

TIRUMALA TIRUPATI DEVASTHANAMS



VIGILANCE & SECURITY DEPARTMENT

TENDER NO:

e-Tender for

Supply, Installation, Testing and Commissioning of CCTV Cameras, erection of poles and its Associated Accessories for the Newly Constructed TTD Paediatric Super Speciality Hospital at Tirupati including Three (3) Years of onsite Comprehensive Warranty and Five (5) Years of Comprehensive Annual Maintenance Contract (CAMC).

e-Tender Document

The details about the Tender Terms and Conditions and other related information are given in the appropriate chapters as below: -

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Chief Vigilance & Security Officer

VIGILANCE & SECURITY DEPARTMENT

TIRUMALA TIRUPATI DEVASTHANAMS: TIRUPATI**VIGILANCE & SECURITY DEPARTMENT**

NOTICE INVITING TENDER (Online version)

Sl.No	Description	Activity
1	Authority Name	Executive Officer, TTD, TIRUPATI.
2	FILE / NIT Number	TTD-70023/4/2026-CVSO-SEC-TTD. 05/CV&SO/TTD/TPT/2026-27
3	Tender Subject	Supply, Installation, Testing and Commissioning of CCTV Cameras, erection of poles and its Associated Accessories for the Newly Constructed TTD Paediatric Super Speciality Hospital at Tirupati including Three (3) Years of onsite Comprehensive Warranty and Five (5) Years of Comprehensive Annual Maintenance Contract (CAMC).
4	Tender Type	Open
5	Tender Category	Supply, Installation, Testing and Commissioning of CCTV Surveillance System comprising CCTV Cameras, Networking Equipment, Video Management Software (VMS), Power Supply Systems and allied accessories including Warranty & CAMC.
6	EMD / Bid security BG / online payment / Challan payable to Executive Officer, TTD through e-procurement platform.	Rs.6,00,000/- (Rupees: Six Lakhs only)
7	Bid Document Downloading Start Date	02-09-2026 @ 11.00 AM
8	Bid Document Downloading End Date	28-09-2026 @ 03.00 PM
9	Last Date & Time for Receipt of Bids	28-09-2026 @ 05.00 PM
10	Pre Bid Meeting	10-09-2026 @ 11.00 AM
11	Bid Validity Period	180 Days
12	Technical Bid Opening Date and Time (Qualification and Eligibility Stage)	29-09-2026 @ 11.00 AM
13	Price Bid Opening Date and Time (Financial Bid Stage)	03-10-2026 @ 11.00 AM
14	Place of Tender Opening	O/o Chief Vigilance & Security Office, TTD Administrative Building, K.T.Road, Tirupati
15	Tender Inviting / Opening authority	CV&SO, TTD, Tirupati.
16	Address/E-mail id	cvso.procurements@gmail.com
17	Contact Details/Telephone, Fax:	0877 –2264279
18	Pre-Qualification Criteria	The qualitative requirements for pre-

	qualifications are as follows and only those participants, who fulfil the following criteria, are eligible for evaluation. Further, it is to be noted that those Bidders not fulfilling the following criteria will be summarily rejected and in this regard, the decision of TTD is final and binding on the Bidders without any recourse. Bidders may submit their tenders with following minimum eligibility criteria for selection of Bidders technically in Part- I (Technical Bid): - <u>Legal Valid Entity:</u> The Bidders shall necessarily be a legally valid entity either in the form of a Limited Company or a Private Limited Company registered under the companies Act, 2013. A proof for supporting the legal validity of the Bidders shall be submitted. Bidders should open their Branch office in Tirupati till the completion of the terms of engagement with TTD. <u>Registered Bidder:</u> The Bidders / OEM should be registered with the Income Tax, & GST and any other relevant registrations with respect to the execution of this contract. Relevant proofs in support shall be submitted. <u>Experience:</u> The bidder should have prior quality experience in Supply, Installation, Testing and Commissioning of CCTV Surveillance System comprising CCTV Cameras, Networking Equipment, Video Management Software (VMS), Power Supply Systems and allied accessories for reputed organizations/institutions in India such as Hospitals, Government departments, Public Sector Undertakings, Hotels etc., (group of works in an organization consider as single work in same institution) - Should not have been blacklisted by any Government <u>Authority / Autonomous bodies, as on the date of submission of the bid, an undertaking to that effect should be submitted.</u> <u>EMD Rs.6,00,000/-</u> (drawn on/or After the date of tender notice). EMD shall be Mandatorily paid in the shape of BG (Valid for 6 Months) / on line payment made in favour of Executive Officer, TTD, Tirupati
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		and payable at Tirupati. (Name of Account holder: EO, TTD - EMD, TTD EMD Account No.013110100031399, Union Bank of India, IFSC Code: UBIN0801313, MICR No.517026071. Online payments to any other Account / <u>EMD paid through Demand draft will be summarily rejected</u>). f. Relevant documentary proof for supporting the above criteria shall be submitted.
19	Procedure for Bid Submission	a. Bids shall be submitted online in terms G.O.Ms No. 8, ITE&C Dept., dt 08-05-2016. b. The participating Bidders in the tender should register themselves on e-procurement platform in the website. www.apecprocurement.gov.in (OR) https://tender.apecprocurement.gov.in c. The Bidders who are desirous of participating in e-procurement shall submit their technical bids, financial bids as per the standard formats available at the e market place. The Bidders should scan and upload the below mentioned documents and submit all the hard copies (which are uploaded only) duly attested to CV&SO, TTD, Tirupati in the case of successful bidder on receipt of information through LOA. d. EMD Rs.6,00,000/- (drawn on/or After the date of tender notice). EMD shall be Mandatorily paid in the shape of BG (Valid for 6 Months) / on line payment made in favour of Executive Officer, TTD, Tirupati and payable at Tirupati. (Name of Account holder: EO, TTD - EMD, TTD EMD Account No.013110100031399, Union Bank of India, IFSC Code: UBIN0801313, MICR No.517026071. Online payments to any other Account / <u>EMD paid through Demand draft will be summarily rejected</u>). e. Company / Firm Registration certificate of the Bidder. f. Registration of GST g. PAN Card / Copy of Income Tax returns for the last three financial years (2022-23 to

		2024-25). h. Bank Solvency Certificate issued during the financial year 2026-27, for Rs.5.00 Crores (Rupees Five Crores Only) shall be uploaded for proof of financial standing. Solvency certificate issued by Bank only will be accepted. The Solvency Certificate issued by any other agency or authority will not be accepted. i. Experience Certificates as Specified in Document j. Annual Financial Turn over Certificates as Specified in Document. k. Declaration Regarding Non-Blacklisting / Debarment of the Bidder. l. Any other documents asked by the TTD at any point of Time
20	NOTE	a) Transaction fee payable online to APTS, Payable (INR) payable through Online). As generated in Online. b) The Electronic Payment Gateway accepts all Master and Visa Credit Cards issued by any bank and Direct Debit facility/Net Banking of ICICI Bank, HDFC, Axis Bank to facilitate the transaction. This complies as per G.O.Ms. 13 dated 07.05.2006.
21	Transaction Fee Payable to	Transaction Fee Payable to M/s. A.P.T.S, Vijayawda (ON LINE) All the participating bidders shall pay a transaction fee (non-refundable) as mentioned in the NIT (Notice Inviting Tender) payable to A.P.T.S., Vijayawada and through on- line (0.03% of estimate contract value + 15 % service tax). It is mandatory for all the participants" bidders from 1stJan, 2016, to pay a Non-refundable Transaction Fee electronically to A.P.T.S. Vijayawada, the service provider through "Payment Gateway Service on e-procurement platform". The Electronic Payment Gateway accepts all Master and Visa Credit Cards issued by any Bank and Direct Debit facility/Net Banking of ICICI Bank, HDFC, Axis Bank and any nationalized banks to the facilitate the transaction. This is in compliance as per G.O.Ms. No. 13 dt. 7-5-2016. A service tax of 15% +Bank Charges for Credit

		Transactions of 2.09%(excluding of service tax) on the transaction amount payable to APTS, Vijayawada shall be applicable. Corpus Fund : As per GO MS No. 4, user departments shall collect 0.04% of ECV (Estimated Contract Value) with a cap of Rs. 10,000/- for all works with ECV up to Rs. 50.0 Crores and Rs. 25,000/- for works with ECV above Rs. 50 Crores, from successful bidders on e- procurement platform before entering into agreement / issue of purchase orders towards e-procurement fund in favour of Managing Director, APTS, Vijayawada.
22	General Terms and Conditions	As published in the tender.

TIRUMALA TIRUPATI DEVASTHANAMS, TIRUPATI
PROCEDURE FOR BID SUBMISSION ON AP e-Procurement PLATFORM
(e-Tendering):

1. The Bidder shall submit his response through Bid submission to the tender on e-Procurement platform at www.apecurement.gov.in by following the procedure given below. The Bidder would be required to register on the e-procurement market place www.apecurement.gov.in or <https://tender.apecurement.gov.in> and submit their bids online. Offline bids shall not be entertained by the Tender Inviting Authority for the tenders published in e-procurement platform.
2. The Bidders shall submit their eligibility and qualification details, Technical bid, Financial bid etc., in the online standard formats displayed in e-Procurement web site. The Bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria/technical bids and other certificate/documents in the e-Procurement web site. The Bidder shall sign on the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity. The Bidder shall attach all the required documents for the specific tender after uploading the same during the bid submission as per the tender notice and bid document.
3. **REGISTRATION WITH E-PROCUREMENT PLATFORM:-** For registration and online bid submission Bidders may contact HELP DESK of M/s Vupadi Technologies, Vijayawada, A.P.T.S., Vijayawada, www.apecurement.gov.in (or) <https://tender.apecurement.gov.in>
4. **DIGITAL CERTIFICATE AUTHENTICATION:-** The Bidder shall authenticate the bid with his Digital Certificate for submitting the bid electronically on e-Procurement platform and the bids not authenticated by digital certificate of the Bidder will not be accepted on the e-Procurement platform.
5. **FOR OBTAINING DIGITAL SIGNATURE CERTIFICATE, YOU MAY PLEASE CONTACT:**
Andhra Pradesh Technology Services Limited
A.P.T.S., Vijayawada
(OR)
Any other Registration by e-mudra Ltd., website “<https://www.e-mudra.com>”.
6. **HARD COPIES: -**
 - a. Attested copies of all original hard copies of the uploaded scanned copies must be submitted by the lowest tenderer on receipt of LOA from TTD.
 - b. All the Bidders shall invariably upload the scanned copies of EMD in ap e-Procurement system and this will be the primary requirement to consider the bid responsive.
 - c. The Authority shall carry out the technical evaluation solely based on the uploaded certificates/documents, in the AP e-Procurement system and open the price bids of the responsive Bidders after evaluation of technical bids.
 - d. The Authority will notify the successful Bidder for submission of original hard copies of all the uploaded documents and EMD prior to entering into agreement.
 - e. The successful Bidder shall invariably furnish the details of payment towards EMD, Certificates/Documents of the uploaded scan copies to the Tender Inviting Authority before entering into agreement, either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful Bidder. The Authority will not take any responsibility for any delay in receipt/non-receipt of towards

EMD, Certificates/Documents from the successful Bidder before the stipulated time. On receipt of documents, the Authority shall ensure the genuinity of the EMD and all other certificates/documents uploaded by the Bidder in e-Procurement system. In support of the qualification criteria before concluding the agreement.

7. The G.O. Ms. No. 174-I & CAD dated: 1-9-2008 Deactivation of Bidders If any successful Bidder fails to submit the original hard copies of uploaded certificates/documents, within stipulated time or if any variation is noticed between the uploaded documents and the hardcopies submitted by the Bidder. Then the successful Bidder will be suspended from participating in the tenders on AP e-Procurement platform for a period of 3 years. The AP e-Procurement system would deactivate the user ID of such defaulting Bidder based on the trigger/recommendation by the Tender Inviting Authority in the system. Besides this, the Authority shall invoke all processes of law including criminal prosecution of such defaulting Bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the development schemes taken up by the government. Other conditions as per tender document are applicable.
8. The Bidder is requested to get a Bid acknowledgement from the Tender Inviting Authority a proof of Hardcopies submission to avoid any discrepancy.
9. The TTD reserves the right to relax the conditions if required for eligibility of the Contractor in the public interest. The contractor(s) shall not have any right to question the decision taken by the TTD in this regard.
10. **TENDER DOCUMENT:** - The Bidder is requested to download the tender document and read all the terms and conditions mentioned in the tender Document and seek clarification if any from the Tender Inviting Authority. Any offline bid submission clause in the tender document could be neglected.
 - a. The Bidder must keep track of any changes by viewing the Addendum/Corrigenda issued by the Tender Inviting Authority on time-to- time basis in the E-Procurement platform. The Authority calling for tenders shall not be responsible for any claims/problems arising out of this.
11. **BID SUBMISSION ACKNOWLEDGEMENT:** - The Bidder shall complete all the processes and steps required for Bid submission. The system will generate an acknowledgement with a unique bid submission number after completing all the prescribed steps and processes by the Bidder. Users may also note that the bids for which an acknowledgement is not generated by the e-procurement system are treated as invalid or not saved in the system. Such invalid bids are not made available to the Tender Inviting Authority for processing the bids. The Tirumala Tirupati Devasthanams and A.P.T.S are not responsible for incomplete bid submission by users.

12. CONTENTS OF BID

Chapter – 1	Instructions to Bidders
Chapter - 2	Terms & Conditions
Chapter - 3	Technical Specifications
Chapter - 4	Scope of Work
Chapter - 5	Financial / Price Bid
Appendix ‘A’	Performance Bank Guarantee
Appendix ‘B’	Guarantee
Appendix ‘C’	Form of Agreement
Appendix ‘D’	Check List for Technical Bid
Appendix ‘E’	Check List for Fiancial Bid
Appendix ‘F’	Annual Financial Turn Over Details Format
	<u>ANNUAL FINANCIAL TURNOVER DETAILS FORMAT</u>
Appendix ‘G’	List of Major Customers Format
Appendix ‘H’	Bidders Information Format
Appendix ‘I’	Declaration Regarding Clean Track Record
Appendix ‘J’	Malicious Code Certificate

CHAPTER – 1

INSTRUCTIONS TO BIDDERS

1. GENERAL:

- (a) Bids are invited in two bid system – (i) Technical Bid & (ii) Commercial Bid from manufacturers or their authorized system integrators and also from Government/Semi-Government Organizations, Public Sector Undertakings for purchase of 250 Nos. CCTV cameras with Accessories along with Network Switches, Servers and cabling required for establishing Surveillance System at Children Hospital Tirupathi. The Technical Specifications of all the items are placed at **Chapter-3** in this document for use in TTD., as per Scope of Work / Bill of Requirement (**Chapter-4**) (hereinafter referred to interchangeably as the “Equipment” or the “Items” or the “Goods” or the “Stores” or the “System”) . However, based on actual requirement and site condition the exact No. Of CCTV Cameras may change.
- (b) Bidders are advised to study the tender document carefully & thoroughly. Submission of tender shall be deemed to have been done after careful study and examination of the tender document with full understanding of its implications.
- (c) The Bidder shall submit any other document(s) or information as may be required by TTD at any stage of the tender process.
- (d) Acceptance and rejection of the tender is the discretion of the Tender Evaluation Committee nominated by TTD.
- (e) It will be imperative on each bidder to fully acquaint himself with all the local conditions and factors, which would have any effect on the performance of the contract and cost of the goods. No request for the change of price or time schedule of delivery of Goods shall be entertained, on account of any local condition or factor once the offer is accepted by the TTD.
- (f) **Consortium/Joint Venture:** Joint Venture/Consortium Bids are not acceptable.
- (g) Bidders will not be permitted to alter or modify their bids after expiry of the deadline for receipt of Bids at TTD
- (h) Vendors must quote against Total requirement for supply and installation of equipment. Any vendor not quoting for any item are liable to be rejected. Vendors must indicate in the price bid of Comprehensive AMC Charges for 5 years beyond the Warranty period of 3 (Three) Years. The Comprehensive AMC Charges (Refer para 12 of Chapter 2 –Condition of Contract) quote AMC rates for 5 years.
- (i) Selection of the lowest bidder shall be decided based on the evaluation as a turnkey project which includes supply, installation and Comprehensive AMC charges for 5 years after expiry of original warranty period. Bidders are requested to work out their bids accordingly.
- (j) **Right to Terminate:** The TTD authority may terminate the tender process at any time and without assigning any reason. The tender document does not constitute an offer by the authority.

2. SCHEDULE OF TENDER:

- 2.1 The Pre-bid meeting will be held at the Office of the Chief Vigilance & Security Officer, TTD, Tirupati **on 10.09.2026 at 11.00 A.M. (IST)**. All the tenderers should attend the same duly submitting their points in writing which require clarification. The queries

received within due date i.e., at least 24 hours before Pre-Bid meeting alone will be considered.

The minutes of the pre-bid meeting will be published as corrigendum in the <https://tender.apecprocurement.gov.in>. The minutes of the pre-bid meeting shall be submitted / uploaded along with bid document duly signed in all pages.

The response to queries / clarifications of the tenderers shall not form part of Tender Document unless issued as an Amendment/Addendum/Corrigendum.

- 2.2 After opening the bid for Tender", the selected firms shall be enquired to give live demonstration and presentation of the proposed system at a short notice. Therefore the agencies are advised to prepare themselves with the proposed system well in advance.
- 2.3 After evaluation of the technical bids by the Technical Evaluation Committee the technically acceptable bidders only shall be intimated regarding opening of the Commercial Bid. The decision of the committee on technical suitability of the offer shall be final and shall not be open for discussion. No representations will be accepted in this regard.

3. Purchaser's Right to vary quantities and finalize placement of Supply Order/signing of Contract on Turnkey Basis: TTD reserves the right to vary the quantities and finalise the Contract on turnkey basis. The Bidder has to quote the unit price for each item.-

4. PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS: TTD reserves the right to accept any bid, and to annul the bid process and reject all bids at any time, without assigning any reason, prior to placement of supply order/ signing of contract.

5. BIDDER QUALIFICATION:

The "**Bidder**" as used in the tender document shall mean the one who has signed the Bid Form. The Bidder may be either the manufacturer of the Goods for which prices are quoted on the Price Schedule, **Chapter-5** or his duly authorized distributors in which case he shall submit a certificate of authorization from the manufacturer. The Certificate should also mention the dates from which the Bidder had been the channel partner and is being authorised for this project. The OEM should also state that OEM assures to continue the support for the period of the 03 (Three Years Warranty and 5 (Five) Years of Comprehensive AMC.

6. EARNEST MONEY DEPOSIT:

6.1 The bid must be accompanied by Earnest Money for the amount indicated in Notice Inviting Tender Bid in form of BG / Online transfer in favour of "The Executive Officer, TTD, Tirupati payable at Tirupati. The BG / Online payment towards EMD can be initially for 6 months respectively and the same shall be extended up to tender validity period as and when requested by TTD.

6.2 No interest shall be allowed on the Earnest Money Deposited by the Tenderer. **Any bid not accompanied by EMD (as stated above) will be summarily rejected.**

6.3 The successful tenderer has to pay further EMD at Value at the rate of 2.5 % of Tender Contract Value, less the EMD already paid at the time of tender, by Demand Draft / BG from any Scheduled bank drawn in favor of E.O., TTD, Tirupati at the time of **concluding** the agreement. If the tenderer wishes to pay by BG for the full amount of EMD of 2.5% the same will be permitted. If the original EMD is by BG then also 2.5% EMD can be paid by BG. However, in all the cases original EMD at

the time of tender by BG shall be submitted for verification and the same will be returned only after satisfactory submission of FULL EMD. The Bank Guarantee shall remain valid until the completion of the entire contract period, including the CAMC period, with an additional claim period of **six (6) months** thereafter. All the BGs/DDs shall be in favour of the Executive Officer, TTD, Tirupati and payable at Tirupati

- 6.4 The Earnest Money Deposit will be forfeited if the tenderer fails to deposit the requisite security money and / or fails to start the work and execute the agreement within stipulated time after the receipt of letter of acceptance of tender or Letter of Acceptance, besides prescribing the tenderer from participating in any TTD tenders for a period of 3 years.

The Earnest Money Deposit (EMD) shall also be forfeited if the Bidder withdraws the bid during the period of bid validity, or if the successful Bidder fails to sign the Rate Contract within the stipulated time, or if, at any stage of the tender process or any information, document, or declaration furnished by the Bidder is found to be false, incorrect, misleading, or fabricated.

- 6.5 If the Tenderer, after submission, revokes his bid or modifies the terms and conditions thereof during the validity of his bid except where TTD has given opportunity to do so, the earnest money shall be liable to be forfeited. TTD may at any time cancel or withdraw the Invitation to Bid without assigning any reason and in such cases the earnest money submitted by Tenderer will be returned to him.
- 6.6 EMD of unsuccessful tenderers will be refunded after expiry of tender validity period or after finalization of tenders whichever is earlier. EMD of successful tenderer will be retained and the same will be returned after successful completion of supplies, Work, Warranty & CAMC Period.
- 6.7 On satisfactory completion of the whole work, the EMD & Security Deposit will be refunded or the corresponding bank guarantees will be released after the completion of the contract period subject to the condition that the contractor hands over the System with all Equipment and other inventory of articles in good condition to the satisfaction of the department and also on submission of Work Completion Certificates etc., from the concerned departments.

7. ADDITIONAL SECURITY DEPOSIT:

The successful bidder shall furnish an Additional Security Deposit (ASD) equivalent to 10% of the total contract value, including the CAMC cost, in the form of a Bank Guarantee or Demand Draft in the prescribed format, drawn in favour of the Executive Officer, TTD, payable at Tirupati. The Bank Guarantee shall remain valid until the completion of the entire contract period, including the CAMC period, with an additional claim period of six (6) months thereafter. No interest shall be allowed on the Additional Security Deposit by the Tenderer. Non-submission of ASD (as stated above) will be summarily rejected.

8. PERIOD OF VALIDITY OF BIDS:

Bids shall remain valid for a period of 180 Days from the date of Bid opening. A bid valid for a shorter period may be rejected by the Purchaser as non-responsive.

9. TERMS AND CONDITIONS OF TENDERING FIRMS:

- 9.1 The printed terms and conditions of the Bidder, if any, shall not be considered as forming part of the Bid and shall not be binding on TTD.

9.2 The Bidder shall categorically confirm whether the offer complies with all the terms and conditions of the tender. Any deviation from the tender conditions shall be clearly indicated in the Technical Bid, along with the extent of the deviation and the reasons therefor. Acceptance or rejection of such deviations shall be at the sole discretion of TTD.

9.3 The Bidder shall also confirm whether the offered goods/services conform to the technical specifications, Scope Of work and Bill of Quantities prescribed in Chapter-3, 4&5. Any deviation from the prescribed specifications, Scope of Work and BOQ shall be clearly indicated in the Technical Bid. The Bidder may, however, offer a technically superior version, provided that it fully meets or exceeds the minimum specifications prescribed by TTD.

10. BID REQUIREMENTS:

10.1 The Bidder must quote for the required quantities item wise as listed under the Bill of Quantities in the Price Schedule format in **Chapter-5** separately.

10.2 Signing of Contract Agreement

- (a) For the purpose of preparing of the contract agreement, the successful bidder shall be required to deposit 2 Non Judicial Stamp Papers each of appropriate value, as intimated TTD.
- (b) Power of Attorney to sign in the tender document / agreement shall be submitted along with the tender.
- (c) The Contract Agreement shall require to be executed within 15 days from the date of issue of the letter of acceptance.

10.3 All the bidders participating in the Tender must submit a list of their owners, partners, etc. and a certificate to the effect that the firm is neither blacklisted by any Government Department nor any Criminal Case is registered against the firm or its owner or partners or directors anywhere in India. Any bid by such firm black listed by any Govt. Deptt shall not be considered for this tender.

10.4 Bids not accompanied by Earnest Money will be summarily **rejected**. As the tender is proposed on Open basis the manner /method of receipt of Physical instrument of Tender fee and EMD shall be mentioned categorically in this RFQ for acceptance of the tender.

10.5 Conditional bids, Optional bids and incomplete bids will be summarily **rejected**.

11. The bid shall be submitted on the e-procurement platform as per the conditions laid down in the document.

12. BID PRICES:

The Bidder shall indicate on the Price Schedule, **Chapter-5** attached to these documents the Unit Prices and total Prices of the Goods it proposes to supply under this tender in the following manner:-

i)	Unit Price inclusive of all duties
ii)	GST
iii)	Installation and commissioning charges
iv)	Total FOR destination i.e., at TTD Tirupati
v)	CAMC charges per annum, for five years and all other expenditure included for

	completion of the project
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Note: - Optional rates shall not be considered and the bid shall be 'rejected'.

- 12.1 The price should be quoted strictly in line with the price schedule leaving no column blank whatsoever to avoid any ambiguity.
- 12.2 The bidder should ensure that all columns of the price schedule **[Chapter-5]** may be duly filled and no column is left blank. After opening of the price bid, no clarifications whatsoever shall be entertained by the Purchase Committee TTD.

13. PROCEDURE FOR SUBMISSION OF BIDS: Open Tender basis will be followed.

14. Pre-Qualification criteria for quoting in this tender are as follows:

- 14.1 The bidder must be a reputed system integrator having an agreement / certificate of technical collaboration with any reputed IP Camera manufacturer and Video Management & Analytics software developer for the last 5 years.
- 14.2 Each Tenderer shall submit only one tender by himself in its own name. If a Tenderer submits, or if any one of the partners in a joint venture, or any one of the members of the consortium participates in more than one tender then all such tenders in which the bidder has participated will be considered invalid.
- 14.3 Power of Attorney in the name of Authorized Signatory, in case the documents are signed by the authorized signatory of the bidder.
- 14.4 The bidder should have a minimum experience of 5 years in providing turnkey solutions of IP Video Surveillance System and implementation of the same in Industries / factory premises using the quoted hardware & software.
- 14.5 The Bidder should get MAF (Manufacturing Authorization Form)(from all OEM Vendors, and each OEM vendor to have been present in India for a minimum of 5 years
- 14.6 The bidder should have Annual Turn-over in any one financial year during last 3 financial years ending 31st March of previous financial year at least Rs.7.00 Crores or more (i.e. 2022-23, 2023-24 and 2024-25) in similar nature of works i.e. Supply, Testing, Commissioning and maintenance of CCTV Surveillance Systems from any State / Central Government Departments / PSUs and Audited balance sheets and profit and loss accounts of the bidder should be enclosed in support of the same.
- 14.7 The bidder should submit audited financial statements for the last three preceding years ending 31.03.2025 for establishing the proof of turnover as required at clause 14.6. In addition to this a Certificate from a Chartered Accountant certifying the turnover made out of relevant business segment with valid UDIN.
- 14.8 The bidder should submit ITR for the previous three years.

15. EXPERIENCE :

Experience of having successfully completed similar works during last 5 years ending last day of month previous to the one in which applications are invited should **be either** of the following.

- i. Three similar completed works each costing not less than the amount equal to 40% of the approx. estimated amount put to tender.
- ii. Two similar completed works each costing not less than the amount equal to 60% of the approx. estimated amount put to tender.

- iii. One similar completed work costing not less than the amount equal to 100% of the approx. estimated amount put to tender.

Note :

1. The work shall be completed as a whole. Partial value/completion are not to be considered.
 2. In case of experience certificate obtained from reputed organizations, such certificates must be signed by the authorized signatory (with his name, designation, phone & e-mail address) of the client organization concerned. The same shall be supported with TDS certificate, by the contractor in order to avoid fraudulent cases.
 3. Similar work mean supply, installation, commissioning, trouble shooting of CCTV equipment and related accessories, software etc.,
16. Bidder should submit duly signed and stamped documentary proof in support of all the Pre-qualification Criteria mentioned above along with the Un-Priced Bid. Offers submitted without valid supporting documents will be summarily rejected.
- 17 BIDDERS SHOULD SUBMIT MANUFACTURER AUTHORIZATION LETTER ALONG WITH THE TECHNICAL BID:**
- The technical compliance should be signed and sealed by OEMs and the relevant technical data sheets should be available on their respective websites. A letter from OEM should also be submitted stating that OEM will support the bidder for the Warranty and AMC period for all the spares and products. The OEM's should have local service / TAC support centre in India.
18. The Technical Committee Constituted by TTD will evaluate the bids received in accordance with the Tender. The Committee shall inspect the similar works done by the bidders or may ask the bidders to present a demonstration in Tirupati. The Proof of concept of execution of Surveillance System is a must for all the bidders.
 19. TTD will not be responsible for the cost incurred in preparation & submission of bids including the cost towards obtaining digital certificate.
 20. **Confidentiality:** The vendor shall not disclose to any one, any information marked as confidential and communicated or made available or accessible by the Vendor during execution of the work.
 21. The Work Timings shall be flexible and can be permitted on round the clock basis depending on the permissions accorded by the TTD administration in coordination with all the concerned departments. However due any important event being held by the TTD Authorities, restrictions may be imposed on the site works. The Agency should appoint a Project Engineer and communicate the same to CVSO, TTD, for coordination with the Vigilance / Engineer In-charge nominated by TTD. The Project Engineer should plan their work schedules in coordination with the Vigilance / Engineer In charge to schedule their works, movement of goods and engagement of labour. No claim for compensation, extension of time or additional cost arising out of any disruption, delay, or interruption in the work schedule shall be entertained if such disruption results from the Agency's failure to coordinate its activities with the concerned Vigilance Officer and the Engineer-in-Charge of TTD.
 22. The Agency will make provision for Vehicles for transportation of goods and manpower and no resources will be provided by TTD. Special vehicles like Boom lifters, cranes, ladders and any other equipment required by the agency for the execution of the works will be provisioned by them.

23. Any damages caused to the property of TTD due to the negligence of the agency staff or due to any other reason shall be made good by the agency.

24. **Accidents:**

It shall be the entire responsibility of the contractor to adopt all the safety measures & deploy manpower that is adequately trained in safety. If any accident occurs within the site due to negligence on the part of the Agency's personnel or otherwise, it shall be the full responsibility of the Agency.

25. **Ownership of Data:**

Tirumala Tirupati Devasthanams, will own the data, application, and its source codes whatsoever including supporting classes, modules, etc.

CHAPTER – 2

TERMS & CONDITIONS OF CONTRACT

1. **ELIGIBILITY FOR BIDDING:-** The prospective bidders who have earlier successfully supplied and completed Supply, Testing and Commissioning of CCTV Surveillance Systems shall have to upload and enclose the following documents along with the tender to qualify in the pre-qualification bid strictly in the following serial order.
 - a. Company / Firm Registration certificate.
 - b. Annual financial turnover details of the Bidder in **Appx H'**.
 - c. List of Major customers (Central/State Govt/PSUs) as per **Appx 'I'**.
 - d. General Information of the Bidder in **Appx 'J'**
 - e. **EMD** as indicated above in the Tender document.
 - f. Registration of **GST/PAN**
 - g. Copy of **Income Tax returns** for the financial years 2022-23, 2023-24 and 2024-25. Original Equipment Manufacturer for participation in the bid and for undertaking of after sales service in the proforma appended.
 - h. **Bank Solvency Certificate** issued during the financial year 2026-27, for Rs.5.00 Crores (Rupees Five Crores Only) Solvency certificate issued by Bank only will be accepted. The Solvency Certificate issued by any other agency or authority will not be accepted.
 - i. The bidder should have **Annual Turn-over** in any one financial year during last 3 financial years ending 31st March 2025 at least Rs.7.00 Crores or more (i.e. 2022-23, 2023-24 and 2024-25) in similar nature of works i.e. Supply, Testing, Commissioning and maintenance of CCTV Surveillance Systems from any State / Central Government Departments / PSUs and Audited balance sheets and profit and loss accounts of the bidder should be enclosed in support of the same.
 - j. **EXPERIENCE:** Experience of having successfully completed similar works during last 5 years ending last day of month previous to the one in which applications are invited should **be either** of the following.
 - i. Three similar completed works each costing not less than the amount equal to 40% of the approx. estimated amount put to tender.
 - ii. Two similar completed works each costing not less than the amount equal to 60% of the approx. estimated amount put to tender.
 - iii. One similar completed work costing not less than the amount equal to 100% of the approx. estimated amount put to tender.

Note :

- (a) The work shall be completed as a whole. Partial value/completion are not to be considered.
- (b) In case of experience certificate obtained from reputed organizations, such certificates must be signed by the authorized signatory (with his name, designation, phone & e-mail address) of the client organization concerned. The same shall be supported with TDS certificate, by the contractor in order to avoid fraudulent cases.

- (c) Similar work mean supply, installation, commissioning, trouble shooting of CCTV equipment and related accessories, software etc.
- k. Documentary evidence like (a) Successful Completion Certificates issued by the competent functionaries shall be uploaded along with form 16.
- l. The bidders / firms / manufacturers / vendors which have been blacklisted by Government of AP / Central Government / any State Government / PSUs shall not participate in the tender process. The information should be furnished in the format for submitting the certificate is at **Appendix 'K'**
- m. Check List as indicated

Note: - The tenderers shall submit PQ bid documents as per the above serial order under the signature of authorized functionary.

Failure to enclose any of the above documents will render the bidders disqualified in the pre-qualification bid.

2. Special Conditions for Purchase Order: -

- a. The rates are for free delivery of the items at Tirupati/Tirumala.
- b. The rates are inclusive of all taxes applicable.
- c. All the supplies should be delivered to the consignee in the manufacturer's original packing and original markings.
- d. The bills should be submitted in triplicate to this office duly showing the tax component separately for arranging necessary payment.
- e. The supply of the articles should be as per the specifications. Articles if any not in accordance with the specifications will be rejected and returned to them at their own cost for replacement. Action will simultaneously be taken either to reduce rates of the articles to be supplied up to the extent of 10% or to blacklist the firm besides forfeiture of EMD and Performance Security amount and to obtain supplies from alternative sources at the risk and cost of the tenderer.
- f. The date mentioned in the Purchase Order for arranging supplies should be construed as date on or before which supplies should be in the hands of consignee and should not be taken as the date for dispatching stores.
- g. Unless and until prior extension in delivery period is applied for and sanctioned, the execution of the supplies after the delivery date mentioned in this order shall be deemed to constitute breach of contract and shall attract Condition No. (f) above.
- h. The prices of the equipment, after finalization, should be valid up to the completion of the entire work.
- i. The suppliers should affix stamp clearly of the concerned firm on item supplied by them after issue of purchase order while making delivery of items at Tirupati.
- j. The Department will not pay separately for transit insurance and the tenderer will be responsible until the entire contract is completed for arrival of consignment in good conditions at destination.
- k. The contract or any part of share of interest in it is not to be transferred or assigned by tenderer directly or indirectly to any person or persons whomsoever without the written consent of the Executive Officer, TTD, Tirupati.

3. **SPECIAL CONDITIONS OF BID:** - The successful bidder will be intimated by the Department through a formal letter of acceptance. The Bidder is required to give confirmation of their acceptance of Special Conditions of the bid mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder (i.e. Seller in the Contract) as selected by the Buyer. Failure to do so may result in rejection of Bid submitted by the Bidder. The successful bidder shall be required to sign an undertaking with the department to comply with the provisions of The Official Secrets Act 1923.
4. **Tolerance Clause:** - To take care of any change in the requirement during the period starting from issue of bid till placement of the contract, Buyer reserves the right to increase or decrease or omit the quantity of the equipment without any change in the terms & conditions and prices quoted by the Seller. While awarding the contract, the quantity ordered can be increased or decreased or omitted by the Buyer within this tolerance limit.
5. **Risk & Expense clause:** - Should the equipment not be delivered within the time specified in the contract documents, or if defective delivery is made in respect of the equipment, the Buyer shall after granting the Seller 30 days to cure the breach, be at liberty, without prejudice to the right to recover liquidated damages as a remedy for breach of contract, to declare the contract as cancelled either wholly or to the extent of such default.
 - a. Should the equipment not perform in accordance with the specifications / parameters provided by the SELLER during the check proof tests, the BUYER shall be at liberty, without prejudice to any other remedies for breach of contract, to cancel the contract wholly or to the extent of such default.
 - b. In case of a material breach that was not remedied within 45 days, the BUYER shall, having given the right of first refusal to the SELLER be at liberty to purchase, manufacture, or procure from any other source as she thinks fit.
 - c. Any excess of the purchase price, cost of manufacturer, or value of any stores procured from any other supplier, over the contract price appropriate to such default or balance shall be recoverable from the SELLER.
6. **OEM:-**
 - a. The bidder should be an OEM or Authorised Agency for participation in the bid and to supply spares and accessories being provided by them for the equipment and offer their support during the warranty period. The bidder should quote for 3 years of onsite comprehensive warranty and 5 years CAMC and the quote shall be submitted along with the tender bid.
 - b. The OEM's should have an experience of minimum 5 years in India. Any shortage of experience or relaxations in this aspect will not be entertained. Any representations of the experience will not be considered, and the decision of the Executive Authority of TTD will be final.
7. **Liability Clause:** - The Contractor/vendor, on award of the contract, shall be required to submit an undertaking stating that all the equipment supplied are secure and no scope exists for usage of backdoor access for any malicious activity. Even at a later time frame, if any such misuse of equipment comes to notice, the vendor will be liable for legal action as deemed appropriate by the Department.

8. **Fall Clause :-** The price charged for the stores supplied under the contract by the seller shall in no event exceed the lowest prices at which the seller sells the stores or offer to sell stores of identical description to any persons/organisation including the purchaser or any department of the Central Government or any Department of state government as the case may be during the period till performance of all supply orders placed during the currency of the rate contract is completed. If at any time during the said period the seller reduces the sell price, the seller will notify such reduction of price to the Department and correspondingly reduce the price of the items being supplied under the contract.
9. **Quality:** -The quality of the stores delivered according to the present Contract shall correspond to the technical specifications enumerated as per bid and shall also include therein modification to the stores suggested by the Buyer. Such modifications will be mutually agreed to.
10. **Inspection Authority:** - The Inspection of the equipment will be carried out by the Technical Committee constituted by the Department from time to time, as and when considered necessary.
11. **Comprehensive Warranty & Comprehensive Annual Maintenance:** -
- The contractor / agency, after successful installation of the Surveillance System i.e., Supply, Testing and Commissioning of CCTV Surveillance System at Children Hospital Tirupati shall have to undertake maintenance of the equipment for a period of three years onsite comprehensive warranty period followed by Comprehensive Annual Maintenance Contract for five years.
 - Warranty period is for three years comprehensive (including spares - parts, service and all). During the warranty period, the cumulative downtime should not exceed 2 hours over a period of two months subject to individual downtime of three hours.
 - If the successful bidder fails to operationalize the system within the downtime specified, a penalty of 0.1% of the cost of the mal-functioning equipment will be imposed for every extra one hour and it would be recovered from the Performance Guarantee. A complaint register will be maintained at the site.
 - The warranty period for the equipment shall commence from the date of successful commissioning and formal handing over of the system to TTD, after successful completion of the System Acceptance Test (SAT) and certification by the Technical Committee constituted by TTD.
 - The tenderer should quote the rate for CAMC without fail. In case it is not quoted, it will be assumed that the tenderer is not interested to take up the CAMC and hence the offer will be summarily rejected. It should be noted that CAMC cost indicated by the bidders will be considered to arrive at the bid value. The CAMC quote will not be changed till the end of the Contractual Period.
 - The successful bidder shall provide facilities for attending to repairs, supply of spares, etc., at Tirupati. In case the OEM / successful bidder does not have any Service Centre/Service Team in Andhra Pradesh, it should be established in Andhra Pradesh immediately before successful installation of the equipment at Tirumala Tirupati Devasthanams, Tirupati. The Service Team should always be available on call. The successful bidder shall submit an undertaking to this effect along with the bid.

12. Further, they must provide training to support staff and render technical support. Further **training** or support should be arranged, as and when required by the Tirumala Tirupati Devasthanams, Tirupati / Tirumala, free of cost.
13. **Tender Validity:** - The tender shall remain valid and open for acceptance for a period of 180 days from the date of submission of the tender. In exceptional circumstances, prior to the expiry of the tender validity period, TTD, Tirupati may request the bidders for a specified extension in the period of tender validity. The request and the response thereto shall be made in writing or by telefax. Bidders may refuse the request without forfeiting their tender security. Bidders agreeing to the request for extension of tender validity period shall not be permitted to modify their tender but will be required to extend the validity of the period of the tender security correspondingly.
14. **Training manual** in two hard copies and two soft copies containing details of technical specifications, installation and commissioning of the equipment and maintenance schedule, etc., shall be supplied along with the equipment, free of cost.
15. **In the event of the tenderer's failure to supply & provide allied services within the stipulated timeframe, whatever is stated in the previous para will not forfeit the right of the Department to get the item arranged/supplied/repaired from any alternative source at its sole discretion and at the risk and cost of the bidder.**
16. The successful **bidder** shall have no right to assign or sublet any part of the bid, once it is awarded to him.
17. The **supplied items will remain the proprietary of the Department i.e., Tirumala Tirupati Devasthanams.**
18. The successful **bidder** will furnish legally bound non-disclosure undertaking for the implemented project.
19. **Arbitration clause:** - In case of any dispute arising out of the tenders/contract period, ALO (All Legal Options) shall alone have exclusive Jurisdiction of Tirupati Courts or High Court of Andhra Pradesh only.
20. **Quantum of Liquidated Damage (LD):** -

If the bidder fails to deliver goods/services or any instalment thereof within the delivery period or at any time repudiates the contract before expiry of such period, a penalty of 0.5% of the prices of undelivered stores will be levied per week or a part thereof. However the total damage shall not exceed value of 10% of undelivered goods (i.e. 0.5%x20 weeks). If the bidder fails to deliver the goods/services or any instalment in 8 weeks' time the order is liable to be cancelled.
21. **AWARD OF CONTRACT:** Prior to the expiry of the period of bid validity, the Purchaser will notify the finally selected Bidder and enter into a Rate Contract. The operating period of the Rate Contract will be for one year to facilitate placement of Orders for additional quantities. If a need for extension of the bid validity period arises, it should be extended by mutual agreement.
22. The notification of award/placement of Rate Contract will constitute the formation of the Contract. At the time of placement of the Rate Contract, the finally selected Bidder shall sign the contract with the Purchaser. The finally selected bidder shall bring along with him, the power of attorney and seal etc. for signing the Contract / Agreement as per Appendix 'I'

23. **PAYMENT SCHEDULE:** The payment will be made after Receipt/Final Acceptance of the goods and receipt of Supplier's bill complete in all respect.
- a. Recovery of Taxes shall be as per rules prevailing at the time of making payments
 - b. **50% of the Payment (Excluding Security Deposit)** against the completion of item wise supplies will be paid on receipt of the items in the ware house of TTD and on satisfactory acceptance of the same by the TTD representative. Payment of items which are damaged or due to any dispute regarding acceptance will be kept in abeyance till the finalisation of the same by the Competent Authority. The payments will be released for the material as and when it is received. However the number of payments will be limited to a maximum of 3 lots. Any other payments for replacement of damaged items during receipt or installation shall be released after the acceptance of the system.
 - c. **30% of the Payment (Excluding Security Deposit)** will be made on installation of the items and conformation by the representative of the TTD.
 - d. **20% of the Payment (Excluding Security Deposit)** will be released on acceptance of the **complete** system by the Technical Committee.
 - e. Payment **shall** be released for supply of materials based on the certification of the concerned staff and not based on the invoice.
 - f. The Earnest Money Deposit (EMD) of 2.5% and the Additional Security Deposit (ASD) of 10% shall be released only after the successful completion of the 3-year Defect Liability (Warranty) Period and the 5-year Comprehensive Annual Maintenance Contract (CAMC) period, subject to satisfactory performance and fulfillment of all contractual obligations.
 - g. No. "C" or "D" forms will be issued by TTD for Taxation purpose. The rates shall be inclusive of all Taxes.

Note:

- (a) All the payments will be done through Bank by NEFT only. Vendor must provide the details of the account for NEFT payments.
- (b) The time limits for payment specified above represent the ideal conditions and hence any delay will not entitle the Contractor to claim interest etc.,

24. **DELIVERY, INSTALLATION AND COMMISSIONING:** Delivery, installation, testing & commissioning of the equipment at TTD premises shall be completed by the Supplier in accordance with the terms specified by the Purchaser within 180 Days from the date of Award of Contract / Order.
- a. **Delivery of goods:** The Supplier shall notify the Purchaser about the delivery of the goods to the Delivery Site one week in advance of the expected date of partial or complete delivery.

b. **Inventorisation and Measurement:** The Supplier shall ensure that its representatives are present for the Inventorisation/ measurement of the Goods supplied under the contract failing which the Purchaser shall proceed with the inventorisation in the Supplier's absence and the Purchaser's inventorisation report shall be binding on the Supplier.

c. **PACKING, FORWARDING & SHIPMENT:** The Supplier shall provide proper packing of the goods to prevent their damage or deterioration during transit to the final destination site. The Supplier shall notify Purchaser of the date of each shipment from his works and the expected date of arrival of goods at the site.

d. **INSURANCE:** The Goods supplied under the Contract shall be fully insured on a warehouse-to-warehouse basis by the Supplier against loss or damage incidental to manufacture or acquisition, **transportation**, storage and delivery.

25. **INSPECTION:** The Purchaser shall have the right to inspect and/or test the goods for conformity to the Contract Specification.

- a. Should any inspected or tested Goods fail to conform to the specification, the Purchaser may reject them and the Supplier shall either replace the rejected Goods or make all alterations necessary to meet specification requirements free of cost to the Purchaser
- b. The Supplier shall provide installation and standard test procedures for the individual equipment and for the complete System offered.
- c. The Supplier shall test individual equipment and the complete System after installation at site. The Supplier shall submit complete documentation of all the measurements conducted during installation period for future reference of the Purchaser.
- d. A document comprising of the technical problems faced during installation, testing and commissioning period and their solutions shall be submitted by the Supplier at the time of handling / handing over the completed works to TTD.
- e. For the purpose of taking over the goods/system supplied, an System Acceptance Test shall be carried out at the Purchaser destination site. The equipment that meets the acceptance test shall only be accepted by the Purchaser. The Supplier for prepare a System Acceptance Test (SAT) Format which will be in accordance with the specifications and works mentioned in the tender which will have to be approved by the Technical Evaluation Committee.
- f. The installation or commissioning shall not be deemed to have been completed unless all the Goods and System are accepted by the Purchaser.
- g. Before the equipment is taken over by the Purchaser, the Supplier shall supply installation, operation, repair and maintenance manuals of the equipment/system. This shall include the (i) System Interface Drawings, (ii) System Interconnection and Block Diagrams,(iii) Cable routing Drawings (iv) User Operation Manuals (v) Camera Coverage Drawings & (vi) Equipment Maintenance Manuals.

26. **GUARANTEE/WARRANTEE:** The Supplier shall provide comprehensive on-site Guarantee/Warranty for all goods/equipment supplied under the Contract for a period of

03 (Three) years from the date of final acceptance of the equipment by TTD.

- a. The Supplier should have a maintenance base in India /or establish the same within a period of two months of the supply in order to provide maintenance service, of the System being offered, "efficiently and promptly". Certificate in this regard shall be submitted by the Bidders with their technical bid. **The Supplier should submit the details of the team executing the works and the Maintenance team that will be positioned for the entire period of 3 years of onsite comprehensive warranty and 5 years Comprehensive Annual Maintenance Contract.** The Supplier shall also submit the details of the spares and accessories that will be positioned at TTD.
- b. If the performance of any individual equipment or System fails to meet the contract specifications then the same shall be replaced by the Supplier free of cost during the term of the warranty/guarantee period.
- c. The Supplier shall provide necessary Software updating free of cost during the warranty/guarantee period.
- d. The maintenance services, including spares shall be free of cost during the warranty/guarantee period. Sufficient Spares shall be stocked at the site for replacement/ damage of defective components of the system. The list of spares being stocked shall be made available before the commencement of the Warranty period. The team shall have the necessary tools & tackles, safety equipment, PPE and logistics for maintenance of the system.
- e. During the term of warranty/guarantee the service/repair calls will have to be attended by the Supplier within Two hours from the time of such calls. The defective card/item/equipment should be repaired the same time at Purchaser's location. In case of major defects requiring the defective card/item/equipment to be taken to the Supplier's workshop, it should be returned within a week duly repaired, or in case of further delay an immediate substitute card/item/equipment will be provided by the Supplier for the smooth operation of the System. The to and fro transportation of the card/item/equipment will be the responsibility of Supplier.
- f. Apart from the service/repair calls, the service engineer deputed by the Supplier will visit the site periodically as agreed the Purchaser. Once in every 03 months the Maintenance team should carry out the Preventive Maintenance and diagnostics of the equipment during the Warranty and Comprehensive AMC Period.
- g. Delays in attending the calls and or repairing the defective card/item/equipment beyond time limit specified in this Clause, without providing the substitute, will attract penalties in accordance with **Clause 12**. Also the period of the warranty shall be extended and the period of extension will commence from the date of acceptance of the service.
- h. The Agency shall provide the maintenance support for the complete system on 24/7 basis. In this regard the agency shall deploy necessary maintenance team system wise (Cameras, Network, Hardware, Software and technicians for electrical/general). The Agency shall forward the details of the Maintenance Team to the Engineer In-charge of TTD on acceptance of the system and commencement of Warranty period.
- i. The Maintenance Team shall be positioned at Tirupati. The agency should plan for relief and leave of the team members. The Team shall have their own transport and logistics for movement from place to place at Tirupati. Replacement of the team

members due to absence or leave, should be made without any delay. Necessary accommodation shall be provided on request and on payment basis.

27. CAMC - POST-WARRANTY SERVICES AND MAINTENANCE:

- a) The Supplier shall be capable of undertaking comprehensive on-site maintenance of the equipment, for **full life cycle of the equipment after** expiry of the warranty/guarantee period. The bidder shall indicate the estimated life span of the quoted equipment.
- b) All vendors shall compulsorily quote Comprehensive AMC Charges **which for 5 (Five) years beyond warranty period of three years** for a comprehensive AMC coverage which includes complete operational support, replacement of components, providing substitute etc, with scope being similar to Guarantee/Warrantee period.
- c) The CAMC charges quoted by the bidder shall remain firm and binding throughout the validity period specified in the contract; however, the award of the Comprehensive Annual Maintenance Contract (CAMC) shall be entirely at the sole discretion of TTD, and TTD reserves the absolute right to award the CAMC either to the successful bidder or to any other eligible agency without assigning any reason or incurring any liability.
- d) After Successful completion of Work in all respects and Handing over to TTD and after expiry of the **initial 03 years of On-site Comprehensive warranty period**, the successful bidder shall provide Comprehensive Annual Maintenance Contract **(CAMC) for a period of 05 (Five) years**.
- e) CAMC shall cover the entire CCTV surveillance system including cameras, NVRs, servers, storage devices, switches, networking accessories, UPS interfaces, software, licenses, control room equipment, displays, racks, cabling and all allied accessories supplied under this tender and as per specified Scope of Work.

28. TRAINING:

- a) The scope of work envisages that the Bidder shall undertake to train the staff nominated by the TTD in different aspects of equipment design, functioning, testing, operation & administration, maintenance and repair.
- b) The supplier shall at every stage of installation; testing and commissioning provide all facilities for adequate training of TTD personnel who may be deputed to work on the project.
- c) The system Administration and Maintenance Training program, at the user's location, will be structured to train approximately 20 (Twenty) of the TTD personnel deputed for the purpose.
- d) The user operational training program, at the user's location, will be structured to train up to 20 (Twenty) of the Purchaser's supervisory and training personnel who will, in turn, train individual operators.
- e) Bidder will provide complete details on the training programs to be offered including:
 - (a) Material to be covered
 - (b) Number of hours of training per operator or technician for each specific course supporting documentation to be provided.

29. **SPARE PARTS:** The Bidder will undertake that supplies of necessary maintenance equipment and spare parts will be made available for all the Equipment and the complete System for its life cycle. The Bidder will provide a certificate from the OEM that the OEM is ready to support the vendor for spares for the period of contract and AMC

The Bidder shall include in his tender, the break-up of essential spares required for efficient maintenance of the supplied System and quote their value in **Chapter-5**, in his own format, along with Price Bid

30. **DELAY IN THE SUPPLIERS PERFORMANCE**

- a) Delivery of the Goods and performance of Services including Warranty shall be made by the Supplier in accordance with the time schedule specified by the Purchaser. Delay by the Supplier in the performance of its Delivery or Service obligations shall render the Supplier liable to imposition of Liquidated Damages in accordance with **Clause-30** below and thereafter, upon reaching the maximum deduction set out therein, to termination for default in accordance with **Clause- 36** below accompanied by forfeiture of Bank Guarantee/Performance Security.
- b) If the bidder fails to supply the equipment's within the stipulated period, the Purchaser reserves the right to purchase the equipment's from open market and difference of bill, if any, will be recovered from the bills of the bidder.

31. **LIQUIDATED DAMAGES:** If the Supplier fails to deliver any or all the of the Goods or perform the **Services** within the time period specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, (not by way of penalty) a sum equivalent to 0.5 percent of the value of the delayed goods or unperformed service for each & every week (part of a week being treated as a full week) of delay until actual delivery or performance, up to a maximum deduction of 10% (Ten Percent) of the order value.
32. **PATENT INDEMNIFICATION:** The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, copyright, trademark, license or industrial design rights, software piracy arising from use of the goods or any part thereof in the Purchaser's country.
33. **WAIVER:** Failure or delay on the part of the Supplier or the Purchaser to exercise right or power hereunder shall not operate as a waiver thereof.
34. **ASSIGNABILITY:** Neither this Contract nor any rights under it may be assigned by either Party without the express prior written consent of the other Party. However, upon assignment of the assignor's interest in this Contract, the assignor shall be released and discharged from its obligations hereunder only to the extent that such obligations are assumed by the assignee.
35. **SEVERABILITY:** If any portion of this Contract or any of the Contract Documents hereto is held to be invalid, such provision shall be considered severable, and the remainder of this Contract hereof shall not be affected.
36. **GOVERNING LAW:** This Contract including the Contract Documents shall be governed by and construed in accordance with the laws of India and **the Tirupati Courts** shall

have jurisdiction in this regard.

37. **TERMINATION FOR DEFAULT** The Purchaser may without prejudice to any other remedy for breach of Contract, by Thirty (30) days written notice of default sent to the Supplier and upon the Supplier's failure and neglect to propose and/or execute any corrective action to cure the default, terminate this Contract in whole or in part: If the Supplier fails to deliver any or all of the Goods within the time period(s) specified in the Contract; or If the Supplier fails to perform any other obligation(s) under the Contract. On termination of the Contract for default, the security deposit / Performance Bank Guarantee of the Supplier will be forfeited.

38. **TERMINATION FOR INSOLVENCY:** The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, without compensation to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

39. **TERMINATION FOR CONVENIENCE:** The Purchaser shall have the right to terminate the Contract in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of work under the contract is terminated and the date upon which such termination becomes effective.

The Goods those are complete and ready for shipment within Ninety (90) days after the Supplier's receipt of notice of termination shall be purchased by the Purchaser at the Contract terms and values. For the remaining Goods the Purchaser may elect:

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

40. **FORCE MAJEURE:**

If at any time during the currency of the contract, either party is subject to force majeure, which can be termed as civil, riots, tempest, acts of God, which may prevent either party to discharge his obligation (except court or similar bodies Judgments / instructions), the affected party shall promptly notify the other party about the happening of such an event. Neither party shall by reason of such event be entitled to terminate contract in respect of such performance of their obligations. The obligations under the contract shall be resumed as soon as practicable after the event has come to an end or ceased to exist. If the performance of any obligation under the contract is prevented or delayed by reason of the event beyond a period mutually agreed to if any, or 30 days, whichever is more, either party may at its option terminate the contract.

41. **Breach of Contract**

- a. During the course of contract, if in the opinion of TTD, breach of contract or any negligence on the part of contractor's personnel has taken place, which the contractor fails to remedy within three days of having received written notice of the failure, TTD shall be entitled to terminate the contract duly issuing 7 days notice to

the contractor in writing. In such case the Contractor's Performance guarantee /Deposit Amounts (EMD/ASD) shall stand forfeited in TTD's favour.

- b. During the course of contract, if any contractor personnel is found indulging in any corrupt practices causing any loss TTD shall be entitled to terminate the contract duly forfeiting the contractor's Performance Guarantee.
- c. During the course of contract, if the contractor fails to perform works / services as mentioned in the Scope of Work, duly following all the statutory requirements, to the entire satisfaction of TTD then TTD shall be entitled to part terminate the contract / limit the Scope of Work under the contract duly issuing 7 days notice to the contractor in writing.

42. DISPUTE RESOLUTION: CONCILIATION & ARBITRATION

- a. In the event of any dispute, difference of opinion or dispute or claim arising out of or relating to this agreement or breach, termination or the invalidity thereof, shall firstly be attempted to be settled by conciliation.
- b. All disputes relating to this agreement or on any issue whether arising during the progress of the services or after the completion or abandonment thereof or any matter directly or indirectly connected with the service agreement shall in the first place be referred to a sole conciliator appointed/nominated by TTD receipt of such requests from either party.
- c. The conciliator shall make the settlement agreement after the parties reach agreement and shall give an authenticated copy thereof to each of the parties.
- d. The settlement agreement shall be final and binding on the parties. The settlement agreement shall have the same status and effect of an arbitration award.
- e. The views expressed or the suggestions made or the admissions made by either party in the course of conciliation proceedings shall not be introduced as evidence in any arbitration proceedings.
- f. Any dispute that cannot be settled through conciliation procedure shall be referred to arbitration in accordance with the procedure given in the para below.
- g. The parties agree to comply with the awards resulting from arbitration and waive their rights to any form of appeal insofar as such waiver can validly be made.

43. Arbitration Procedure:

In the efforts, to resolve all or any of the disputes through conciliation fails, then such dispute shall be referred within 30 days to a sole arbitrator who would be nominated by E.O TTD Tirupathi. The venue of such arbitration shall be at Courts of Tirupati / High Court of AP. The award of the sole arbitrator shall be binding on all parties. The cost of arbitration shall be borne by the respective parties. There will be no objection if conciliator / or sole arbitrator nominated / appointed is an employee of TTD.

44. Rules governing Arbitration Proceedings:

The arbitration proceedings shall be governed by Indian Arbitration and Conciliation Act, as amended from time to time including provisions in force at the time the reference is made.

45. Notices and Instructions:

The Contractor shall furnish to the Employer the postal address of his office at .Any notice or instructions to be given to the Contractor under the terms of the contract shall be deemed to have been served on him if it has been delivered to his authorized agent or representative at site or if it has been sent by registered/speed post to the office, or to the address of the firm last furnished by the Contractor.

CHAPTER -3
(To be enclosed with Technical Bid)
SPECIFICATIONS AND ALLIED TECHNICAL DETAILS FOR CCTV SURVEILLANCE SYSTEM

Sl.No	TECHNICAL SPECIFICATIONS
1.0	General Requirements
1.1	The CCTV Camera system will be installed in Children Hospital as per the BOQ stated in Chapter -4.
1.2	Total Installation, Testing Commissioning and maintenance of CCTV camera and the surveillance system and its required accessories(if any) as part of the solution as mentioned in chapter -4 with 3 years warranty and 5 years post warranty CAMC. During the Warranty and Comprehensive Annual Maintenance Contract (CAMC) period, the successful bidder shall provide 24x7 technical support, quarterly preventive maintenance, continuous health monitoring and SLA (Service Level Agreement) based fault rectification services. Penalty clauses shall be applicable in the event of failure to meet the agreed SLA (Service Level Agreement) timelines
1.3	Supply, Installation, Testing, Commissioning, Transport, Assemble and install all the hardware & software, configuring, testing, commissioning of CCTV surveillance system
1.4	Integration of all the cameras with the Video management software and continuous transfer of the videos recorded to NAS. Proving out analytics and other functions as per TTD's requirements is included.
1.5	All cameras are to be mounted on existing buildings, walls, or on the top of 6/8/10 meter GI poles. All the IP Fixed box type cameras are mounted on walls to monitor vehicle movements and Person movements. All related civil works is under vendor's scope.
1.6	3-Phase 415V(± 10%), 50 Hz, (± 10%) and Single Phase 230V(± 3%), 50 Hz (± 3%) power for equipment supply will be provided by TTD at the nearest place for each location. Vendor must distribute the power wherever needed for the devices from the nearest point provided.
1.7	Supply and laying of all the Cables on the wall/pole/ground (Power, Data and Video) will be under the Supplier's Scope. The cable shall be laid underground. at a depth of 1.0 metre, in 1.5" diameter HDPE (High density polyethylene) pipe. Each run of cable shall be run through separate HDPE pipe. The pipes shall be covered with half round concrete trough of 4" dia, and the soil shall be refilled. Cable route markers shall be used at intervals of 50 meters and at turning points. Underground cable laying involves laying in soft soil, hard soil, road and along cable trenches. Road cutting should be refilled and finished by cementing. In case the underground laying is not possible due to rocky structure, GI pipes will be laid to run the cables.
1.8	Supply Installation and Erecting 6/8/10 Mtr height of GI poles with junction boxes including cables and accessories with surge protection to mount the Cameras wherever required as per the Standards followed by Civil Department TTD.
1.9	Supplier should submit the Technical Data Sheets, Brochures, catalogues along with details for all the items need to be submitted for Pre-evaluation.
1.10	Erection of entire system should be carried out with the guidance of Maintenance Executives/ In-charge Officer assigned by TTD.
1.11	Supply, Installation, Testing and Commissioning of required capacity of UPS (with

	minimum 1 hr backup on full load as part of the solution) wherever required is under supplier's scope.
1.12	Type of Alert and options should be mentioned by the vendor.
1.13	The 'Maintenance Manual' to be supplied by the Vendor (3 sets) shall include: - Methods of tracing and rectifying common service troubles. - Method of dismantling and re-assembling of various components and parts. - A complete comprehensive parts list with exploded views of the different Assemblies & Sub-assemblies. - Any required accessories as part of the solution to be supplied by the vendor without any extra cost.
1.14	Details of all critical spares should be furnished. Supplier's address to be contacted in case of procurement of those spares should also be given
1.15	Manufacturer products shall have quality system in compliance with the UL listing for the cameras. Certificates to be submitted in Technical BID.
1.16	After commissioning, the supplier should confirm the performance of the whole system for at least 1 month both in day and night for consistency.
1.17	Vendors are advised to visit the site before quoting for the proposed system.
1.18	Confidentiality
1.19	SOLUTION OVERVIEW
1.20	The cameras shall be connected to network, comprising 4/ 8 / 12 / 24 /48 port switches and media converters as per site conditions, connected with CAT6 & SM-OFC, shall be laid at each location for transmission of signal to the Sub Control Rooms and Command & Control Centre. The Control Rooms shall have a Servers (with Monitoring & IVA Software) for Video Storage, monitors, workstations, UPS, Switches & Joystick/PTZ Controller as required. Network Architecture: The network architecture shall support: Redundancy, VLAN segmentation, Cybersecurity controls, Centralized health monitoring of all network devices.
1.21	The Server shall make continuous recording of all cameras @ 25 fps and at higher frame rate as per the site conditions and 4CIF or higher. Storage Sizing to be done by each bidder and any change will If necessary, additional storage in form of hard disk drive shall be provided by the Successful bidder at no additional cost to TTD. Storage Sizing : The storage system shall be designed to provide a minimum of 90 days of recording retention for all cameras at the configured resolution and frame rate.
1.22	The recording resolution and frame rate for each camera shall be user programmable. It shall be possible to record camera views on continuous, scheduled and event triggered basis. Critical Cameras to be recorded at HD/4K(whenever Applicable) Resolution.
1.23	Power for all the field equipment will be conditioned using Centrally provided UPS to each Rack. The necessary electrical cabling needs to be laid by the bidder separately from the UPS to the necessary racks. If any equipment operates on any voltage other than the standard supply voltage (230 V AC single phase) and supply frequency, necessary voltage/frequency-conversion/correction device of approved make shall be supplied along with the equipment at no extra cost.
1.24	To the extent possible, Cameras should be installed on the existing structures, buildings etc., If it is necessary to provide separate poles to mount the cameras at desired locations, the poles would be as per the approved design quality, specifications.
1.25	Appropriate outdoor casings and capping should be used for laying the Cat6 cable wherever necessary as per the site conditions.

1.26	The Successful Bidder shall conduct a site survey and evaluate the feasibility of the wired network underground wherever specified, with regards to cameras within *LOS. The bill of material attached in this document is only indicative and the successful bidder has to provide the detailed BOQ & calculate the design needs and obtain the approval of the TTD.
1.27	All the Cameras supplied as part of the tender should be STQC and BIS-ER certified and VMS should be a reputed OEM with experience not less than 7 years in India. Video Management System: The VMS shall support: • Failover capability. • Health monitoring dashboard. • Audit logs. • Role-Based Access Control (RBAC). • Integration with Mobile Command Platform (MCP), wherever applicable. • Mobile application access. • Digital watermarking of recorded video
1.28	The Solution provided should be redundant (in combination with all available servers), if any one of the server fails the other server should take over. Example the recording server should be able to take over as Management server and vice versa. High Availability: The proposed solution shall not have any single point of failure in servers, storage, or other critical system components
1.29	TTD may at any time ask for installation and checking of the performance of one camera each from the models quoted in the tender as part of the technical and performance evaluation.
1.30	Time is the essence of this contract. The Duration in which the project to be completed in all aspects viz. supply, installation, commissioning, testing, training, demo etc is 60 days.
1.31	Site Acceptance Test (SAT): The successful bidder shall conduct a comprehensive Site Acceptance Test (SAT) covering cameras, servers, storage, network switches, UPS, recording functionality, analytics, and all integrated components before final acceptance of the system
1.32	Project Documentation: Before final handover, the successful bidder shall submit the following documents: • As-built drawings. • Camera layout drawings. • Network topology diagram. • IP addressing scheme. • Rack layout. • Asset register of all supplied equipment
	All cameras must comply to ONVIF Profile S standard or better
	Firmware/software upgrades are to be provided by the OEM free of cost during the warranty period and AMC Period. Undertaking from OEMs to be provided on their Letter head

*LOS- Line of Sight

Camera Specification

1. IP Camera: Fixed IR 5MP DOME type Indoor Camera)

Sl. No.	Parameter	Minimum Technical Specification
1	Item	Indoor Fixed IR Dome Network Camera
2	Quantity	As per BOQ
3	Type	Indoor Fixed IR Dome IP Camera with Day/Night functionality
4	OEM	Bidder shall clearly specify the OEM Make & Model. Complete technical datasheet, product catalogue, and compliance statement shall be submitted with the technical bid.
5	Camera Technology	Native IP Network Camera, latest production model
6	Image Sensor	Minimum 1/2.7" Progressive Scan CMOS or better
7	Effective Resolution	Minimum 5 Megapixel (2592 × 1944) or higher
8	Lens	Fixed Lens of 2.8 mm or better , IR Corrected, optimized for wide-angle surveillance.
9	Lens Type	Fixed Wide-Angle Lens, IR Corrected, with Auto Focus/Fixed Focus as per OEM design.
10	Aperture	F1.6 or better
11	Viewing Angle	Horizontal FOV not less than 100° at widest angle
12	Day/Night	True Day/Night with Automatic IR Cut Filter (ICR)
13	Wide Dynamic Range	True WDR of minimum 120 dB
14	Digital Noise Reduction	Minimum 3D Digital Noise Reduction (3D-DNR)
15	Minimum Illumination	Colour: ≤0.01 Lux (F1.6, 30 IRE); B/W: 0 Lux with IR ON
16	IR Illumination	Integrated Smart IR LEDs with minimum 30 metres effective illumination
17	Shutter Speed	Auto, Manual, 1/3 sec to 1/100,000 sec or better
18	Signal-to-Noise Ratio	> 50 dB
19	Video Compression	H.265, H.265+, H.264, H.264+, MJPEG
20	Video Streams	Minimum Triple Stream with independent configuration
21	Resolution	Support up to 5 MP and lower resolutions including 3840×2160 (where applicable), 2592×1944, 1920×1080, 1280×720, 640×480
22	Frame Rate	Minimum 25 fps at full resolution (Configurable in increment of 1 frame Both at camera end + VMS)
23	Bit Rate Control	CBR / VBR
24	Audio	Built-in Microphone or Audio Input/Output with support for G.711, G.726, AAC or equivalent
25	Local Storage	Micro SD/SDHC/SDXC Slot supporting minimum 256 GB . Camera shall be supplied with 128 GB Industrial Grade Class-10/UHS-I SD Card
26	Network Interface	10/100/1000 Mbps Ethernet, RJ-45
27	Network Protocols	IPv4/IPv6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, FTP, SMTP, SNMP v1/v2c/v3, DHCP, DNS, DDNS, NTP, ICMP, IGMP, QoS, SSL/TLS, IEEE 802.1X

28	ONVIF Compliance	ONVIF Profiles S, G and T (latest applicable version)
29	API/SDK	Open API/SDK shall be provided free of cost for third-party integration
30	Power Supply	IEEE 802.3af/at PoE and 12 VDC (Dual Power Option)
31	Power Consumption	Maximum 15 Watts
32	Mounting	Ceiling/Wall Mount. Pole mount through OEM-approved accessories wherever required.
33	Housing	Indoor vandal-resistant dome housing
34	Protection	Minimum IK10 vandal resistance. IP67
35	Operating Temperature	0°C to +50°C or better
36	Operating Humidity	10% to 95% RH (Non-condensing)
37	Cyber Security	HTTPS, SSL/TLS, IEEE 802.1X, Secure Boot, Digitally Signed Firmware, Password Policy, User Authentication, IP Address Filtering, Role-based Access Control, Audit Log, Firmware Integrity Check, Secure Firmware Upgrade
38	Camera Functions	AGC, BLC, HLC, Defog, ROI, Privacy Masking, Motion Detection, Tamper Detection, Scene Change Detection, Mirror, Corridor Mode
39	Video Analytics	Camera shall support at least Motion Detection, Intrusion Detection, Line Crossing, Scene Change, Face Detection, Object Left/Removed, Audio Exception or equivalent AI-based analytics
40	Firmware	Free firmware, cybersecurity patches, bug fixes and feature updates shall be provided by the OEM throughout the Warranty and CAMC period.
41	Certifications	BIS Registration (where applicable) & STQC Certified, CE, FCC, RoHS. Product shall comply with IEC 62368-1, IEC 62676 series and ONVIF standards.
42	OEM Certifications	OEM shall possess ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.
43	Accessories	All mounting brackets, junction boxes, glands, connectors, PoE accessories, mounting hardware and installation materials required for commissioning shall be included.
44	Warranty	Minimum 03 Years Comprehensive On-site Warranty from the date of successful commissioning.

2. IP Camera: 5MP Fixed IR Bullet Indoor / Outdoor

Sl. No.	Description	Minimum Technical Specification
1	IP Camera: Fixed IR Bullet Type (Outdoor)	Quantity: As per BOQ
2	Description	Fixed IR Integrated Outdoor IP Network Camera
3	Plane of Installation	Wall / Pole / Structure mounted as per site requirement

4	Make & Model	Bidder shall specify OEM Make & Model. Complete OEM technical datasheet, catalogue and compliance sheet shall be submitted along with the Technical Bid.
5	Type	Outdoor, True Day/Night, Fixed IR Bullet Camera with Wide Dynamic Range (WDR)
6	Power Supply	IEEE 802.3af/at PoE with Dual Power Option (PoE + 12V DC)
7	Image Sensor	Minimum 1/2.8" Progressive Scan CMOS or better
8	Lens	Fixed 2.8 mm IR Corrected Lens or better
9	Aperture	F1.6 or better
10	Lens Type	Fixed Wide Angle Lens
11	Effective Resolution	Minimum 5 Megapixel
12	Horizontal Field of View	Minimum 100°
13	Shutter Speed	Auto/Manual, 1/3 sec to 1/100,000 sec or better
14	IR Distance	Minimum 50 metres Smart IR
15	Signal-to-Noise Ratio	Minimum 52 dB
16	Wide Dynamic Range	True WDR 120 dB minimum
17	Minimum Illumination	Colour: ≤0.01 Lux (30 IRE); B/W: 0 Lux with IR ON
18	Communication	10/100/1000 Base-T Ethernet, RJ-45
19	Supported Protocols	IPv4/IPv6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, SSL/TLS, FTP, SMTP, DNS, DDNS, DHCP, NTP, SNMP v1/v2c/v3, ICMP, IEEE 802.1X
20	Network Standards	ONVIF Profiles S, G & T , Open API/SDK for third-party integration without additional license cost
21	Remote Configuration	Through VMS/NVR including firmware upgrade, clock synchronization, AGC, BLC, HLC, White Balance, Exposure, ROI, Privacy Masking and other camera parameters
22	Local Storage	Micro SD/SDHC/SDXC Slot supporting minimum 256 GB . Camera shall be supplied with 128 GB Industrial Grade Class-10/UHS-I SD Card
23	Video Compression	H.265, H.265+, H.264, H.264+, MJPEG
24	Video Streams	Minimum Triple Stream with independent configuration
25	Resolution	Support up to 5 MP and lower resolutions including 3840×2160 (where applicable), 2592×1944, 1920×1080, 1280×720, 640×480
26	Aspect Ratio	16:9 and 4:3
27	Frame Rate	Minimum 25 fps at full resolution, configurable in 1 fps increments
28	Bit Rate Control	CBR / VBR
29	Audio	Built-in Microphone or Audio I/O supporting G.711, G.726, AAC or equivalent
30	Operating Temperature	-30°C to +60°C or better

31	Operating Humidity	10% to 95% RH (Non-condensing)
32	Housing	Outdoor corrosion-resistant Metal/Aluminium Alloy housing
33	Weather & Vandal Protection	Minimum IP67 Weatherproof and IK10 Vandal Resistant
34	Surge Protection	Built-in Surge Protection (minimum 6 kV) suitable for outdoor installations
35	Mounting	OEM-approved Wall Mount / Pole Mount complete with mounting accessories, junction box and clamps wherever required
36	Security Features	HTTPS, SSL/TLS, Secure Boot, Digitally Signed Firmware, Password Policy, User Authentication, Role-based Access Control, IEEE 802.1X, IP Address Filtering, Audit Logs and Secure Firmware Upgrade
37	Video Analytics	Motion Detection, Camera Tampering, Intrusion Detection, Line Crossing Detection, Face Detection, Object Left/Removed, Audio Exception and equivalent AI analytics
38	Camera Functions	AGC, BLC, HLC, Defog, 3D-DNR, ROI, Corridor Mode, Mirror, Anti-flicker
39	Certifications	BIS Registered (where applicable) & STQC Certified , CE, FCC, RoHS, IEC 62368-1, IEC 62676 Series
40	OEM Certifications	OEM shall possess valid ISO 9001:2015 , ISO 14001:2015 , and ISO 45001:2018 certifications
41	Firmware Support	OEM shall provide firmware updates, security patches, bug fixes and software upgrades free of cost during the Warranty and CAMC period. OEM undertaking shall be submitted.
42	Accessories	Weatherproof Junction Box, Mounting Bracket, Pole Clamp (where required), Glands, Connectors, Fasteners, and all accessories required for complete installation shall be supplied.
43	Warranty	Minimum 03 Years Comprehensive On-site Warranty from the date of successful commissioning.

3. IP Camera: 8MP Fixed IR Bullet Indoor / Outdoor

Sl. No.	Parameter	Minimum Technical Specification
1	Camera Type	Fixed IR Network Camera (Indoor/Outdoor as specified in BOQ)
2	Image Sensor	Minimum 1/2.8" Progressive Scan CMOS or better
3	Scanning Mode	Progressive Scan
4	Effective Resolution	Minimum 8 Megapixel (3840 × 2160)
5	Lens Type	Fixed IR Corrected Wide Angle Lens
6	Focal Length	2.8 mm or better

7	Aperture	F1.6 or better
8	Maximum Resolution	3840 × 2160 (4K UHD)
9	Day/Night	True Day/Night with Automatic IR Cut Filter (ICR)
10	IR Illumination	Integrated Smart IR with minimum 30 metres effective distance
11	Minimum Illumination	Colour: ≤0.01 Lux @ F1.6 (30 IRE) ; B/W: 0 Lux with IR ON
12	Wide Dynamic Range	True WDR 120 dB minimum
13	Electronic Shutter	Auto/Manual, 1/3 sec to 1/100,000 sec or better
14	Image Settings	Configurable Exposure, White Balance, AGC, BLC, HLC, 3D-DNR, Sharpness, Defog, ROI, Privacy Masking
15	Intelligent Video Analytics	Motion Detection, Camera Tampering, Line Crossing, Intrusion Detection, Face Detection, Object Left/Removed, Audio Exception, Trip Zone or equivalent AI analytics
16	Privacy Masking	Minimum 8 configurable zones
17	Video Compression	H.265, H.265+, H.264, H.264+, MJPEG
18	Bit Rate Control	CBR / VBR
19	Local Storage	Micro SD/SDHC/SDXC Slot supporting minimum 256 GB . Camera shall be supplied with 128 GB Industrial Grade Class-10/UHS-I SD Card .
20	ONVIF Compliance	ONVIF Profiles S, G & T (latest applicable versions)
21	Video Streams	Minimum Triple Stream (Quad Stream preferred) with independent configuration of frame rate, bitrate and resolution
22	Supported Resolutions	3840×2160, 2560×1440, 1920×1080, 1280×720, 640×480 and lower resolutions
23	Frame Rate	Minimum 25 fps at full 8 MP resolution
24	Network Interface	RJ-45, 10/100/1000 Mbps Ethernet
25	Network Protocols	IPv4/IPv6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, FTP, SMTP, SNMP v1/v2c/v3, DHCP, DNS, DDNS, NTP, ICMP, IGMP, IEEE 802.1X, QoS
26	Audio Compression	G.711, G.726, AAC or equivalent
27	Audio	Built-in Microphone or Audio Input/Output with Two-Way Audio support

28	Security	HTTPS, SSL/TLS, Secure Boot, Digitally Signed Firmware, Password Policy, IEEE 802.1X, Role-Based Access Control, IP Address Filtering, User Authentication, Audit Logs, Secure Firmware Upgrade
29	Text Overlay	Date & Time, Camera Name, Location and User-configurable Text
30	Firmware Upgrade	Firmware upgrades, cybersecurity patches, bug fixes and feature updates shall be available through web interface and provided free of cost during Warranty and CAMC.
31	Trigger Events	Motion Detection, Alarm Input, Audio Detection, Camera Tampering, Intrusion Detection, Line Crossing, Trip Zone
32	Event Notification	Remote VMS, Email with Snapshot, FTP, HTTP Notification
33	Alarm I/O	Minimum 1 Alarm Input and 1 Alarm Output (if supported by OEM model)
34	Audio I/O	Minimum 1 Audio Input and 1 Audio Output (if supported by OEM model)
35	Housing	Metal/Aluminium Alloy Housing suitable for Indoor/Outdoor installation
36	Protection	Minimum IP67 Weatherproof and IK10 Vandal Resistant
37	Operating Temperature	-30°C to +60°C or better
38	Operating Humidity	10% to 95% RH (Non-condensing)
39	Power Supply	IEEE 802.3af/at PoE with optional 12 VDC input
40	Power Consumption	Maximum 15 W
41	Mounting	Wall/Ceiling/Pole Mount using OEM-approved accessories
42	Certifications	BIS Registered (where applicable) & STQC Certified , CE, FCC, RoHS, IEC 62368-1, IEC 62676 Series
43	OEM Certifications	OEM shall possess valid ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certifications
44	API/SDK	Open API/SDK shall be provided without additional license cost for integration with third-party applications
45	Warranty	Minimum 03 Years Comprehensive On-site Warranty from the date of successful commissioning

4. 5MP IP Camera:(30x or better PTZ Speed Camera)

Sl. No.	Parameter	Minimum Technical Specification
1	Item	Outdoor PTZ Network Camera

2	Description	Outdoor Day/Night IP PTZ Speed Dome Camera with Intelligent Video Analytics
3	OEM Make & Model	Bidder shall specify OEM Make & Model. Complete OEM datasheet, catalogue and compliance statement shall be submitted with the Technical Bid.
4	Installation	Pole/Wall/Pendant Mount as per approved drawings and site requirements.
5	Camera Type	Outdoor True Day/Night PTZ Dome Camera with Pan, Tilt, Optical Zoom, Auto Tracking and Intelligent Video Analytics
6	Power Supply	IEEE 802.3bt High PoE (preferred) or IEEE 802.3at High PoE with 24 VAC/48 VDC dual power option, as per OEM design
7	Application	Continuous surveillance of campus/perimeter with automatic PTZ presets, tours, guard patrol, event-triggered tracking and day/night monitoring
8	Presets	Minimum 300 Presets , Minimum 8 Patrol/Tour Modes , Pattern Scan, Guard Tour and Auto Home Position
9	Surveillance Distance	Suitable for monitoring objects up to 300 metres under normal lighting conditions
10	Pan Range	360° Endless Rotation
11	Tilt Range	Minimum -20° to +90° with Auto Flip
12	PTZ Speed	Variable speed with automatic adjustment based on zoom ratio
13	Optical Zoom	30X Optical Zoom or better
14	Digital Zoom	Minimum 16X Digital Zoom
15	Auto Tracking	AI-based Auto Tracking of people and vehicles with automatic re-acquisition after temporary obstruction
16	Image Sensor	Minimum 1/1.8" Progressive Scan CMOS or better
17	Effective Resolution	Minimum 8 Megapixel (3840 × 2160)
18	Lens	Integrated Motorized Zoom Lens suitable for 30X Optical Zoom
19	Focal Length	Approximately 4.5 mm to 135 mm or better (OEM equivalent acceptable)
20	Aperture	F1.6 or better
21	Day/Night	True Day/Night with Automatic IR Cut Filter (ICR)
22	IR Illumination	Integrated Smart IR with minimum 200 metres effective distance
23	Minimum Illumination	Colour: ≤0.005 Lux ; B/W: 0 Lux with IR ON
24	Wide Dynamic Range	True WDR 120 dB minimum
25	Digital Noise Reduction	Minimum 3D DNR

26	Electronic Shutter	Auto/Manual, 1 sec to 1/100,000 sec or better
27	Signal-to-Noise Ratio	Minimum 52 dB
28	Video Compression	H.265, H.265+, H.264, H.264+, MJPEG
29	Video Streams	Minimum Triple Stream with independent configuration
30	Supported Resolution	3840×2160, 2560×1440, 1920×1080, 1280×720, 640×480 and lower resolutions
31	Frame Rate	Minimum 25 fps at 4K resolution
32	Bit Rate Control	CBR / VBR
33	Network Interface	RJ-45, 10/100/1000 Mbps Ethernet
34	Network Protocols	IPv4/IPv6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP v1/v2c/v3, ICMP, IEEE 802.1X, QoS
35	ONVIF Compliance	ONVIF Profiles S, G & T (latest applicable versions)
36	API/SDK	Open API/SDK for third-party integration without additional license cost
37	Local Storage	Micro SD/SDHC/SDXC Slot supporting minimum 256 GB . Camera shall be supplied with 128 GB Industrial Grade Class-10/UHS-I SD Card
38	Audio	Built-in Microphone or Audio Input/Output with support for G.711, G.726, AAC or equivalent
39	Alarm I/O	Minimum 2 Alarm Inputs and 1 Alarm Output
40	Event Notification	Motion Detection, Intrusion Detection, Line Crossing, Camera Tampering, Audio Detection, Alarm Input, Email, FTP, HTTP Notification and VMS Alerts
41	Video Analytics	AI-based analytics including Motion Detection, Human/Vehicle Classification, Auto Tracking, Intrusion Detection, Line Crossing, Face Detection, Loitering Detection, Object Left/Removed, Region Entrance/Exit and Camera Tampering
42	Security	HTTPS, SSL/TLS, Secure Boot, Digitally Signed Firmware, IEEE 802.1X, Password Policy, Role-Based Access Control, User Authentication, Audit Logs, IP Filtering and Secure Firmware Upgrade
43	User Access	Administrator, Operator and Viewer with configurable privilege levels
44	Text Overlay	Date & Time, Camera Name, Location and User-defined Text
45	Operating Temperature	-40°C to +65°C or better
46	Operating Humidity	10% to 95% RH (Non-condensing)

47	Environmental Protection	Minimum IP67 Weatherproof
48	Vandal Resistance	Minimum IK10
49	Surge Protection	Built-in surge protection (minimum 6 kV) for power and network interfaces
50	Housing	Outdoor corrosion-resistant aluminium alloy housing with integrated heater and blower/fan (where required by OEM design)
51	Mounting	Heavy-duty OEM-approved Pendant/Wall/Pole Mount complete with junction box, pole clamps, brackets and installation accessories
52	Firmware Support	Firmware upgrades, cybersecurity patches, bug fixes and feature updates shall be provided free of cost during Warranty and CAMC. OEM undertaking shall be submitted.
53	Certifications	BIS Registered (where applicable) & STQC Certified , CE, FCC, RoHS, IEC 62368-1, IEC 62676 Series
54	OEM Certifications	OEM shall possess valid ISO 9001:2015 , ISO 14001:2015 , and ISO 45001:2018 certifications
55	Service Support	OEM/Authorized Service Centre shall provide onsite support in India with availability of spare parts for a minimum period of seven (07) years from the date of supply.
56	Warranty	Minimum 03 Years Comprehensive On-site Warranty from the date of successful commissioning.

5. SERVERS

Sl. No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER	
			Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Server Type	Enterprise Rack Mount Server (Maximum 2U Form Factor)		
2	Processor	Latest Generation 2 Nos. Enterprise Server Grade Processors (Intel Xeon Scalable 5th/6th Generation or AMD EPYC equivalent), each having minimum 20 Physical Cores / 40 Threads , Base Frequency 3.0 GHz or higher .		

3	Chipset	OEM proprietary enterprise chipset compatible with the offered processor.		
4	Memory	Minimum 64 GB DDR5 ECC Registered RAM , expandable up to 1 TB or higher without replacing existing memory modules.		
5	Memory Expansion	Minimum 16 DIMM Slots or higher.		
6	Expansion Slots	Minimum 5 PCIe Gen4/Gen5 Expansion Slots or better.		
7	I/O Ports	Minimum 4 USB 3.0/3.2 Ports , VGA/Display Port (where applicable), Serial Port (optional), dedicated Remote Management Port.		
8	Drive Bays	Minimum 8 Hot-swappable 2.5-inch SAS/SATA/NVMe Drive Bays .		
9	Display Controller	Integrated Graphics Controller supporting remote console with minimum 16 MB Video Memory or OEM standard.		
10	Operating System Support	Certified for Microsoft Windows Server 2022/2025 and Enterprise Linux (RHEL/Ubuntu/SUSE) as per OEM support matrix.		
11	System Disk	2 × 960 GB Enterprise SSD (Hot Swappable) configured in RAID-1 for Operating System.		
12	Application Storage	4 × 1.2 TB 10K RPM SAS HDD or Enterprise SSD equivalent configured in RAID-10 for VMS Application and Database.		
13	RAID Controller	12 Gbps Hardware RAID Controller with minimum 8 GB Cache , supporting RAID 0, 1, 5, 6, 10, 50 & 60 , Online RAID Expansion, Hot Spare and Cache Protection.		
14	Storage Connectivity	FC / iSCSI / NVMe-over-TCP support as per the proposed solution architecture.		

15	Ethernet Interface	Minimum 2 × 10GbE RJ45 Ports and 2 × 10GbE SFP+ Ports (or higher as required by the solution).		
16	Remote Management	Dedicated Out-of-Band Remote Management Port with HTML5 Remote Console, Virtual Media, Remote Power Control, Hardware Health Monitoring, SNMP and Email Alerts (OEM Management Software).		
17	Power Supply	Dual Hot-Pluggable Redundant Power Supplies (80 PLUS Platinum/Titanium Certified) with N+1 redundancy.		
18	Cooling	Redundant Hot-swappable Cooling Fans.		
19	Security Features	TPM 2.0, Secure Boot, Silicon Root of Trust (OEM implementation), Digitally Signed Firmware, System Lockdown and Intrusion Detection.		
20	Virtualization Support	Intel VT-x/VT-d or AMD-V, SR-IOV and Nested Virtualization support.		
21	Management Standards	IPMI 2.0, SNMP v1/v2c/v3, Redfish API and RESTful Management Interface.		
22	Diagnostics	Integrated Hardware Diagnostics, Predictive Failure Analysis and Automatic Hardware Health Monitoring.		
23	Firmware Support	Firmware, BIOS, Driver Updates and Security Patches shall be provided free of cost by the OEM during Warranty and CAMC period.		
24	Certifications	CE, FCC, RoHS, BIS (where applicable). OEM manufacturing facility shall have valid ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.		

25	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty (24×7×365) with Next Business Day (NBD) response or better.		
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6. NAS

Sl. No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Storage Type	Enterprise Unified NAS Storage System with Dual Active-Active Redundant Storage Controllers.		
2	Storage Architecture	Unified Storage supporting File and Block protocols with non-disruptive controller failover. Controller failure shall not interrupt recording or playback services.		
3	Storage Operating System	Purpose-built Storage Operating System (Storage OS) optimized for enterprise storage applications. General-purpose operating systems shall not be used.		
4	Controller Processor	Enterprise-class Multi-core 64-bit processors in each controller.		
5	Controller Cache	Minimum 64 GB mirrored cache (combined across dual controllers), expandable. Cache shall be battery-backed or protected by flash memory.		
6	Scalability	Storage array shall be expandable to support a minimum of 96 drives without replacement of controllers.		
7	Supported Drive Types	Enterprise SAS HDD, Nearline SAS (NL-SAS), Enterprise SSD and NVMe SSD (where supported by OEM).		
8	Drive Interface	Minimum 12 Gbps SAS backend architecture.		
9	Disk Type	All supplied disks shall be Enterprise/Data Centre Grade with dual-port SAS		

		connectivity.		
10	Storage Capacity	Storage shall provide minimum 1.5 PB usable capacity after RAID, formatting, metadata and system overheads. Capacity shall be sufficient for 90 days continuous recording at the specified camera resolutions, frame rates and compression. Bidder shall submit detailed storage calculations.		
11	RAID Support	Hardware RAID supporting RAID 0, 1, 5, 6, 10, 50 and 60 . The offered solution shall be configured in RAID-6 with Global Hot Spare.		
12	Host Connectivity	Minimum 4 × 32 Gbps Fibre Channel ports per controller or equivalent high-speed connectivity as per the proposed solution architecture.		
13	Ethernet Connectivity	Minimum 4 × 25 GbE or equivalent Ethernet ports supporting iSCSI and NAS traffic.		
14	Supported Protocols	Native support for SMB 3.x, NFS v3/v4, iSCSI , and IPv4/IPv6.		
15	Storage Management	Browser-based centralized management with role-based administration, health monitoring, reporting and performance analytics.		
16	Monitoring	Support SNMP v3, Syslog, Email Alerts and REST API for monitoring and integration.		
17	Thin Provisioning	Supported.		
18	Snapshot Technology	Space-efficient snapshots with scheduled and manual snapshot capability.		
19	Replication	Support local and remote replication for disaster recovery (license as applicable).		
20	Data Protection	Support Data Integrity Verification, Automatic Bad Block Detection, Self-		

		Healing, Online RAID Expansion and Hot Spare Rebuild.		
21	Availability	No Single Point of Failure (NSPOF). Redundant controllers, redundant cache, redundant fans and redundant hot-pluggable power supplies.		
22	Storage Expansion	Online expansion without interruption to recording services.		
23	Virtualization Support	Certified for VMware vSphere, Microsoft Hyper-V and Linux KVM virtualization platforms.		
24	Operating System Compatibility	Microsoft Windows Server 2019/2022/2025, Red Hat Enterprise Linux, Ubuntu Server, SUSE Linux Enterprise Server and other OEM-supported operating systems.		
25	Security	HTTPS, TLS 1.2 or higher, Role-Based Access Control (RBAC), LDAP/Active Directory integration, Audit Logs, Secure Firmware Update and Encryption support.		
26	Certifications	CE, FCC, RoHS, BIS (where applicable). Storage platform shall comply with applicable IEC safety standards.		
27	OEM Certifications	OEM shall possess valid ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.		
28	Firmware Support	Firmware updates, bug fixes and security patches shall be provided free of cost during Warranty and CAMC.		
29	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty.		

7. SAN SWITCH

Sl. No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
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1	Quantity	Minimum 02 Numbers (Redundant Fabric)		
2	Type	Enterprise Fibre Channel SAN Switch		
3	Port Speed	32 Gbps Fibre Channel , backward compatible with 16 Gbps.		
4	Active Ports	Minimum 16 Active FC Ports per switch, expandable.		
5	Power Supply	Dual Redundant Hot-Pluggable Power Supplies		
6	Cooling	Redundant Hot-Swappable Fans		
7	Fabric Features	ISL, Zoning, NPIV, Fabric Security, QoS, Port Trunking		
8	Management	Web GUI, CLI, SNMP v3, REST API		
9	Accessories	Required SFPs and 5 m OM4 LC-LC Fibre Patch Cords for complete connectivity shall be supplied.		
10	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty .		

8. ANALYTICS SERVER(OPTIONAL)

Sl. No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Server Type	Enterprise Tower Workstation / Rack Mount GPU Server certified by the OEM for AI, Deep Learning and Video Analytics applications.		
2	Processor	Latest Generation Intel Core i9 (14th Generation or higher) or Intel Xeon W-Series or AMD Ryzen 9 / Threadripper Pro equivalent, with minimum 24 cores (including performance and efficiency cores where applicable) and 32 threads or better.		

3	Chipset	OEM enterprise workstation chipset compatible with the offered processor.		
4	Memory	Minimum 128 GB DDR5 ECC or Non-ECC RAM (4 × 32 GB), expandable to 256 GB or higher .		
5	Graphics Processing Unit (GPU)	Dedicated NVIDIA RTX 4060 Ti 16 GB GDDR6 or higher, OR NVIDIA RTX Professional Series (RTX A-Series) equivalent with minimum 16 GB GPU Memory and CUDA/Tensor Core support for AI inference.		
6	Graphics API Support	CUDA, OpenCL, DirectX 12, Vulkan and OpenGL support.		
7	System Drive	Minimum 1 TB PCIe Gen4 NVMe SSD for Operating System and AI applications.		
8	Data Drive	Minimum 2 TB Enterprise SSD or higher for temporary analytics database and cache.		
9	Expansion Slots	Minimum 2 PCIe Gen4/Gen5 x16 slots for future GPU expansion.		
10	Network Interface	Minimum 2 × 10 GbE Ethernet Ports or better.		
11	USB Ports	Minimum 6 USB 3.2 Ports , including USB Type-C.		
12	Display Output	HDMI/DisplayPort as provided by the GPU.		
13	Power Supply	Minimum 850 W 80 PLUS Platinum or higher, ATX 3.1 compliant (or OEM equivalent).		
14	Cooling	OEM high-performance cooling suitable for continuous 24×7 operation.		
15	Operating System Support	Microsoft Windows 11 Professional/Windows Server 2022 and Enterprise Linux distributions supported by the OEM.		

16	AI Framework Support	Compatible with CUDA, cuDNN, TensorRT, OpenVINO (where applicable), and major AI frameworks such as TensorFlow and PyTorch.		
17	Security	TPM 2.0, Secure Boot, BIOS Password, Chassis Intrusion Detection and Signed Firmware.		
18	Remote Management	OEM management utilities for hardware health monitoring, BIOS updates and diagnostics.		
19	Certifications	CE, FCC, RoHS, BIS (where applicable). OEM shall possess ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.		
20	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty with next business day response or better.		

9. 24 PORT FULL POE SWITCH

Sl.No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Switch Type	Enterprise Grade Layer-2+/Layer-3 Managed Gigabit Ethernet PoE Switch		
2	Copper Ports	Minimum 24 × 10/100/1000 Mbps RJ-45 Full PoE+ Ports		
3	Uplink Ports	Minimum 4 × 10 Gigabit SFP+ Uplink Ports		
4	PoE Standard	IEEE 802.3af, IEEE 802.3at (PoE+), IEEE 802.3ab, IEEE 802.3x compliant		
5	PoE Output**	30 Watts minimum per PoE port (IEEE 802.3at compliant)		
6	Total PoE Budget	Minimum 720 Watts , capable of simultaneously delivering full PoE+ power		

		on all 24 ports		
7	Switching Capacity	Minimum 128 Gbps or higher		
8	Packet Forwarding Rate	Minimum 95 Mpps or higher		
9	MAC Address Table	Minimum 16K MAC Addresses		
10	Jumbo Frame Support	Minimum 9 KB Jumbo Frames		
11	VLAN Support	IEEE 802.1Q VLAN, Private VLAN, Voice VLAN, Guest VLAN		
12	Layer-2 Features	STP, RSTP, MSTP, LACP (802.3ad), Port Mirroring, LLDP, IGMP Snooping		
13	Layer-3 Features	Static Routing, IPv4 & IPv6 Routing, DHCP Relay		
14	QoS	IEEE 802.1p, DSCP, Minimum 8 Hardware Queues per Port		
15	Security	IEEE 802.1X, RADIUS, TACACS+, ACL, DHCP Snooping, Dynamic ARP Inspection, IP Source Guard, Storm Control, Port Security		
16	Management	Web GUI, CLI, SSH, SNMP v1/v2c/v3, Syslog, NTP, REST API (preferred)		
17	IPv6 Support	Native IPv4 & IPv6 Support		
18	Power Supply	Internal AC Power Supply (100–240 VAC, 50/60 Hz) with support for the specified PoE budget		
19	Redundancy	Support for redundant power supply (internal or external, if supported by OEM)		
20	Surge Protection	Built-in Ethernet Surge Protection conforming to IEC standards		
21	Operating Temperature	0°C to +50°C or better		
22	Mounting	Standard 19-inch Rack Mountable (1U) with mounting accessories		
23	LEDs	Power, System, Link/Activity, Speed and PoE Status Indicators		
24	Certifications	CE, FCC, RoHS, BIS (where applicable)		

25	OEM Certifications	OEM shall have valid ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certifications		
26	Warranty	Minimum 05 Years Comprehensive OEM Warranty with firmware updates and technical support		

10. SWITCH (2 OPTIONS)

Sl. No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Switch Type	Enterprise Grade Layer-2+/Layer-3 Managed Gigabit Ethernet PoE Switch		
2	Copper Ports	Minimum 16 × 10/100/1000 Mbps RJ-45 PoE+ Ports		
3	Uplink Ports	Minimum 4 × 1G/10G SFP/SFP+ Uplink Ports		
4	PoE Standard	IEEE 802.3af and IEEE 802.3at (PoE+) compliant		
5	PoE Output per Port	Minimum 30 Watts per PoE Port		
6	Total PoE Budget	Minimum 370 Watts or Higher		
7	Switching Capacity	Minimum 80 Gbps or higher		
8	Packet Forwarding Rate	Minimum 60 Mpps or higher		
9	MAC Address Table	Minimum 16K MAC Addresses		
10	Jumbo Frame	Minimum 9 KB		
11	Layer-2 Features	IEEE 802.1Q VLAN, STP/RSTP/MSTP, LACP, LLDP, IGMP Snooping, Port Mirroring		
12	Layer-3 Features	Static Routing, IPv4 & IPv6 Routing, DHCP Relay		
13	QoS	IEEE 802.1p, DSCP, Minimum 8 Hardware Queues per Port		

14	Security	IEEE 802.1X, ACL, DHCP Snooping, IP Source Guard, Dynamic ARP Inspection, Port Security, Storm Control		
15	Management	Web GUI, CLI, SSH, SNMP v1/v2c/v3, Syslog, NTP, REST API (preferred)		
16	IPv6	Native IPv4 & IPv6 Support		
17	Power Supply	Internal AC Power Supply (100–240 VAC, 50/60 Hz)		
18	Mounting	Standard 19-inch Rack Mountable (1U)		
19	Accessories	Rack Mount Kit, Power Cord, Console Cable, Required SFP/SFP+ Modules (if applicable)		
20	Certifications	CE, FCC, RoHS, BIS (where applicable)		
21	OEM Certifications	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018		
22	Warranty	Minimum 05 Years Comprehensive OEM Warranty with firmware/software updates		

Sl. No.	Parameter	Minimum Technical Specification	Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Switch Type	Enterprise Grade Layer-2+/Layer-3 Managed Gigabit Ethernet PoE Switch		
2	Copper Ports	Minimum 24 × 10/100/1000 Mbps RJ-45 PoE+ Ports		
3	Uplink Ports	Minimum 4 × 1G/10G SFP/SFP+ Uplink Ports		
4	PoE Standard	IEEE 802.3af and IEEE 802.3at (PoE+) compliant		
5	PoE Output per Port	Minimum 30 Watts per PoE Port		
6	Total PoE Budget	Minimum 370 Watts or Higher		

7	Switching Capacity	Minimum 128 Gbps or higher		
8	Packet Forwarding Rate	Minimum 95 Mpps or higher		
9	MAC Address Table	Minimum 16K MAC Addresses		
10	Jumbo Frame	Minimum 9 KB		
11	Layer-2 Features	IEEE 802.1Q VLAN, STP/RSTP/MSTP, LACP, LLDP, IGMP Snooping, Port Mirroring		
12	Layer-3 Features	Static Routing, IPv4 & IPv6 Routing, DHCP Relay		
13	QoS	IEEE 802.1p, DSCP, Minimum 8 Hardware Queues per Port		
14	Security	IEEE 802.1X, ACL, DHCP Snooping, IP Source Guard, Dynamic ARP Inspection, Port Security, Storm Control		
15	Management	Web GUI, CLI, SSH, SNMP v1/v2c/v3, Syslog, NTP, REST API (preferred)		
16	IPv6	Native IPv4 & IPv6 Support		
17	Power Supply	Internal AC Power Supply (100–240 VAC, 50/60 Hz)		
18	Mounting	Standard 19-inch Rack Mountable (1U)		
19	Accessories	Rack Mount Kit, Power Cord, Console Cable, Required SFP/SFP+ Modules (if applicable)		
20	Certifications	CE, FCC, RoHS, BIS (where applicable)		
21	OEM Certifications	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018		
22	Warranty	Minimum 05 Years Comprehensive OEM Warranty with firmware/software updates		

11. 10KVA UPS

Sl. No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER	
			Bidder's	Compliance

			Compliance (Yes/No)	(With Complete Technical Details)
1	UPS Type	True Online Double Conversion UPS (VFI-SS-111 as per IEC 62040-3)		
2	Output Power Capacity	Minimum 10 kVA / 10 kW (Unity Power Factor)		
3	Input Configuration	3-Phase (3P+N+PE), 415 VAC $\pm 20\%$, 50 Hz		
4	Output Configuration	Single Phase 230 VAC or Three Phase 415 VAC, as specified in BOQ		
5	Input Frequency	40–70 Hz (Auto Sensing)		
6	Output Voltage	230 VAC $\pm 1\%$ (Single Phase) / 415 VAC $\pm 1\%$ (Three Phase)		
7	Output Frequency	50 Hz ± 0.1 Hz in Battery Mode; synchronized with mains in Online Mode		
8	Output Waveform	Pure Sine Wave		
9	Output Voltage Regulation	$\pm 1\%$		
10	Output Voltage Distortion	$\leq 2\%$ (Linear Load), $\leq 5\%$ (Non-linear Load)		
11	Crest Factor	Minimum 3:1		
12	Efficiency	$\geq 95\%$ in Online Mode and $\geq 98\%$ in ECO Mode (if supported)		
13	Overload Capacity	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute (minimum)		
14	Battery Type	Maintenance-Free Sealed VRLA (SMF) Batteries or Lithium-Ion Batteries (OEM Standard)		
15	Battery Bank	External Battery Bank sized to provide the required backup time specified in the BOQ		
16	Backup Time	Minimum 60 Minutes at Full Load or as specified in the BOQ		

17	Battery Charging	Intelligent Automatic Battery Charger with temperature compensation and battery health monitoring		
18	Recharge Time	Maximum 8 hours to recover 90% battery capacity after full discharge		
19	Transfer Time	Zero (0 ms)		
20	Display	LCD/Touch Display showing Input, Output, Load, Battery Status, Events, Alarms, Runtime and Fault Conditions		
21	Communication Interface	USB, RS-232, Dry Contacts and SNMP Slot (SNMP Card to be supplied if required)		
22	Monitoring	Remote Monitoring through SNMP/Web Interface and Event Logging		
23	Audible Alarm	Battery Mode, Low Battery, Overload, UPS Fault, Bypass and Replace Battery		
24	Bypass	Automatic Static Bypass and Manual Maintenance Bypass		
25	Protection Features	Overload, Short Circuit, Surge Protection, Battery Deep Discharge Protection, Over Temperature Protection, Input Under/Over Voltage Protection		
26	Surge Protection	Built-in Surge Protection conforming to IEC standards		
27	Parallel Operation	Support for N+1 Parallel Redundancy (Preferred)		
28	Operating Temperature	0°C to +40°C		
29	Operating Humidity	0–95% Non-Condensing		
30	Noise Level	Less than 60 dBA at 1 metre		
31	Standards	IEC 62040-1, IEC 62040-2 and IEC 62040-3 or equivalent		

32	Certifications	BIS (where applicable), CE, RoHS		
33	OEM Certifications	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018		
34	Accessories	External Battery Bank, Battery Rack/Cabinet, Input/Output Cables, Battery Cables, Communication Cables, Earthing Kit and all accessories required for complete installation		
35	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty for UPS and 03 Years Warranty on Batteries (or as per OEM standard, whichever is higher)		

12. WORKSTATION (VM)

SI. No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER	
			Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Workstation Type	Enterprise Grade Tower Workstation certified for 24x7 operation		
2	Processor	Latest Generation Intel Core i9 (14th Generation or higher) / Intel Xeon W-Series / AMD Ryzen 9 or equivalent , minimum 20 Cores / 28 Threads or better		
3	Chipset	OEM Workstation Chipset compatible with the offered processor		
4	Memory	Minimum 64 GB DDR5 RAM , expandable to 128 GB or higher		

5	Graphics Card	Dedicated NVIDIA RTX 4060 Ti with 16 GB GDDR6 or higher / NVIDIA RTX Professional Series equivalent		
6	Graphics Support	Hardware accelerated 4K decoding (H.264/H.265), DirectX 12, OpenGL, CUDA support		
7	System Storage	Minimum 2 TB PCIe Gen4 NVMe SSD		
8	Expansion Slots	Minimum 2 × PCIe Gen4/Gen5 x16 and additional PCIe expansion slots for future upgrades		
9	Network Interface	Minimum 1 × 10/100/1000/2.5G Ethernet Port (10 GbE preferred)		
10	USB Ports	Minimum 6 USB 3.2 Ports , including at least one USB Type-C		
11	Display Outputs	Minimum 4 DisplayPort/HDMI outputs through dedicated GPU		
12	Multi-Monitor Support	Support for minimum 4 simultaneous 4K monitors without additional graphics hardware		
13	Operating System	Microsoft Windows 11 Professional 64-bit preloaded with recovery media or OEM recovery partition		
14	Audio	Integrated HD Audio with Line In, Line Out and Microphone Ports		
15	Keyboard & Mouse	OEM USB Keyboard and Optical Mouse		
16	Power Supply	Minimum 850 W 80 PLUS Gold or higher		
17	Cooling	OEM high-performance cooling suitable for continuous 24×7 operation		

18	Monitor**	Minimum 27-inch LED IPS Monitor , UHD 3840 × 2160 (4K) resolution, HDMI/DisplayPort, height-adjustable stand		
19	VMS Compatibility	Certified compatible with the offered Video Management Software (VMS)		
20	Security	TPM 2.0, Secure Boot, BIOS Password Protection, Chassis Intrusion Detection		
21	Remote Management	OEM diagnostics and firmware management utilities		
22	Certifications	CE, FCC, RoHS, BIS (where applicable)		
23	OEM Certifications	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018		
24	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty		

13. LED Monitor – 27”

SI No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER	
			Bidder's compliance YES/NO	Compliance (With Complete Technical Details)
1	LED Panel Display Type	TFT Colour Extended Graphics Array		
2	LED Panel Viewable Area	27” (685 mm) Diagonal		
3	Resolution	3840x2160		
4	Internal Speakers	2 x 10 w		
5	Front Controls	Power On/Off with LED		
6	Scan System	Automatic NTSC/PAL; 31.5 ~ 80 KHz (Horizontal) ; 56 ~ 75 Hz (Vertical)		
7	Video Connectors	BNC (Composite Video) – 2 channels (looping); 4-Pin Mini DIN (Y/C Video) DVI-I, 15-pin D-Sub for VGA/SXGA Audio Inputs		

		PC Audio (mini jack) Video Audio (2 channels RCA - looping)		
8	Power Input	AC Input – 100 to 240V ~ 0.5A, 50/60Hz		
9	Power Output	DC Output – 12VDC, 0.5A		
10	Power Cord	Detachable IEC		
11	Display Mode	DVI-I/SXGA/XGA/VGA		
12	Display Colors	16.7 Million		
13	Luminance	400 cd/m ²		
14	Contrast Ratio	DC 20,000:1 (1,000:1) (Typ.)		
15	Viewing Angle	140° horizontal, 160° vertical		
16	Operating Temperature	41° to 104° F (5° to 40° C)		
17	Storage Temperature	-77° to 140° F (-25° to 60° C)		
18	Operating Humidity	30% to 80% relative, non-condensing		
19	Emissions	FCC: Part 15, Class B		
20	Immunity	CE: EN55022: 1998/A1:2000/A2:2003		
21	Safety	UL/cUL: 6500, EN60950-1:2001		

14 . 65 INCH DISPLAY MONITOR

Sl. No.	DESCRIPTION	SPECIFICATION	BIDDER'S OFFER	
			Bidder's Compliance (Yes/No)	Compliance (With Complete Technical Details)
1	Display Type	Professional Commercial Grade LED Display suitable for 24×7 continuous operation		
2	Screen Size	65 Inches (Minimum)		
3	Display Technology	LED/LCD with IPS, VA or equivalent commercial panel		
4	Resolution	Ultra HD (3840 × 2160)		
5	Aspect Ratio	16:09		
6	Brightness	Minimum 500 nits		
7	Contrast Ratio	Minimum 1200:1 or better		
8	Viewing Angle	Minimum 178° Horizontal / 178° Vertical		
9	Response Time	Maximum 8 ms		
10	Refresh Rate	Minimum 60 Hz		
11	Colour Depth	Minimum 1.07 Billion Colours (10-bit Processing)		
12	Orientation	Landscape and Portrait		

		Support		
13	Operating Hours	24×7 Continuous Operation		
14	Anti-Glare	Anti-Glare Commercial Grade Panel		
15	HDR Support	HDR10 or better		
16	Video Inputs	Minimum 3 × HDMI, 1 × DisplayPort, USB		
17	Network	10/100/1000 Ethernet, Wi-Fi (if supported by OEM)		
18	Audio	Integrated Speakers (Minimum 2 × 10 W)		
19	Control Interface	RS-232, LAN, HDMI-CEC		
20	Mounting	VESA Mount Compatible		
21	Bezel	Slim Bezel Commercial Design		
22	Power Supply	100–240 VAC, 50/60 Hz		
23	Operating Temperature	0°C to +40°C		
24	Operating Humidity	20%–80% Non-Condensing		
25	Energy Saving	Energy Star/Eco Mode (if available)		
26	Certifications	BIS, CE, FCC, RoHS		
27	OEM Certifications	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018		
28	Accessories	Power Cable, HDMI Cable, DisplayPort Cable, Remote Control, Wall Mount Bracket/Floor Stand (as specified), User Manual		
29	Compatibility	Fully compatible with the proposed Video Management Software (VMS) for 4K display and multi-screen monitoring		
30	Warranty	Minimum 05 Years Comprehensive On-site OEM Warranty		

TECH SPEC OF LC-LC OPTIC PATCH CORD

1. Shall consist of one duplex 9 micron core and a 125 micron cladding
2. The optical cable should meet iso/iec 11801 category standards .
3. Cable must be certified by any one third part agency (ul,etl)
4. The cable should be factory terminated with lc ceramic connectors at both end
Insertion loss: <0.5db .
5. Service life: 1000 cycles
6. Ul marking: yes
7. Nominal length: 10 mtr

8. Colour: yellow
 9. Warranty: 3 yr or higher
 10. Tensile strength: 100 n
 11. Cable outer diameter: 3 mm
 12. Upc polished: 55 db minimum .
 13. Flame retardant fiber optic cable with tight-buffered coating on each optical fiber .
 14. Ferrule material: zirconia ceramic
 15. Material: Ishz
 16. Operating temperature: -10 deg celcius to +60 deg celcius
- N.b: item should not be of chinese origin and same certificate to be produced by seller during bid participation

Racks - Key specification details

1. Dimensions:

- a) **Height:** 32U is equal to approximately 56 inches (^{142.2} cm) of vertical space for equipment.
- b) **Width:** The standard mounting width is 19 inches (482.60 mm).
- c) **External Dimensions:** Common external sizes are or 800x 1200 mm (width x depth).

2. Construction:

- a) **Material:** Often made from CRCA steel, CNC programmed, bended, and welded, or aluminium extrusion frames.
- b) **Finish:** Powder-coated finish is common.

3. Features:

- a) **Mounting:** Includes adjustable 19-inch equipment mounting verticals and often has depth-adjustable mounting slots.
- b) **Doors:** Can include a lockable tempered glass front door and a vented steel rear door (sometimes split).
- c) **Cooling:** Features include top/bottom panel ventilation and provisions for mounting cooling fans.
- d) **Cable Entry:** Cut outs or openings for cable entry are typically provided at the top and bottom.
- e) **Mobility:** May be shipped flat-packed and include casters for easy movement.

4. Standards:

- a) Many racks conform to DIN 41494 or equivalent ISO standards.
- b) Some may also meet RoHS and CE certifications

5. Dual PDUS to connect the servers installed in the racks.

CABLES

1. **OFC CABLE:** Armoured, loose tube, Gel-filled, rodent resistant, direct burial type. Consisting of 6-core fibre of nominal diameter 8.8 micro meter to 9.8 micro meter and nominal cladding diameter 125 micro meter ± 1 ; Attenuation: 1310 nm 0.4 db/km & at 1550 nm - 0.30 db/km; Cut-off Wavelength -1260 nm; Op. Temp. -10 Deg C – 70 Deg C; Corrugated steel tape armour; Tensile Rating: 1200N; Max. Crush Res.: 3000N; ISO/IEC11801,TIA 568,ICEA640 compliant.
2. **LIU :** LIU should be provided for terminating the optic fiber cables. It shall provide minimum bending radius and the splice trays shall function as a splice cover for pigtail splicing. It shall be made of aluminium with powder coating in compliance with latest industry standard. Cable glands shall be provided for secured anchoring of incoming cables. Rubber grommets shall be provided at the cable entry point for tight sealing. The splice tray shall be made of ABS materials. 24 Port. It shall be fitted with LC couplers and all accessories for termination.
3. **CAT 6 CABLE:** Armoured CAT 6 Cable; 4 pair UTP Cable 23 AWG Solid Bare Copper polyethylene insulation & armoured. Applicable standard TIA/EIA 568.B; Insulation Resistance 100MOhm Capacitance <5.6 nf/100m

Physical and electrical specifications

- **Connector Type:** 8-position, 8-conductor (8P8C) modular connector.
- **Pins:** 8 pins,
- **Wiring Schemes:** TIA/EIA-568 standard, Colour coding : T568A and T568B.
- **Material:**
 - **Housing:** Polycarbonate (UL94V-2 rating is common).
 - **Contacts:** Copper alloy or phosphor bronze with gold plating (e.g., 30u" or 50u" micro-inch gold plating) for better conductivity and durability.
- **Wire Gauge:** Designed for 24-26 AWG stranded wires.
- **Maximum Cable Length:** 100 meters (328 feet)
- Performance and application specifications
- **Supported Speeds:**

Ethernet standard, 10 Mbps (10BASE-T), 100 Mbps (100BASE-TX), 1 Gbps (1000BASE-T), and up to 10 Gbps (10GBASE-T).

PVC Fiber Box

- **Material:** PVC (Polyvinyl Chloride)
- **Color:** Black or grey
- **Shape:** Rectangular
- **Application:** Fiber optic splicing, termination, and distribution
- **Ports:** Typically 2 to 4 ports for cable connections

Example product specifications

- **220 x 140 x 30 mm PVC Fiber Joint Enclosure Box:**

- **Dimensions:** 220 × 140 × 30 mm
- **Ports:** 2-4
- **Material:** First-grade plastic (PVC)
- **255 x 180 x 40 mm PVC Fiber Box (2-Port):**
 - **Dimensions:** 255 × 180 × 40 mm
 - a. **Ports:** 2-way

CHAMBERS

Chambers and Route Infrastructure Enclosure Rating: Field joint boxes, splice enclosures, and chamber terminations rated to at least preferably IP66. Chamber Construction: Pre-cast concrete, heavy-duty HDPE, or FRP manhole/pull chambers equipped with heavy-load top covers. Ducting: Conduits routed through secondary HDPE protection pipes underground to protect against rodent and crush damage. Termination: Light Interface Units (LIU), fibre patch cords, and industrial-grade media converters/SFP switches housed at endpoints.

CHAPTER-4

SCOPE OF WORK

The successful Bidder shall be responsible for the complete Design, Detailed Engineering, Supply, Transportation, Delivery, Storage, Installation, Testing, Commissioning, Configuration, Integration, Documentation, Training, and successful handing over of the complete IP-based CCTV Surveillance System for the Newly Constructed Paediatric Super Speciality Hospital, Tirupati, on a Turnkey Basis. The work shall be executed in accordance with the Technical Specifications, Bill of Quantities (BOQ), approved drawings and the directions of TTD.

The Scope of Work shall include, but shall not be limited to the following:

1.1 Site Survey and Detailed Engineering

The successful Bidder shall carry out a detailed site survey and verify the site conditions before commencement of the work. Based on the survey, the Bidder shall prepare Detailed Engineering Drawings (DED), Camera Layout Drawings, Pole Foundation Drawings, Network Architecture Diagrams, Cable Route Drawings, Rack Layout Drawings, IP Addressing Scheme, Power Distribution Drawings and all other drawings required for successful execution of the project. All drawings shall be submitted to TTD for approval prior to commencement of execution.

1.2.1 Supply of CCTV Surveillance System

The Bidder shall supply all equipment, hardware, software, accessories and allied materials required for the complete CCTV Surveillance System including, but not limited to, Indoor Bullet Cameras, Outdoor Bullet Cameras, Dome Cameras, PTZ Cameras, mounting accessories, brackets, junction boxes, housings, poles, Video Management System (VMS) Servers, Video Analytics Servers, NAS Storage Systems, Monitoring Workstations, Video Wall, UPS Systems, Core Switches, Layer-3 Switches, PoE Switches, SFP Modules, Racks, Network Management Software (NMS), VMS Software, Video Analytics Software, Licenses and all other components specified in the BOQ and Technical Specifications.

1.2.2 COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT

After Successful completion of Work in all respects and Handing over to TTD and after expiry of the initial 03 years of On-site Comprehensive warranty period, the successful bidder shall provide Comprehensive Annual Maintenance Contract (CAMC) for a period of 05 (Five) years.

CAMC shall cover the entire CCTV surveillance system including cameras, NVRs, servers, storage devices, switches, networking accessories, UPS interfaces, software, licenses, control room equipment, displays, racks, cabling, and all allied accessories supplied under this tender.

a) Scope of CAMC:

The CAMC shall include Preventive maintenance, Corrective maintenance, Repair/replacement of defective parts/ components, Software upgrades/ patches/ firmware

updates, Configuration, health check and optimization of entire system, Periodic testing and calibration wherever applicable.

All spare parts, consumables, accessories, software updates and replacement of failed equipment shall be provided **at no additional cost** to TTD.

As per the requirements of the TTD the Bidder should do the following at no additional Cost to TTD.

- a) Laying of the Cat6/ UTP / Fiber cable at no additional cost from the nearest location as per the requirements.
- b) Shifting of cameras from one location to Other Location.
- c) Preventive maintenance.
- d) Ensure Less Down time in case of failure of equipments.

b) Uptime Requirement:

The bidder shall maintain minimum System Uptime of 99% on quarterly basis. Camera uptime shall not be less than 98% individually.

$$\text{System Uptime (\%)} = \left[\frac{(\text{Total Scheduled Operating Hours} - \text{Total System Downtime})}{\text{Total Scheduled Operating Hours}} \right] \times 100$$

$$\text{Camera Uptime (\%)} = \left[\frac{(\text{Total Scheduled Operating Hours} - \text{Camera Downtime})}{\text{Total Scheduled Operating Hours}} \right] \times 100$$

$$\text{Total Scheduled Operating Hours} = [\text{No. of Days in the Quarter} \times 24 \text{ Hours}]$$

c) Downtime calculation:

Downtime shall be calculated from the time of complaint registration/intimation till full restoration of service.

$$\text{Downtime} = [\text{Restoration \& Acceptance by TTD Time} - \text{Complaint Registration Time}]$$

d) Response & Resolution Time:

The bidder shall deploy service support as under:

- **Complaint Response Time:** within 2 hours from complaint registration.
- **Engineer Reporting at Site:** within 6 hours.
- **Minor Fault Rectification:** within 24 hours.
- **Major Fault Rectification/Replacement:** within 48 hours.

For critical important equipment such as Cameras, NVR, storage server, network switch, video wall, command control equipment and backbone network failure etc., restoration shall be completed within 24 hours.

If any defective equipment is not restored within the stipulated resolution time and adversely affects the operation of the CCTV Surveillance System, the bidder shall immediately provide and install a temporary replacement of equivalent or higher specifications, at no additional cost to TTD, until the defective equipment is fully repaired or replaced and normal system operation is restored.

e) Standby Equipment:

The bidder shall maintain sufficient standby equipment / inventory with Genuine Spares of each at Tirupati for immediate replacement of critical items including Cameras, HDDs/Storage devices, Memory Cards, Network switches (PoE), PoE Injectors, SFP/SFP+ Modules, Cat6/UTP Patch Cords, Fiber Patch Cords, SMPS/ Power modules/ UPS, Junction Boxes, Controllers and accessories etc., as per the requirements/addon of the solution.

The quantity of standby equipment and spares shall be adequate to meet the service level requirements and to maintain the stipulated system uptime. Faulty equipment shall be replaced with equivalent new, genuine OEM equipment of the same or higher specifications equipment immediately at no additional cost to TTD. If required the bidder has to procure the necessary equipment to upkeep the CCTV fully functional.

f) Resident Support Engineers:

The bidder shall deploy qualified onsite technical support personnel during warranty and CAMC period at no additional payment /cost liable to TTD. Support shall be available on 24x7 basis, including holidays and festivals.

g) Maintenance Schedule:**i. Routine Preventive Maintenance:**

The bidder shall carry out **Routine Preventive Maintenance** twice every month for the CCTV Surveillance System, including health checks of recording status, camera connectivity, storage utilization, network uptime, and critical alarms, as well as verification of NVR/server functionality, HDD health, UPS interface connectivity, and all related software services, to ensure uninterrupted and efficient operation of the system.

ii. Comprehensive Preventive Maintenance:

The bidder shall carry out **Comprehensive Preventive Maintenance** once every three (03) months for the entire CCTV Surveillance System, including a thorough physical inspection of all system components, cleaning of cameras, housings, lenses and PTZ units, focus and alignment correction, inspection of poles, mounting brackets and junction boxes, examination of cables and connectors, health check of network switches, verification of recording and playback functionality, storage health diagnostics, firmware and software updates, database backup verification and all other preventive maintenance activities necessary to ensure the continuous, reliable and efficient operation of the CCTV Surveillance System.

Preventive Maintenance

The preventive maintenance activities shall include, but shall not be limited to, the following:

- i) Cleaning of camera lenses using only cleaning solutions, solvents, and materials approved by TTD and recommended by the OEM, ensuring that no damage is caused to the lens or camera housing.
- ii) Removal of cobwebs, dust, dirt, insects, and other foreign particles from camera housings, mounting brackets, junction boxes, and surrounding areas to ensure unobstructed visibility and proper operation.

- iii) Removal of any temporary obstructions, vegetation, banners, hoardings, or other objects that obstruct the camera's field of view, wherever feasible and permitted by TTD. Where physical removal is not possible, the contractor shall immediately report the obstruction to the designated TTD authority for necessary action. The camera shall be realigned and refocused, wherever required and authorized, to ensure optimum coverage without altering the approved surveillance plan.
- iv) Inspection and cleaning of camera housings, sunshields, protective domes, and weatherproof enclosures.
- v) Verification of camera mounting arrangements, tightening of mounting hardware, and correction of any misalignment or vibration.
- vi) Verification of image quality, focus, field of view, day/night functionality, infrared (IR) illumination, and PTZ operations (where applicable).
- vii) Inspection of power supplies, PoE connections, network cables, connectors, and junction boxes for signs of wear, corrosion, loose connections, or damage.
- viii) Verification of camera connectivity, recording status, time synchronization, and communication with the Video Management System (VMS).
- ix) Functional testing of all cameras to ensure uninterrupted recording, live streaming, and alarm/event generation, wherever applicable.
- x) Submission of a Preventive Maintenance Report after each maintenance cycle, detailing the activities carried out, observations made, deficiencies identified, and corrective actions taken.

iii. Special Preventive Maintenance (Need-based):

The bidder shall carry out Special Preventive Maintenance on a need basis whenever warranted by operational requirements, including after major electrical or network failures, civil renovation or relocation works, monsoon or heavy rain events affecting outdoor cameras and associated infrastructure, or whenever specifically required or directed by TTD, to ensure the continuous, reliable and efficient functioning of the CCTV Surveillance System functioning of the CCTV Surveillance System.

In addition to the above, the bidder shall carry out Comprehensive Preventive Maintenance whenever specifically required or **directed by TTD at no additional Cost**.

The Agency shall submit the Preventive Maintenance Report (PMR) for every scheduled preventive maintenance visit and the Root Cause Analysis (RCA) Report for every fault/incident attended to the Purchaser/User immediately after completion of each service visit.

h) Penalty Clause / SLA Penalty:

In the event of the bidder's failure to attend complaints, restore the CCTV Surveillance System within the stipulated timelines, maintain the prescribed Service Levels or comply with any contractual obligations during the Warranty/CAMC period, TTD shall levy the following penalties, without prejudice to any other rights and remedies available under the Contract.

- i. Delay in Response:** Failure to acknowledge a complaint within the stipulated response time shall attract a penalty of Rs.2,000/- per incident. Failure to deploy a

service engineer at the site within the stipulated time shall attract a penalty of Rs.5,000/- per incident.

- ii. Delay in Rectification:** Delay in rectification of minor faults beyond 24 hours shall attract a penalty of Rs.2,500/- per complaint per day. Delay in rectification or replacement of major faults beyond 48 hours shall attract a penalty of Rs.5,000/- per complaint per day.
- iii. Critical Equipment Failure:** Delay in restoring critical equipment, including Cameras, Storage Servers, Video Management Servers, Network Backbone Switches, Control Room Systems, Command & Monitoring Equipment or any other critical system component, beyond the stipulated restoration period shall attract a penalty of Rs.10,000/- per incident per day until full restoration.
- iv. Camera Downtime:** Failure to restore a non-functional CCTV camera within the permissible downtime shall attract a penalty of Rs.500/- per camera per day. For PTZ cameras and other critical surveillance locations identified by TTD, the penalty shall be Rs.1,500/- per camera per day.
- v. Uptime:** The bidder shall maintain a minimum 99% System Uptime and 98% Camera Uptime during each quarter. Failure to achieve the prescribed uptime shall attract proportionate deduction from the quarterly CAMC payment together with applicable downtime penalties. In addition, 1% of the Quarterly CAMC Charges shall be deducted for every 1% reduction in System Uptime below the prescribed Schedules.
- vi. Preventive Maintenance:** Failure to carry out the scheduled preventive maintenance shall attract a penalty of Rs.10,000/- for each missed Monthly Preventive Maintenance and Rs.25,000/- for each missed Quarterly Preventive Maintenance.
- vii. Non-Submission of Reports:** Failure to submit mandatory reports, complaint logs including Preventive Maintenance Reports, Complaint Registers, Uptime Reports, Root Cause Analysis Report and Service Closure Reports, shall attract a penalty of Rs.2,000/- for each report.
- viii. Persistent Non-Performance:** Where the bidder commits more than three (03) major SLA violations in a quarter or fails to maintain the prescribed uptime for two (02) consecutive quarters, TTD shall have the right to withhold CAMC payments, invoke the Performance Security/Bank Guarantee, terminate the Contract, and execute the balance work through **Risk and Cost Purchase**, with all consequential costs recoverable from the bidder.
- ix. Maximum Penalty:** The aggregate penalty recoverable in any quarter shall not exceed 20% of the quarterly CAMC charges, without prejudice to TTD's right to recover any additional loss or damage arising out of the bidder's default or to exercise any other contractual or legal remedy available under the Contract.

i) Recovery of Penalties:

All penalties levied under this Contract shall be recovered from the bidder's Quarterly CAMC Bills. If the recoverable amount exceeds the pending payments or sufficient payments are not available, the balance shall be recovered from the available Earnest

Money Deposit (EMD) and or Additional Security Deposit (ASD), without prejudice to TTD's right to recover any further dues through other lawful means.

The decision of TTD regarding the imposition and recovery of penalties under this Contract shall be final and binding on the bidder. No request for waiver, relaxation, reduction or review of the penalties shall be considered by TTD.

j) Payment Terms for CAMC:

CAMC payment shall be released quarterly, only after satisfactory service certification by user department, Submission of schedule maintenance reports, system uptime report, device-wise uptime report, downtime incident summary, complaint closure and all Service reports report along with quarterly CAMC bill. No advance payment shall be made.

k) Spare Availability Commitment:

Bidder shall ensure availability of spare parts/support for supplied models for minimum 07 years from date of commissioning and handover the project to TTD.

In case of end-of-life products, bidder shall replace with equivalent/higher models without affecting system compatibility at no additional cost to TTD.

l) OEM Authorization:

Bidder shall submit valid OEM authorization certificates for supply, installation, warranty, and CAMC support. OEM shall back the bidder for service obligations during entire on-site comprehensive warranty and CAMC period.

m) Software & License Validity:

All software licenses, subscriptions and support entitlements required for the proper functioning of the CCTV Surveillance System shall remain valid throughout the Warranty and Comprehensive Annual Maintenance Contract (CAMC) period. The bidder shall, at its own cost, renew all software licenses, subscriptions, updates and support services, wherever applicable, during the CAMC period, ensuring uninterrupted operation of the system without any additional financial liability to TTD.

n) Complaint Management System:

The bidder shall provide the contact details of the on-site support engineers, a dedicated Helpdesk telephone number, an exclusive e-mail support facility, and a complaint ticketing system/dashboard for logging, tracking and monitoring service requests. The bidder shall maintain a complete record of all complaints received, including response time, resolution time and closure status and submit a consolidated monthly service report to TTD along with the complaint log and closure details for review and performance monitoring.

o) Training & Knowledge Transfer:

The bidder shall provide comprehensive training to the designated TTD personnel on the operation and management of the CCTV Surveillance System, including system operation, live monitoring, incident retrieval, recording playback and export, user management, basic troubleshooting, system health monitoring, alarm/event handling and other operational and maintenance aspects necessary for the efficient and uninterrupted

functioning of the system during the Warranty and CAMC period, at no additional cost to TTD.

p) Exit Management:

Upon expiry, completion, or termination of the Comprehensive Annual Maintenance Contract (CAMC), the bidder shall hand over the CCTV Surveillance System to TTD in a fully functional and healthy operational condition. The bidder shall also furnish complete and updated documentation, including system configurations, administrator credentials and passwords, software licenses, backup files, as-built drawings, operation and maintenance manuals, asset inventory, warranty details and all other records pertaining to the system, to ensure a seamless transition and continued operation by TTD or its authorized agency, without any disruption or additional cost to TTD.

q) Termination Clause:

The TTD / Purchaser reserves the right to terminate the CAMC for repeated breaches of contract, failure to maintain the stipulated uptime, non-deployment of the required support engineers, abandonment of service obligations, or any other material default by the bidder. In such cases, TTD may execute the balance work through **risk and cost purchase** and any additional expenditure incurred shall be recoverable from the bidder, without prejudice to other contractual rights and remedies.

r) No Obsolescence Risk to Purchaser:

During warranty/CAMC, any equipment becoming obsolete, unsupported, or incompatible shall be upgraded/replaced by bidder at no additional cost.

The Bidder Shall Quote year-wise CAMC charges separately in Schedule –B including GST & all taxes etc., and considered for overall L1 evaluation.

1.3 Outdoor Infrastructure

The Bidder shall supply, erect, install, test and commission Hot Dip Galvanized (HDG) Octagonal Poles complete with RCC foundations, GI brackets, junction boxes, earthing systems, lightning arrestors and all associated civil works required for safe, reliable and durable installation of outdoor CCTV cameras.

1.4 Cabling and Network Infrastructure

The Bidder shall supply, lay, terminate, test and commission Armoured Optical Fibre Cables (OFC), Cat-6 UTP Cables, Power Cables, HDPE Pipes, GI Pipes, Cable Trays, Conduits, Raceways, LIUs, Patch Panels, Patch Cords and all passive networking components required for establishing a reliable and fully functional CCTV communication backbone.

1.5 Civil, Electrical and Allied Works

The Bidder shall execute all associated civil, electrical and networking works including excavation, trenching, RCC foundation works, concreting, wall cutting, core drilling, conduit laying, cable routing, cable termination, earthing, labeling, cable identification, sealing of openings, restoration of damaged surfaces and all other allied works necessary for successful completion of the project.

1.6 Installation, Configuration and Commissioning

The Bidder shall install, configure, program, test and commission all CCTV cameras, servers, storage systems, Video Wall, UPS systems, networking equipment, software and associated components. Configuration shall include recording schedules, storage management, user access control, event management, alarm generation, video analytics, cybersecurity settings, redundancy, failover configuration, health monitoring and optimization of the complete surveillance system.

1.7 Integration with Existing Central Command & Control Centre

The complete CCTV Surveillance System shall be integrated with the existing Central Command & Control Centre of TTD for Live Monitoring, Recording, Playback, Centralized Management, Video Analytics, Event-Based Recording, Alarm Generation, Health Monitoring, User Authentication and System Administration. The Bidder shall ensure seamless integration with the existing Network Infrastructure, Video Management System (VMS), Storage Systems and other surveillance infrastructure, wherever applicable, without affecting the existing operational system.

1.8 Testing, Verification and System Acceptance

The Bidder shall carry out Factory Acceptance Tests (FAT), wherever applicable, Site Acceptance Tests (SAT), System Integration Tests, Performance Tests, Reliability Tests, Camera Performance Tests, Storage Performance Tests and Network Performance Tests for the complete CCTV Surveillance System.

Each CCTV camera shall be tested for image quality, day and night performance, IR illumination, PTZ functionality (where applicable), recording, playback, analytics, health monitoring and network connectivity. The Storage System shall be verified to ensure the required recording retention period as specified in the BOQ without any loss of video data. Redundancy and failover functionality of critical equipment shall also be demonstrated wherever applicable.

Any defects, deficiencies or non-conformities observed during testing shall be rectified by the Bidder at no additional cost to TTD before submission for final acceptance.

1.9 Cyber Security

The Bidder shall implement industry-standard cyber security practices throughout the CCTV Surveillance System. All default passwords shall be changed before commissioning. Latest stable firmware and software updates shall be installed. Unused services and ports shall be disabled, secure user authentication shall be implemented and all network devices, servers, storage systems and cameras shall be configured in accordance with OEM recommendations and applicable cyber security guidelines to ensure secure operation of the surveillance system.

1.10 Documentation

The Bidder shall submit complete project documentation including, but not limited to, OEM Authorization Certificates, Warranty Certificates, Factory Test Reports, Site Test Reports, As-built Drawings, Camera Layout Drawings, Pole Foundation Drawings, Network Architecture Diagrams, Cable Route Drawings, Rack Layout Drawings, IP Addressing Scheme, Asset Register, Software License Certificates, Configuration Details, Operation &

Maintenance Manuals, Preventive Maintenance Manuals and all other documents required by TTD.

All documents shall be submitted in both Hard Copy and Soft Copy (Editable Format and PDF Format).

1.11 Training and Knowledge Transfer

The Bidder shall provide comprehensive training to the designated TTD personnel covering operation, monitoring, administration, configuration, troubleshooting, preventive maintenance, health monitoring, cyber security practices and emergency response procedures of the complete CCTV Surveillance System.

The Bidder shall hand over all Administrator Credentials, User Credentials, Passwords, Software Licenses, License Keys, Configuration Backup Files, Database Backup Files, OEM Manuals, User Manuals and all related technical documentation necessary for operation, maintenance and future expansion of the CCTV Surveillance System.

1.12 Final Handing Over

Upon successful completion of supply, installation, testing, commissioning, configuration, integration, verification, submission of all required documentation and completion of training, the Bidder shall formally hand over the complete CCTV Surveillance System to TTD.

The CCTV Surveillance System shall be fully operational, defect-free, integrated with the existing Command & Control Centre and ready for continuous 24x7 operation from the date of Final Acceptance by TTD.

1.13 Project Completion Period

The successful Bidder shall execute and complete the entire work on a Turnkey Basis within **One Hundred and Eighty (180) Calendar Days** from the date of issue of the Work Order.

The completion period shall include Detailed Site Survey, Detailed Engineering, preparation and approval of drawings, procurement, transportation, supply, delivery, storage, civil works, electrical works, networking works, erection of poles, cable laying, installation, configuration, testing, commissioning, system integration, Factory Acceptance Tests (wherever applicable), Site Acceptance Tests (SAT), Performance Tests, submission of documentation, training of TTD personnel and successful handing over of the complete CCTV Surveillance System.

The Bidder shall deploy adequate manpower, tools, testing instruments, machinery and other necessary resources to ensure completion of the project within the stipulated period.

Any delay attributable to the Bidder beyond the stipulated completion period shall attract Liquidated Damages (LD) as specified elsewhere in this Tender, unless extension of time is granted in writing by the Competent Authority of TTD.

1.14 General Execution Requirements

1.14.1 Quality Assurance

All materials, equipment, hardware, software and accessories supplied under this Contract shall be brand new, unused, genuine and of the latest available model. All equipment shall conform to the Technical Specifications, relevant BIS/IEC/ISO Standards and OEM recommendations, wherever applicable. Refurbished, repaired or obsolete equipment shall not be accepted.

1.14.2 Workmanship

All installation, testing and commissioning works shall be carried out in a neat, safe and professional manner following good engineering practices, relevant standards and OEM recommendations. Proper alignment, cable dressing, termination, labeling and finishing shall be ensured throughout the project.

1.14.3 Site Restoration

Upon completion of cable laying, excavation, trenching, civil works or any other construction activities, the Bidder shall restore the affected areas including roads, pathways, floors, walls, ceilings, landscaping and all other disturbed portions to their original condition without any additional cost to TTD.

1.14.4 Safety Requirements

The Bidder shall comply with all applicable statutory safety regulations, labour laws and electrical safety standards during execution of the work. The Bidder shall be solely responsible for the safety of personnel, equipment, property and the general public throughout the execution of the project.

Necessary safety precautions including barricading, warning signage, Personal Protective Equipment (PPE) and other safety measures shall be provided wherever required.

1.14.5 Housekeeping

The Bidder shall maintain proper housekeeping throughout the execution of the project. Packing materials, cable scrap, debris, waste materials and unwanted items generated during the work shall be removed periodically and disposed of in accordance with applicable statutory regulations. The work site shall be kept clean, safe and free from obstructions at all times.

SL .N O	REQUIREMENT OF NETWORKING SYSTEM	BIDDER'S OFFER	
		BIDDER'S COMPLIANCE YES/NO	BIDDER'S OFFER (WITH COMPLETE TECHNICAL DETAILS)
1	A wired networking to be used for to enable viewing of CCTV feed from various locations in Children Hospital Tirupathi. At selected places at the Camera location a two-way Audio Communication, shall be provided. The two-way audio communication shall be with the Command & Control Room to the Camera Location.		

2	Vendor to provide displaying the distribution of all the devices for positioning of the Work Stations, Command & Control Room to incorporate the Modules of Video Wall.		
3	Vendor has to give the complete networking lay out with the components involved in the network.		
4	All networking equipment shall be of Layer-2 and Layer-3. All the edge switches should be minimum Layer-2. All Layer-2 switches must finally be brought together using 10/100/1000baseT ports to central manageable switch. Connection to the servers and clients must be 10G Fiber connectivity from 10G ports. Connection between Layer.- 2 and manageable switch should use fiber backbone. .		
5	Network monitoring software should be used to monitor the network devices, bandwidth trouble shooting etc .		
6	Vendor to ensure that Control of function of the camera By Clicking on the key pad and Using mouse.		
7	SCALABILITY & REDUNANCY:- The user shall be able to scale the system to support few additional numbers of cameras by adding additional servers to the network. This procedure does not require any system down time. The system shall be able to perform an automatic switch over to a backup server if the primary server fails.		
8	The storage device management software shall provide add or remove a hard disk from existing storage volume when unused hard disk in the hardware system.		
9	The storage device management software shall provide method to recover or manage failure hard disk in the storage volume		
10	The storage device management shall provide hard disk repair method or management for failure hard disk		
11	UPS: Existing UPS to be used where available		
12	CABLE, CONDUITS & ACCESSORIES		
13	OFC cable for long distance and CAT – 6E cables to provided for short distance wherever required and Vendor to specify for Model, make, size, single core/Multi core, suitable conduit, accessories for wiring at the underground, wall & Post		
14	Multicore fiber optic cable, suitable for outdoor deployment in Ethernet (up to10Gbps) data network. The fibre shall be in a central tube filled with water-blocking compound and with standard colour code index. The cable shall have steel armour to provide rodent and lightning protection. The outer sheath shall be water-resistant, UV resistant and Fungus-resistant and shall provide maximum environmental		

	protection. The cable shall conform to TIA / EIA-568B standard. The minimum bending radius of the cable shall be 20 x cable diameter under load.		
15	OFC CABLE: Armoured, loose tube, Gel-filled, rodent resistant, direct burial type. Consisting of 12-core fibre of nominal diameter 8.8 micro meter to 9.8 micro meter and nominal cladding diameter 125 micro meter ± 1 ; Attenuation: 1310 nm 0.4 db/km & at 1550 nm - 0.30 db/km; Cut-off Wavelength -1260 nm; Op. Temp. -10 Deg C – 70 Deg C; Corrugated steel tape armour; Tensile Rating: 1200N; Max. Crush Res.: 3000N; ISO/IEC11801,TIA 568,ICEA640 compliant		
16	LIU: LIU should be provided for terminating the optic fiber cables. It shall provide minimum bending radius and the splice trays shall function as a splice cover for pigtail splicing. It shall be made of aluminium with powder coating in compliance with latest industry standard. Cable glands shall be provided for secured anchoring of incoming cables. Rubber grommets shall be provided at the cable entry point for tight sealing. The splice tray shall be made of ABS materials. 12 / 24 Port. It shall be fitted with LC couplers and all accessories for termination.		
17	PIGTAILS LC TYPE; 1 M; Insertion Loss < 0.5 db; Return Loss>40db; Bend Radius>30mm		
18	OPTIC FIBER CONNECTOR: Optic fiber connectors should be single mode LC/LC type with push-pull mechanism and fully in compliance with latest industry standard. Optic fiber connectors should be of standard make.		
19	OPTIC FIBER ADAPTORS: Optic fiber adaptors should be suitable for single mode LC/LC or LC/SC as required type fiber cable connectors and shall be fully in compliance with latest industry standard. It shall be with snap/latch mechanism. Optic fiber adapters should be of standard make.		
20	OPTIC FIBER PATCH CORD: Optic fiber patch cords should be suitable for single mode LC/LC type fiber cable connectors with plastic moulded plug type connectors in compliance with latest industry standard. Optic fiber patch cords should be of standard make. Min. Return Loss>50 dB. Patch chords for SFP Modules to be provided		
21	OF TESTING: The manufacturer of the cabling system shall provide optical fibre testing procedures that clearly describe the tools and settings to be used to ensure correct measurements of the system. All the OF links have to be tested and must pass the acceptance criteria. Acceptability criteria shall be: The measured attenuation shall be lower than the acceptable link attenuation calculated (Formula: Allowable cable loss per km x Km of fiber		

	in link + 0.4dB x No. of connectors = Maximum allowable loss) Testing shall consist of a bi-directional end to end by using either OTDR or Fiber Cable Tester. The system loss measurements shall be provided at 1310 and 1550 nanometres for single mode fibers.		
22	CAT 6 CABLE: Armoured CAT 6 Cable; 4 pair UTP Cable 23 AWG Solid Bare Copper polyethylene insulation & armoured. Applicable standard TIA/EIA 568.B; Insulation Resistance 100MOhm Capacitance <5.6 nf/100m		
23	CAT 6 I/O: The RJ45 connector shall be screened to ensure protection against EMI and for Alien cross-talk compliance. It offers the 500 MHz performance required to be used to form a 100 meters Class EA channel as specified in ISO/IEC 11801:2002/A1:2008 and EIA/TIA 568 B2-10. All outlets fitted with shutters.		
24	COPPER TESTING: The manufacturer of the cabling system shall provide copper testing procedures that clearly describe the tools and settings to be used to ensure correct measurements of the system. The following parameters have to be tested: ☐ Length ☐ Attenuation ☐ Pair-to-Pair Near-End Cross Talk (NEXT) ☐ Power Sum NEXT ☐ Far-End Cross Talk (FEXT) ☐ Pair-to-Pair Equal Level Far End Cross Talk (ELFEXT) ☐ Power Sum ELFEXT ☐ Attenuation to Cross Talk Ratio (ACR) ☐ Power Sum ACR ☐ Propagation delay and Delay Skew ☐ Return Loss. ☐ All links must be characterized up to 100 MHz		
25	RACK 9U12U/19U WALL MOUNT WITH NECESSARY ACCESSORIED LIKE FAN, POWER POINT ETC: Network Rack 9u wall mount with necessary accessories like fan, power point etc with Cable Managers & 1 Fan. Rack 42" for Servers.		
26	POWER CABLE: 3-Core, 2.5 or 4 sq mm, multi strand with annealed electrolytic copper conductor with resistance > 8.2 Ohm/Km; PVC insulated (0.3 mm inner+1.8 mm outer sheath) armoured with galvanized steel wire with 90% coverage; IS 694:1990 reaffirmed 1995 or latest compliant		
27	All electrical components shall be earthed by connecting two earth tapes from the frame of the component rings and shall be connected via several electrodes. Earthing shall be in conformity with		

	provision of rule 32.61, 62, 67 &68 of IE rules of 1956 and as per IS 3043. The Entire infrastructure in the Command Control Room and Sub Control Rooms shall be earthed. A complete copper mesh earthing grill needs to be installed for Servers area and every rack to be connected to this earthing. A separate earthing pit needs to be in place for the Copper Mesh. Lightening arrestors/ surge suppressors		
28	Video Analytics – Crowd formation, People count, Object Watch, Zone Intrusion, Loitering, Vehicle Count & Vehicle Classification, Face Recognition. The Video Analytics licence for each analytic and per Camera. should be quoted.		
29	All active components preferably should be from OEM. The active components should have been deployed in similar surveillance projects and details of the projects should be furnished with technical . Should have local Support in India.		

LOCATION WISE REQUIREMENT OF CC CAMERAS

Sl.No	Area	Camera No	Cameras		
			Bullet	Dom e	PTZ
GROUND FLOOR					
1.	NE Corner entry	1, facing west	1	-	-
2.	East corner	2 facing west	-	1	-
3.	East side corridor	3,4 (Triage North west corner) & ,6,7 (Change Room north west corner) facing north south, 9 facing west	5	-	-
4.	Mortuary Lobby	5 facing west	-	1	-
5.	Change room lobby	8 (facing west)		1	-
6.	South East entry	10 South East entry	1	-	-
7.	Cafeteria Entry	11 Cafeteria Entry	1	-	-
8.	Cafeteria inside	12,13 Cafeteria inside	-	2	-
9.	Stair Case Entry South	14 South	-	1	-
10.	Kitchen South Entry	15 South	1	-	-
11.	Sky Light east	16 East	1	-	-
12.	Middle East Corridor	17, 18, 19 East	3	-	-
13.	Sterile store south	20 south	1	-	-
14.	CT Room NE Corner outside	21 NE Corner	1	-	-
15.	Equipment Room	22 Equipment Room	1	-	-
16.	Middle West Side Corridor	23,24,25 West	3	-	-
17.	Sky light west	26,27 South west corner facing in & facing west corridor	2	-	-
18.	West Corridor	28, 29 south, North	2	-	-
19.	Waiting area	30 (Facing East)	1	-	-
20.	Stair Case Entry South	31 (facing east)	-	1	
21.	Ram Entry West	32 West	1	-	-
22.	Ramp	33 Ramp Facing South	-	1	-
Sub-Total :			33 Nos.		
FIRST FLOOR					
23.	Stair case	1 Facing North	-	1	-
24.	North east corridor	2 facing south	1	-	-
25.	East Corridor	3 Lab corner, 4 facing north, 5 facing east	3	-	-
26.	Stair Case S-E	6 Facing West	-	1	-
27.	Middle East Corridor	7, facing north, 8 facing south, 9 facing east	3	-	-
28.	VC Room	10 facing south	1	-	-
29.	Mid-west corridor	11, facing south, 12 facing north, 13 facing south, 14 facing east,	4	-	-
30.	West Corridor	15, facing west, 16 facing south, 17 facing	5	-	-

		north, 18 facing east, 19 facing east			
31.	Stair case	20 facing south	-	1	-
32.	Ramp	21 facing south	-	1	-
Sub-Total :			21		
SECOND FLOOR					
33.	Stair case	1, facing west	-	1	-
34.	North Corridor	2 facing east, 3 facing west , 4 facing east,5 facing west	4	-	-
35.	East Corridor	6, facing south 7 facing 8 facing north	3	-	-
36.	Stair case	9 facing south	-	1	-
37.	Middle East Corridor	10, facing north, 11 facing south, 12 facing north	3	-	-
38.	Reception	13 facing south	-	1	-
39.	Midwest corridor	14 facing north, 15 facing south, 16 facing northj	3	-	-
40.	Stair case	17 facing south	1	-	-
41.	West Corridor	18, facing east , 19 facing north 20 facing northj, 21 facing south	4	-	-
42.	South Corridor	22, facing east, 23 facing west	3	-	-
43.	Ramp	24 facing south	1	-	-
Sub-Total :			25		
THIRD FLOOR					
44.	Stair Case	1, facing west	-	1	-
45.	North Corridor	2, facing east, 3facing west, 4 facing east , 5 facing west	4	-	-
46.	East Corridor	6, facing north, 7 facing south, 8 facing north	3	-	-
47.	Stair Case entry	9 facing south	-	1	-
48.	Middle East Corridor	10, facing north,11 facing south, 12, facing east, 13 facing north	4	-	-
49.	Middle south Corridor Entry	14 facing south	1	-	-
50.	Midwest corridor	15 facing north, 16 facing south, 17 facing north	3	-	-
51.	South Corridor	18 Facing west , 19 facing east, 20 facing east	3	-	-
52.	Stair case	21 facing south	-	1	-
53.	West corridor	22, facing west, 23 facing north, 24, facing south, 25 facing north,	5	-	-

		26, facing south			
54.	Ramp	27 facing south	-	1	-
Sub-Total :			27		
FOURTH FLOOR					
55.	Stair Case entry	1 facing west	-	1	-
56.	North Corridor	2, facing east, 3 facing west	2	-	-
57.	Private Room Corridor	4 facing north	1	-	-
58.	East Corridor	5 facing south, 6 facing north, 7 facing north	3	-	-
59.	Stair Case entry	8 facing south	-	1	-
60.	Middle East Corridor	9 facing north, 10 facing south, 11 facing south	3	-	-
61.	Middle Corridor Entry	12facing south	1	-	-
62.	Midwest corridor	13 facing nortj, 14 facing south, 15 facing nortj	3	-	-
63.	South Corridor	16 facing east, 17 facing west, 18 facing east	3	-	-
64.	West Corridor	19 facing west, 20 facing south, 21 facing north, 22 facing south, 23 facing south,	5	-	-
65.	Ramp	24 facing sout	-	1	-
66.	Stair case	25 facing south	-	1	-
Sub-Total :			25		
FIFTH FLOOR					
67.	Stair Case entry	1 facing west	-	1	-
68.	North Corridor	2, facing east, 3 facing west	2	-	-
69.	Private Room Corridor	4 facing north	1	-	-
70.	east corridor	5 facing south, 6 facing north, 7 facing north, 8 facing east	4	-	-
71.	Stair Case entry	9 facing south	-	1	-
72.	South Corridor	10 facing east, 11 facing west, 12 facing east	3	-	-
73.	Middle East Corridor	13 facing north, 14 facing south, 15 facing south	3	-	-
74.	Middle Corridor Entry	16 facing south	1	-	-
75.	Midwest corridor	17 facing north, 18 facing south, 19 facing north	3	-	-
76.	Stair case	20 facing south	1	-	-
77.	West corridor	21 facing west, 22 facing south, 23 facing north, 24 facing south,	4	-	-

78.	Ramp	25 facing south	-	1	-
Sub-Total :			25		
SIXTH FLOOR					
79.	Stair case	1, facing west & facing south	2	-	-
80.	North corridor	2, facing east, 3facing west, 4 facing east , 5 facing west	4	1	-
81.	East Corridor	5 facing west, 6 facing north, 7 facing south north, 8 facing east 9 facing north	5	-	-
82.	Stair case	10	-	1	-
83.	Middle East Corridor	11 facing north, 12 facing south, 13 facing south	3	-	-
84.	South Corridor	14 facing west, 15 facing west, 16 facing north, 17 facing east	4	-	-
85.	Midwest corridor	18 facing north, 19 facing south, 20 facing north	3	-	-
86.	Stair case entry	21 facing south	-	1	-
87.	West Corridor	22 facing west, 23 facing north, 24 facing north, 25 facing south, 26 facing south	4	-	-
88.	Ramp	27 facing south	1	-	-
Sub-Total :			29		
TERRACE					
89.	North west corner	--	-	-	1
90.	South West Corner	--	2	-	-
91.	South East Corner	--	2	-	-
92.	North East Corner	--	2	-	-
Sub-Total :			07		
OPEN AREAS					
93.	North East Corner	--	2	-	-
94.	Mid-East	--	2	-	-
95.	Mid-East	--	2	-	-
96.	South East	--	2	-	-
97.	South	--	2	-	1
98.	South West	--	2	-	-
99.	Mid-West	--	2	-	-
100.	Mid-West	--	2	-	-
101.	North West	--	2	-	-
102.	North	--	-	-	1
103.	North East Corner	--	2	-	
104.	North West Corner of the Building	--	-	-	1
105.	South west Corner of the Building	--	-	-	1
106.	North East corner of the	--	-	-	1

	building				
107.	Lift	--		14	
Sub-Total :			39		
PARKING AREA CAMERAS TO BE PLANNED					
108.	--	In front of the Building	8	-	1
109.	--	Behind the Building	8	-	1
Sub-Total :			18		
Grand Total:			198	43	8

ABSTRACT

Sl.No	Description	Type of Camera		
	Floor Wise	Bullet	Dome	PTZ
1.	Ground Floor	25	8	0
2.	First Floor	17	4	0
3.	Second Floor	22	3	0
4.	Third Floor	23	4	0
5.	Fourth Floor	21	4	0
6.	Fifth Floor	22	3	0
7.	Sixth Floor	26	3	0
8.	Terrace	6	0	1
9.	Open Area	20	14	5
10.	Parking Areas	16	0	2
Grand Total		198	43	8

CHAPTER- 5

**VIGILANCE & SECURITY DEPARTMENT
TIRUMALA TIRUPATI DEVASTHANAMS**

FINANCIAL BID (SCHEDULE – A)

Name of the Bidder / Firm :

GST No. :

Sl.No	Description of Item	Quantity in Nos.	BIDDER OFFER		
			Unit price Inclusive of GST & All (Rs.)	GST %	Total price Inclusive of GST & All (Rs.)
(1)	(2)	(3)	(4)	(5)	(6) (3x4)
1.	Supply Installation Testing & Commissioning of 5 MP Indoor Dome Camera	43 Nos.			
2.	Supply Installation Testing & Commissioning of 5 MP Indoor Bullet Indoor/Outdoor Camera	156 Nos.			
3.	Supply Installation Testing & Commissioning of 8 MP Indoor Bullet Indoor/Outdoor Camera	42 Nos.			
4.	Supply Installation Testing & Commissioning of 2 MP PTZ Camera	8 Nos.			
5.	Providing, installation, testing and commissioning of VMS Servers	3 Nos.			
6.	Providing, installation, testing and commissioning of Analytic Servers	3 Nos.			
7.	Providing, installation, testing and commissioning of NAS Server with 150 TB (usable 120TB)	1			
8.	VMS licences	250 Nos.			
9.	Video Analytic Licences	50 Nos.			
10.	NMS Software	1 No.			
11.	Providing, installation, testing and commissioning of Monitoring Work Stations	6 Nos.			

	with 27" Monitors				
12.	Supply, Installation, Testing & Commissioning of Video Wall for Command and Control Centre	4 Nos.			
13.	Providing, installation, testing and commissioning of racks with 4U Rack with Complete structure and with front 19" rack	16 Nos.			
14.	Providing, Laying and commissioning of cat 6 armoured cable	15000 Mtrs.			
15.	Providing, installation, testing and commissioning of 12 Core Fiber cable with armour	2000 Mtrs.			
16.	Supplying and laying of 3 core x 4.0 sq mm size FR PVC insulated and FR PVC round sheathed multicore armoured copper conductor industrial cable of 1.1 kV grade	2000 Mtrs.			
17.	Supplying & Erection of Hot Dipped galvanized 6 meter height octagonal pole with 1.0 meter long single arm bracket Hot Dipped Galvanized GI bracket	22 Nos.			
18.	Supplying & Erection of Hot Dipped galvanized Junction Boxes	22 Nos.			
19.	Supply, Installation, Testing and Commissioning of 10KVA capacity UPS (with minimum 1 hour backup	01 No.			
20.	Providing independent earthing with 2kgs. (15mts.) of No.8 SWG GI wire for coil earthing in an earth pit of size 2'x2'x4' and filled with alternate layers of 20 Kgs. of hard coke, 10 Kgs. of salt and required quantity of sand and connecting the GI wire to the pole / pipe with 3/8" x 3" GI bolts and nuts and washers as directed during execution.	22 Nos.			
21.	Supplying and laying of owe HDPE pipe ISI marked along with all accessories like socket, bend, couplers	2000 Mtrs			

	etc.) as per SI.No.1.7 of Chapter No.03.				
22.	Chambers and Route Infrastructure Enclosure Rating: Field joint boxes, splice enclosures, and chamber terminations rated to at least preferably IP66.Chamber Construction: Pre-cast concrete, heavy-duty HDPE, or FRP manhole/pull chambers equipped with heavy-load top covers. Ducting: Conduits routed through secondary HDPE protection pipes underground to protect against rodent and crush damage. Termination: Light Interface Units (LIU), fibre patch cords, and industrial-grade media converters/SFP switches housed at endpoints	3 Nos.			
23.	Providing installation, testing and commissioning of Lightning Protectors	8 Nos.			
24.	Providing, installation, testing and commissioning of 12 port Loaded LIU	16 Nos.			
25.	Providing, installation, testing and commissioning of 24 port PoE L3 Switch with 4 SFP Module	1 No.			
26.	Providing, installation, testing and commissioning of 24 port PoE Switch with 4 SFP Module L2	8 Nos.			
27.	Providing, installation, testing and commissioning of 08 port PoE Switch with 2SFP Module	8 Nos.			
28.	Providing, installation, testing and commissioning of 04 port PoE Switch with 2SFP Module	22 Nos.			
29.	Providing, installation, testing and commissioning of racks with 4U Rack with Complete structure and with front 42" rack guides, adjustable in depth to adapt to any need.	1 No			

30.	Providing, installation, testing and commissioning of SFP (Small Form-factor Pluggable) modules Data rate: Determines the maximum transmission speed, Transmission distance:	30 Nos.			
31.	Providing, installation, testing and commissioning of all the fiber patch cords with Connector Types LC/SC/ST/FC/ LSH/MTRJ/MU with Standard Boots; etc	32 Nos.			

FINANCIAL BID (SCHEDULE - B)

BID FOR COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (CAMC) FOR 05 YEARS

Sl.No	Description of Item	BIDDER OFFER	
		Price Inclusive of GST & all Rs.	GST %
1	Providing CAMC for 1 st Year		
2	Providing CAMC for 2 nd Year		
3	Providing CAMC for 3 rd Year		
4	Providing CAMC for 4 th Year		
5	Providing CAMC for 5 th Year		
Total Price for 05 Years Inclusive of GST & All (Rs.)			

NOTE:-

- (1) The bidder shall quote rates for both Schedule–A and Schedule–B. The total value quoted under Schedule–A and Schedule–B together shall be taken into consideration for evaluation of bids, and the bidder who quotes the lowest combined total amount for both schedules shall be declared as the L-1 (Lowest) Bidder.
- (2) The rates quoted in Schedule–A and Schedule–B shall be inclusive of all applicable GST, taxes, duties, levies, installation charges, transportation charges, loading, unloading, insurance and all other incidental expenses whatsoever, as applicable from time to time. No additional payment towards taxes, duties, levies, installation charges, transportation, or any other charges shall be made by TTD over and above the quoted rates, except for GST, which shall be paid as applicable and admissible under the prevailing rules. Any revision in the GST by Government of India on Supply of Security equipment will be paid or deducted as per applicable orders.
 - ❖ The rates quoted by the bidder in Column No. 04 and Column No. 06 of Schedule-A and Schedule-B shall be inclusive applicable GST & all other applicable taxes and duties.
 - ❖ However, the bidder shall mandatorily indicate the applicable GST percentage for each item separately in Column No. 05 of the Price Bid.

- ❖ Further, if required by TTD, the bidder shall submit a detailed break-up of the quoted rates, clearly indicating the basic price, applicable GST component and total quoted price, immediately after the opening of the Price Bid for verification and record.
- (3) The bidder shall quote his rates for all above items mentioned in **Schedule –A & Schedule – B** considering all the activities indicated in the scope of work including Supply, erection, installation, Testing, training of TTD personnel, insurance, warranty / CAMC obligations, labour, consumables, tools and tackles, GST, all applicable taxes, duties, levies, overheads and all other incidental expenses etc., necessary for the complete and satisfactory execution of the work. The bidder shall be deemed to have fully examined and understood the scope of work, site conditions and all factors affecting the execution of the contract. No claim for escalation, extra item, additional payment, reimbursement or compensation on any account whatsoever shall be entertained by TTD over and above the accepted contract rates, except as specifically provided for under the terms and conditions of the contract.
 - (4) The Bidder shall carefully review and verify all Technical Specifications, Scope of Work, and other applicable requirements specified in Chapter 3 and Chapter 4 of the Tender Document. The Bidder shall ensure that the equipment proposed in the Financial Bid fully complies with the specified requirements and shall quote the corresponding prices accordingly.
 - (5) The Bidder shall be deemed to have considered all such requirements, specifications, and scope of work in the quoted prices, and no additional claim on account of any omission, discrepancy, or misunderstanding in this regard shall be entertained subsequently.
 - (6) The L-1 bidder shall, after award of the work, be obligated to supply any additional equipment, accessories, spares or related items as may be required by TTD at the same rates accepted under Schedule–A & Schedule–B, upon written requisition by the Chief Vigilance & Security Officer, TTD or any other officer duly authorized by TTD in this behalf, until completion of these work from the date of issue of the work order.
 - (7) Payment for such additional supplies shall be made based on the actual quantities supplied and satisfactorily installed at site, subject to the accepted rates specified in Schedule–A and the terms and conditions of the contract. Such additional supplies shall be subject to the approval of the competent Executive Authorities of TTD prevailing at the relevant point of time.
 - (8) In the event of the L-1 bidder failing to execute the work as per the terms and conditions of the contract, or committing any breach of the contractual obligations, TTD reserves the right to terminate/cancel the agreement, forfeit the applicable deposits and take such further action as deemed fit in accordance with the contract conditions.
 - (9) The contractor shall prepare and submit invoices in the format prescribed by TTD, strictly based on the actual quantity of supplies delivered and/or work executed, proportionate to the accepted contract value and in accordance with the terms and conditions of the contract.
 - (10) In the event of any area or part thereof being temporarily or permanently deleted, reduced or withdrawn from the scope of work by TTD, payment shall be restricted to the actual work carried out and the corresponding proportionate amount shall be deducted from the contractor's bills. No claim for compensation, damages, loss of profit, idle charges, or any other additional payment on this account shall be entertained by TTD

- (11) The Contractor shall strictly adhere to all the terms and conditions, scope of work etc., specified in this document. If failures the contractor on the above, TTD shall reserve the right to take appropriate civil and criminal action against the concerned contractor and consequently the Agreement / MOU shall also be liable for cancellation apart from forfeiture of EMD and Security Deposit and legal actions.
- (12) The tenderer is hereby informed that TTD shall not provide any accommodation, godown, storage space or other facilities for the contractor's personnel, materials, tools, equipment, or machinery. The contractor shall, at his own cost and responsibility, make all necessary arrangements for transportation, accommodation, boarding, lodging, storage, safeguarding of materials and deployment of manpower required for the execution of the work, including the Warranty, Maintenance and CAMC periods. No claim for additional payment or compensation on this account shall be entertained by TTD.
- (13) The rates quoted by the bidder shall be inclusive of all applicable duties, taxes, levies, cess, and other statutory charges in force from time to time, excluding any revision in GST notified by the Government of India after submission of the bid. No additional payment towards taxes, duties, levies or any other charges shall be admissible over and above the accepted contract rates.
- (14) TTD reserves the right to deduct all applicable taxes, duties, cess and other statutory recoveries from the bills/payments of the contractor as per the prevailing laws, rules and Government Orders.
- (15) All statutory deductions, including taxes deductible at source and other recoveries required under applicable laws and Government Orders in force at the time of payment, shall be made from the contractor's bills/payments by TTD at the time of payment.

I do hereby read, understand and agreed to the above and all the terms and conditions specified in the tender document.

Date:

Signature & Seal of the tenderer

Name and Address

Appendix 'A'**FORM OF PERFORMANCE SECURITY BY BANK**

[To be issued by any Scheduled Commercial Bank based in India from its branch located in Tirupathi or Vijayawada]

1. This deed of Guarantee made on _____ (Day/Month/Year) between _____ [Bank] (hereinafter called the "Bank") of the one part, and TTD of the other part.
2. Whereas TTD has awarded the contract for CCTV Surveillance System _____ (hereinafter called "the contract") to M/s _____ [Name of the Contractor] (hereinafter called "the Supplier).
3. And Whereas the Supplier is bound by the said Contract to submit to TTD a Performance Security for a total amount of Rs. _____ (Amount in Figures and Words).
4. Now, we the Undersigned, _____ (Name of the Bank) being fully authorized to sign and to incur obligations for and on behalf of and in the name of _____ (Full name of Bank), hereby declare that the said Bank will guarantee the TTD the full amount of Rs. _____ (Amount in Figures and Words) as stated above.
5. After the Contractor has signed the aforementioned Contract with the TTD, the Bank is engaged to pay the TTD any amount up to and inclusive of the aforementioned full amount, upon written order from the Employer to indemnify the TTD for any liability of damage resulting from any defects or shortcomings of the Supplier or the debts he may have incurred to any parties involved in the Works under the Contract mentioned above, whether these defects or shortcomings or debts are actual or estimated or expected. The Bank will deliver the money required by the TTD immediately on demand without delay without reference to the Supplier and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Supplier. The Bank shall pay to the TTD any money so demanded notwithstanding any dispute/disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator/s relating thereto and the liability under this guarantee shall be absolute and unequivocal.
6. This Guarantee is valid for a period of _____ Months from the date of signing. [The initial period for which this Guarantee will be valid must be for at least **six months** longer than the anticipated expiry date of Contract period.]
7. At any time during the period in which this Guarantee is still valid, if the Employer agrees to grant a time extension to the Contractor or if the Contractor fails to complete the Works within the time of completion as stated in the Contract, or fails to discharge himself of the liability or damages or debts as stated under Para 5, above, it is understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by the Employer and at the cost of the Contractor.
8. The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Supplier.

9. The neglect or forbearance of the TTD in enforcement of payment of any money, the payment whereof is intended to be hereby secured or the giving of time by the TTD for the payment hereof shall in no way relieve the bank of their liability under this deed.

10. The expressions “”, TTD “the Bank” and “the Supplier” hereinbefore used shall include their respective successors and assigns.

In witness whereof I/We of the bank have signed and sealed this guarantee on the _____ day of _____ (Month) 2026 being herewith duly authorized.

For and on behalf of the _____ Bank.

Signature of authorized Bank official

Name: _____

Designation: _____

I.D. No.: _____

Stamp/Seal of the Bank: _____

Signed, Sealed and Delivered
for and on behalf of the Bank
by the above named _____

In the presence of:

Witness–1

Signature _____

Name _____

Address _____

Witness–2

Signature _____

Name _____

Address _____

APPENDIX 'B'**G U A R A N T E E**

The -----

Ref: TENDER FOR THE PURCHASE OF CCTV camera with Accessories & Video Analytics Software FOR USE IN TTD

Sir,

1. We guarantee that everything to be supplied and integrated by us shall be brand new, free from all encumbrances, defects and faults in material, workmanship and manufacturer and shall be of the highest grade and quality and consistent with the established and generally accepted standards for materials of the type ordered and shall be in full conformity with the specifications, drawings or samples, if any, and shall operate properly. We shall be fully responsible for its efficient and effective operation. This guarantee shall survive inspection of and payment for, and acceptance of the goods, but shall expire 36 months after their acceptance by the Purchaser.

2. The obligations under the Guarantee expressed above shall include all costs relating to labour, repair, maintenance (preventive and unscheduled), and transport charges from site to manufacturers' works and back and for repair/adjustment or replacement at site of any part of the equipment/ item which under normal care and proper use and maintenance proves defective in design, material or workmanship or fails to operate effectively and efficiently or conform to the specifications and for which notice is promptly given by the Purchaser to the Supplier.

3. I / We, hereby, declare that I / We understand all the statutory provisions of laws and undertake to arrange and ensure the compliance of all the laws applicable to the Contract.-

i) Payments to the contracted staff shall be made through ECS / Bank Transfer and further for new employees Cheque / Cash payments shall be done by us for the first month only with witnessing of cash payments by the authorized representative of TTD.

ii) Valid PF no. & ESI no. shall be allotted / arranged to be allotted to all the personnel, engaged by us for the performance of services under the contract, immediately by me/us and necessary contributions of all the personnel shall be deposited by me/us with the concerned authorities.

4 Applicable Service Tax as per the prevalent rate shall be deposited by me/us with the concerned authorities. The above list is indicative and not exhaustive.

5. The rates quoted by me / us in the Commercial Bid are inclusive of the compliance of all statutory provisions.

6. I / We understand that in the event of any deviation on above accounts shall constitute violation in the terms and conditions of the contract and necessary penalty will be levied as the governing rules of the Contract.

Yours faithfully,

Signature of Authorized Signatory _____

Name of Authorized Signatory _____

SIGNATURE OF THE WITNESS

SIGNATURE AND SEAL OF BIDDER

Appendix 'C'**FORM OF AGREEMENT**

This Agreement is made on the _____ day of _____ 2026 between TTD hereinafter called "the Employer" and Client. HEREWITH refer to as Owner of the one part and _____ (Name & Address of Supplier/Vendor) hereinafter called "the Supplier/Vendor" of the other part.

Whereas the Employer & Owner is desirous that certain works should be executed, viz. installation of CCTV Surveillance System hereinafter called "the Works" and has accepted a Tender by the Vendor for the execution and completion of such works/services.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS: -

- 1.0 In this Agreement words and expression shall have the same meanings as are respectively assigned to them in the Terms & Conditions of contract hereinafter referred to.
- 2.0 The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) Letter of acceptance
 - (b) Terms and Conditions
 - (c) Notice Inviting Tender
 - (d) Commercial Bid
 - (e) Form of Tender
 - (f) Addendums, Reply to Query(s), if any
 - (g) General Conditions of Contract
 - (h) Any other documents forming part of the contract.
- 3.0 The quantity of items shown in the Scope of Work/Commercial Bid is approximate and liable to vary during the actual execution of the services. The contractor shall be bound to carry out and complete the stipulated works irrespective of variation in individual items, at the same rate as specified in the Scope of Work / Commercial Bid. The variation in the quantities under the contracts shall be limited to 25% .
- 4.0 In consideration of the payments to be made by the Employer to the contractor as hereinafter mentioned, the Supplier hereby covenants with the employer to execute and complete the works by * _____ in all respects with the provisions of the Contract.

5.0 OBLIGATION OF THE EMPLOYER OR OWNER

The Employer / Owner hereby covenants to pay the Supplier in consideration of the execution & completion of the works, the Contract Price of * Rs. _____ being the sum stated in the letter of acceptance subject to such additions thereto or deductions there from as may be made under the provisions of the Contract at the times and in the manner prescribed by the contract.

6.0 OBLIGATION OF THE SUPPLIER

The Supplier shall ensure full compliance with tax laws of India with regard to this contract and shall be solely responsible for the same. The contractor shall submit copies of acknowledgements evidencing filing of returns and shall keep the Employer fully indemnified against liability of tax, interest, penalty etc. of the supplier contractor in respect thereof, which may arise.

7.0 JURISDICTION OF COURT

The courts at Tirupathi shall have the exclusive jurisdiction to try all disputes arising out of this agreement between the parties.

8.0 It is agreed that TTD can change/add/delete any condition to this agreement. And the contractor is bound to make all arrangement for necessary compliance of the same.

IN WITNESS WHEREOF the parties hereto have caused their respective common seals to be here unto affixed/(or have here unto set their respective hands and seal) the day and year first above written.

For and on behalf of the Contractor
Signature of the authorized official

Name of the official

Stamp /Seal of the Contractor

SIGNED, SEAL AND DELIVERED

By the said

_____ Name
on behalf of the contractor in
the presence of ;

Witness _____

Name _____

Address _____

For & on behalf of the Employer

Signature of authorized official

Name of the official

Stamp /Seal of the Employer

By the said

_____ Name
on behalf of the Employer
in the presence of ;

Witness _____

Name _____

Address _____

Signature of authorized official

Name of the official

Stamp /Seal of the Owner

SIGNED, SEAL AND DELIVERED

By the said _____

_____ Name
on behalf of the Owner
in the presence of ;

Witness _____

Name _____

Address _____

Note:

* Blanks to be filled by the Employer at the time of finalization of Agreement.

Appendix 'D'

CHECK LIST - TECHNICAL BID
(To be enclosed with the Technical Bid)

Sl.No .	Particulars	Yes	No
1.	Have you pay applicable transaction fees as generated in Online to APTS, through Online / Tender Fee etc., wherever applicable?	☐	☐
2.	Have you furnished the Bidder's Particulars in the prescribed format?	☐	☐
4.	Have you furnished the prescribed Earnest Money Deposit (EMD) with valid proofs?	☐	☐
5.	Do the offered goods and services fully comply with the Technical Specifications prescribed in the Tender Document?	☐	☐
6.	Are you offering the goods and services as per the stipulated delivery/completion schedule?	☐	☐
7.	Have you enclosed the Manufacturer's Authorization Certificate (MAF) from the Original Equipment Manufacturer (OEM)?	☐	☐
8.	Have you quoted for all the items specified in Schedule-A and the five (5) years Comprehensive Annual Maintenance Contract (CAMC) in Schedule-B ?	☐	☐
9.	Have you signed, stamped and sequentially numbered each page of the Bid and the Tender Document?	☐	☐
10.	Have you enclosed all the certificates and documents prescribed in Eligibility Criteria and in Tender Document ?	☐	☐
11.	Have you read and accepted the terms and conditions of the Contract Agreement?	☐	☐
12.	Have you enclosed all the mandatory documents listed below?	☐	☐

List of Documents to be Enclosed

Sl.No .	Document	Yes	No
a.	Company/Firm Registration Certificate.	☐	☐
b.	Annual Financial Turnover Details in Appendix-F .	☐	☐
c.	List of Major Customers (State Government/Central Government Departments/PSUs/Corporates) in Appendix-G .	☐	☐
d.	General Information of the Bidder in Appendix-H .	☐	☐
e.	Declaration Regarding Clean Track Record Appendix-I		
f.	Malicious Code Certificate Appendix - J	☐	☐
g.	Earnest Money Deposit (EMD) as prescribed in the Tender Document.	☐	☐
h.	GST Registration Certificate and PAN Card.	☐	☐
i.	Copies of Income Tax Returns for the Financial Years 2022-23, 2023-24 and 2024-25 .	☐	☐
j.	Manufacturer's Authorization Certificate from the Original	☐	☐

	Equipment Manufacturer (OEM) authorizing participation in the bid and undertaking after-sales service.		
k.	Bank Solvency Certificate for Rs.5.00 Crores (Rupees Five Crores only) issued by a Scheduled Bank during the Financial Year 2026–27 . Solvency Certificates issued by any other agency/authority shall not be accepted.	☐	☐
l.	Documentary evidence in support of Annual Turnover of Rs.7.00 Crores or more in any one of the last three Financial Years (2022–23, 2023–24 and 2024–25) from similar works, i.e., Supply, Installation, Testing, Commissioning and Maintenance of CCTV Surveillance Systems for State/Central Government Departments or PSUs, together with Audited Balance Sheets and Profit & Loss Accounts.	☐	☐
m.	Documentary proof of experience of successfully completing similar works during the last five (5) years, satisfying any one of the following criteria: (i) Three similar completed works, each costing not less than 40% of the estimated contract value; or (ii) Two similar completed works, each costing not less than 60% of the estimated contract value; or (iii) One similar completed work costing not less than 100% of the estimated contract value.	☐	☐
n.	Copy of PAN Card.	☐	☐
o.	Registration Certificate with TTD or any other Government / Organization, if applicable.	☐	☐
p.	Scanned copies of Tender Fee, EMD etc., wherever applicable.	☐	☐
q.	Technical brochures/catalogues downloaded from the OEM's official website for all the offered products.	☐	☐
r.	Any other document(s) in support of the bidder's eligibility, technical capability, or compliance with the Tender Conditions.	☐	☐

Place: _____

Date: ____ / ____ / 2026

Name of the Bidder: _____

Authorized Signatory: _____

Designation: _____

Company Seal: _____

Date: _____

Appendix 'E'

CHECKLIST – COMMERCIAL BID
(To be enclosed with the Commercial Bid)

Sl.No.	Particulars	Yes	No
1.	Have you filled in all the columns of Schedule–A (Price Bid) completely and correctly?	☐	☐
2.	Have you quoted the year-wise Comprehensive Annual Maintenance Contract (CAMC) charges for five (5) years in Schedule–B?	☐	☐
3.	Have you quoted the prices inclusive of GST, all applicable taxes, duties, levies, transportation, insurance, loading, unloading, installation, testing, commissioning, labour charges and all other incidental expenses required for the complete and successful execution of the work, in Schedule–A and Schedule–B?	☐	☐

Signature of the Bidder: _____

Name: _____

Designation: _____

Company Seal: _____

Date: _____

Appendix F**ANNUAL FINANCIAL TURNOVER DETAILS FORMAT**

S.No	Year	Total Turnover (Rs in lakhs - in words and figures)	Actual turnover (Rs in lakhs - in words and figures)
1	2022-23		
2	2023-24		
3	2024-25		

Note:

1. **Total Turnover** means the overall revenue earned by the bidder/company from all its business activities during the relevant financial year, as reflected in the audited financial statements.
2. **Actual Turnover** means the revenue earned by the bidder/company from the similar nature of works / activities for which this tender has been invited during the relevant financial year.
3. The turnover details furnished by the bidder shall be duly supported by the Audited Financial Statements for the respective financial years and a Certificate issued by the Statutory Auditor/Chartered Accountant
4. The turnover figures shall be furnished in both figures and words.
5. The financial years mentioned above shall correspond to the bidder's **audited financial statements** for the respective years.

Place: _____

Date: ____ / ____ / 2026

Signature of the Bidder: _____

Name: _____

Designation: _____

Company Seal: _____

Date: _____

Appendix- G**LIST OF MAJOR CUSTOMERS FORMAT**

(State / Central Govt Depts/ Corporates anywhere in India only)

S.No	Name of the Customer with Full Address	Nature of Supply / Work Executed	Year of supply (Financial Years)		
			2022-23	2023-24	2024-25

Note:

- The bidder shall furnish details of major customers comprising State Government Departments, Central Government Departments, Public Sector Undertakings (PSUs), Autonomous Bodies, Government Organization and Corporate Organizations anywhere in India.
- The bidder shall indicate the relevant financial year(s) in which the supply/work was executed in the appropriate column(s).
- The details furnished shall be supported by Work Orders/Purchase Orders/Completion Certificates/Performance Certificates, wherever applicable.
- TTD reserves the right to verify the information furnished by the bidder from the respective customer organizations.

Place: _____

Date: ____ / ____ / 2026

Signature of the Bidder: _____

Name: _____

Designation: _____

Company Seal: _____

Date: _____

Appendix – H**BIDDERS INFORMATION FORMAT**

1	Name of the Bidder / Firm	
2	Constitution of the Firm (Proprietorship/Partnership / Private Limited / Public Limited / LLP /Others)	
3	Year of Establishment/Incorporation	
4	Registered Office Address	
5	Corporate/Head Office Address (if different from Registered Office)	
6	Phone no	
7	Fax No	
8	Email and Website if any	
9	Name Designation, Mobile Number and E-mail ID of the Authorized Contact Person	
10	GSTIN	
11	PAN	
12	Details of Earnest Money Deposit (EMD) furnished (Online/Bank Guarantee No., Date, Bank Name and Amount)	
13	Any other relevant information	

Declaration

I/We hereby certify that the information furnished above is true and correct to the best of my/our knowledge and belief. In the event of any information being found false or incorrect at any stage, Tirumala Tirupati Devasthanams (TTD) shall have the right to reject our bid and take appropriate action as deemed fit in accordance with the provisions of the Tender Document.

Place: _____

Date: ____ / ____ / 2026

Signature of the Authorized Signatory

Name: _____

Designation: _____

Name of the Bidder/Company: _____

Business Address: _____

Mobile No.: _____

E-mail ID: _____

(Company Seal)

Appendix – I**DECLARATION REGARDING CLEAN TRACK RECORD****To**

The Executive Officer,
Tirumala Tirupati Devasthanams,
Tirupati.

Declaration

Sir,

I/We have carefully read and understood all the terms and conditions contained in the Tender Document dated ____ / ____ /2026 and hereby declare that **M/s.** _____, the Bidder/Company and the Original Equipment Manufacturer (OEM) (wherever applicable), for whom I / we are duly authorized to participate in this tender, have not been debarred, blacklisted, banned, suspended, or declared ineligible by any Central Government, State Government, Public Sector Undertaking (PSU), Autonomous Body, Statutory Authority, or any Government Organization in India on account of unsatisfactory performance, breach of contract, corrupt, fraudulent, collusive, coercive, or any other unethical business practices as on the date of submission of this bid.

I/We further declare that there are no pending orders of blacklisting/debarment against the Bidder/Company or the OEM issued by any of the above authorities.

I/We certify that I/we am /are duly authorized and competent to make this declaration on behalf of the Bidder/Company.

I/We further undertake that, if any information furnished in this declaration is found to be false, incorrect, misleading, or suppressed at any stage of the tender process or during the execution of the contract, Tirumala Tirupati Devasthanams (TTD) shall be at liberty to reject our bid, cancel the award of contract, forfeit the Earnest Money Deposit (EMD)/ Performance Security, terminate the contract, blacklist the Bidder, and initiate appropriate civil and/or criminal proceedings in accordance with the applicable laws and the provisions of the Tender Document, without prejudice to any other rights or remedies available to TTD.

Place: _____

Date: ____ / ____ / 2026

Signature of the Authorized Signatory

Name: _____

Designation: _____

Name of the Bidder/Company: _____

Business Address: _____

Mobile No.: _____

E-mail ID: _____

(Company Seal)

Appendix – J**MALICIOUS CODE CERTIFICATE**

We, M/s. _____, hereby confirm the followings: -

- a) This is to certify that the Hardware and the Software being offered, as part of the Contract / Tender, does not contain Embedded Malicious code that would activate Procedures to:
- (i) Inhibit the desires and designed function of the equipment
 - (ii) Cause physical damage to the user or equipment during the exploitation.
 - (iii) Tap information resident or transient in the equipment/ network.
- b) We also confirm that we shall be considered to be in breach of the procurement contract, in case physical damage, loss of information or infringements related to copyright and Intellectual Property Right (IPRs) are caused due to activation of any such malicious code in embedded software. Above is for information, record and ready reference.

Signature of the Authorized Signatory

Name: _____

Designation: _____

Name of the Bidder/Company: _____

Business Address: _____

Mobile No.: _____

E-mail ID: _____

(Company Seal)