be signed at the end of each page by the Supplier.

14. After completion of the work/repair/maintenance, the Purchaser shall issue a certificate of completion to the supplier to that effect.

Signature
For the Purchaser
Name:
Designation:
Address:
Telephone No:

Signature
For the Supplier
Name:
Designation:
Address:
Telephone No:

PART II (PRICE BID)

Annexure-VIII (A)
(On the letterhead of the Firm)
Financial Bid/Price Bid Undertaking

Dear Sir,

1. I/we,..... submitted the financial bid for Tender No.....dated.....for “Supply, Installation, Testing and Commissioning of Fully integrated wifi and IP-based CCTV Surveillance System for Hostels and College Campus at GCEK, Bhawanipatna.
2. I/we thoroughly examined and understood instructions to tenders, the scope of work, and terms & conditions given in the tender document and agree to abide by them.
3. I/We hereby offer to execute the jobs at the following rates.
4. I/We, undertake that I/we are not entitled to claim any enhancement of rates on any account during the tenure of the completion of the work.

SI No	ITEM	QUAN TITY	UOM	UNIT PRICE in Rs.	AMOUNT in Rs.	Taxes in Rs.	Total Amount including Tax in Rs.
1	WLAN Controller	2					
2	Dual Band Wi-Fi 6 Outdoor Access point	103					
3.	5MP Indoor Dome Camera with 30M IR	15					
4	5MP Bullet Camera with 50M IR	69					
5.	5MP MOTORISED LENS IP BULLET CAMERA	52					
6	5MP 30x AI PTZ Camera With 200M IR	2					
7	NVR (64CH OR Higher)	2 Or More to accomade all the Cameras					
8	18TB Surveillance HDD 3 months Back up	16					
9	24 Port Gigabit Managed Switch (8 PoE) + 4 Combo Ports ,300 Watts (Nos)	2					
10	8 Port Gigabit Smart Managed Switch (8 PoE) + 4 Combo Ports ,140 Watts (Nos)	8					
11	24 Port Gigabit Smart Managed Switch (24 PoE) + 4 Combo Ports ,300 Watts(Nos)	11					

12	1000MBPS Single Mode SFP IND. TRANCEIVER, LC TYPE (20KMS) (Nos)	40					
13	Cat 6 UTP cable(305 Mtr/Box) Indoor (Box)	20					
14	Cat 6 UTP cable (305 Mtr/Box) Outdoor (Box)	5					
15	SM OFC 6 Core armoured (For outdoor and main gate connection) (Mtr)	2000					
16	3 core 1.5 mm Power cable (Mtr)	1500					
17	12 Port Fiber Compact LIU, loaded (Nos)	11					
18	Rack mount LIU 24 Port loaded (Nos)	1					
19	OFC SC to LC type Patch cord Duplex (Nos)	40					
20	32 mm HDPE Pipe for Fiber Laying (Mtr)	2000					
21	27 U Floor mount 600 x 600 Rack with all accessories for rack mounting (No.)	1					
22	9 U Wall mount 600 x 600 Rack with all accessories (Nos)	16					
23	3 KVA Online UPS & Accessories UPS Battery and Rack (Nos)	2					
24	20ft height GI Pole for mounting the AP device (Nos)	13					
25	Firewall for 1000 Users (Nos)	1					
26	Pole/ Wall mountable outdoor grade Junction Box (Nos)	7					
27	Local Power Distribution Box fitted with Switch Location (Nos)	15					
28	55 inches Led Display unit with 10 Meter HDMI cable (Nos)	3					
29	900Mbps Wireless RF Link (Pair)	2					
30	Installation, Commissioning & Testing Cost						

Note: The quantities mentioned against each item are indicative only and subjected to change; however the above mentioned quantities shall be used for financial evaluation.

Name & Sign of Bidder along with address:

Note:

1. Above rates shall include GST, all applicable taxes, fees, duties, levies, transportation charges, insurance charges, installation charges, material charges, labour charges and all other charges required for the successful completion of work.
2. Price Bid shall not contain any condition and any conditional bids shall be rejected.

Place:

Date:

**Signature of Bidder
Business Address
Seal of the Bidder**

Annexure-VIII (B)
Price Schedule for Comprehensive Annual Maintenance Contract

After Completion of Warranty Period.

Years	2nd Year	3rd Year	4th Year	5th Year	Total Amount
Amount (Rs)					
Amount including Tax (Rs)					

Note:-

1. Prices shall be quoted inclusive of all taxes, duties, freight, forwarding, and cost of labor for installation. In case of discrepancy between unit price and total prices, the lowest price shall prevail.
2. The cost of CAMC which includes preventive maintenance including testing & calibration as per technical/ service/ operational manual, labour and spares, after satisfactory completion of Standard warranty period may be quoted for next 4 years on yearly basis.
3. The payment of CAMC will be made as per payment terms of the bid document.
4. The uptime warranty and down time penalty shall be as per the bid document.
5. All software update should be provided free of cost during CAMC period.
6. The stipulations in Technical Specification will supersede above provisions.
7. The supplier shall keep sufficient stock of spares required during Annual comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Place:

Date:

Signature of Bidder
Seal of the Bidder

Annexure-IX

(Odisha Procurement Preference Policy for Micro and Small Manufacturing Enterprises'2023 [See para I (B)])

BIDDER'S AFFIDAVIT

(Applicable to Bidders who fall under the definition of Odisha Small Manufacturing Enterprises)

I, Shri/ Smt/ Ms..... (Designation) of (name of the Bidder Enterprise).....solemnly state the following.

1. That annual turnover of my enterprise is less than Rs. 50 cr.
2. That my enterprise has a valid Udyam Registration bearing No..... within the jurisdiction of the State of Odisha
3. That manufacturing plant/unit of my enterprise is located in Odisha in Village/Town/City....., Block/ULB....., Dist
4. That the goods for which I am submitting this bid are manufactured in the above-mentioned manufacturing plant/unit of my enterprise.
5. That the goods to be supplied by my enterprise shall be its own manufactured goods.
6. That my enterprise shall not supply goods which are not manufactured by my enterprise.
7. That my enterprise has not been blacklisted/debarred by any Government organization from participating in the current procurement process.
8. That my enterprise comes under the definition of Odisha Small Manufacturing Enterprise (OSME), as defined in the policy, and is, therefore, eligible for preferences and relaxations provided in the policy for OSMEs.
9. That I am submitting this affidavit in response to the tender No.....datedinvited by (Organization Name)..... for supply of (item name).....

I certify that all information furnished by me as above are true and correct. If any information is found to be incorrect, I and my enterprise shall be liable for any punitive action as deemed appropriate by competent authority.

Date

Signature of Bidder
Name of the Bidder
Address
Mob No.
E-mail: