



**NOTICE FOR INVITING TENDER FROM APPROVED EMPANELLED VENDORS AT CHANDIGARH CIRCLE FOR SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CCTV SYSTEM AND THEIR MAINTENANCE (INCLUDING MAINTENANCE OF EXISTING CCTV SYSTEM) AT BRANCHES/ OFFICES/ CELLS OF STATE BANK OF INDIA UNDER ADMINISTRATIVE OFFICE SHIMLA**

**TO BE SUBMITTED**

ON OR BEFORE UP TO 1230 HRS ON 25.11.2024

**ADDRESS FOR COMMUNICATION**

Deputy General Manager (B &O)  
State Bank of India  
Administrative Office  
40 SDA Complex, Kasumpti,  
Shimla, Pin code-171009

Name of the Vendor .....

Address:-.....

Contact no: .....

**Brief details of tender:-**

1.	Name of the work	<b>Supply, installation, testing &amp; commissioning of CCTV System and their maintenance (including maintenance of existing CCTV System) at Branches/ Offices/ Cells of State Bank of India under Administrative Office Shimla</b>
2.	<b>Empaneled Vendors</b>	<ol style="list-style-type: none"><li>1. M/s Balaji Digital Security Devices, Balaji Tower, Opp. JP Hospital Zirakpur, Mohali</li><li>2. M/s Nitanjali Security Devices Pvt Ltd, Nitanjali House Road No. 26b, Near Sinha Medicos, Rajiv Nagar, Patna – 800024</li><li>3. M/s Hawk Eye Security Devices L-152, Sector 12, Pratap Vihar, Ghaziabad, (UP) 201001</li><li>4. M/s IT Resources, 302, Manjusha Building, 57, Nehru Place, New Delhi- 110019</li><li>5. M/s Multicare Engineers, No. 56 A, Mahesh Nagar, Jaipur (RAJ) -302015</li><li>6. M/s Rajasthan Safety and Security System, B-39/40, Parvati Chamber, Behind Sahara Chamber, Tonk Road, Jaipur 302015, Rajasthan</li><li>7. M/s Digital India Security Products Pvt Ltd, C-22, Sector-63, Noida 203301</li><li>8. M/s Cyrus Electronics Pvt Ltd, Cyrus House, B44/69, Sector Q, Aliganj, Lucknow 226024</li><li>9. M/s Gadsec Solutions, Khasra No. 1147, Rithala Industrial Area, New Delhi 110085</li><li>10. M/s AP Securitas Pvt Limited, Building No. 10, DDA Commercial Complex, Nangal Raya, New Delhi- 110046</li></ol>
2.	Application mode	EOI document may be downloaded from the bank's web site <b><a href="https://sbi.co.in">https://sbi.co.in</a></b> under link of <b>“PROCUREMENT NEWS”</b>
3.	EMD & Security Deposit	<b>Rupees 25000 (Rupees Twenty Five Thousand)</b> in the shape of demand draft in favor of State Bank of India, Administrative Office, Shimla
4.	E-Tender Agency	Online submission up to <b>25.11.2024 up to 1230 hrs. (Both technical bid and Price bid)</b> at <b><a href="http://www.tenderwizard.com/">www.tenderwizard.com/</a></b> SBI tender Contact No. Abhay Kumar MOB – 9708966660.
5.	Date and time of opening of tender	<b>Technical bid: - 25.11.2024 at 1400 hrs. (ONLINE/OFFLINE)</b>

		<b>Price bid: - 25.11.2024 at 1500 hrs. (ONLINE)</b>
<b>6.</b>	Place of opening tender	State Bank of India Administrative Office 40 SDA Complex, Kasumpti, Shimla, Pin code-171009

## **MODE OF SUBMISSION OF TENDER: ONLINE E-TENDER**

The tender shall be submitted ONLINE in two cover system in accordance with the procedure detailed herein below:-

### 1) **Submission of Technical Bid: -**

i) It is required to be submitted through **online mode** as well as in **physical mode**.

ii) After submission of technical bid through online mode at [www.tenderwizard.com/](http://www.tenderwizard.com/), all original documents of technical bid with EMD are required to submit/send in a sealed envelope super scribed as **“Technical Bid documents for new supply, installation and maintenance of CCTV System”** at **Administrative Office Shimla** and that should be reached us on or before 25.11.2024 up to 1230 hrs.

iii) The technical bid should be accompanied by the following documents duly signed (on all pages) by the authorized signatory of the firm/company.

(a) Terms & Conditions as per Annexure-A

(b) An undertaking as per Annexure-B

(c) Information of Vendor on the format attached as per Annexure-C

(d) Certificate for new installation as per Annexure-D

(e) Certificate for service/maintenance as per Annexure-E

(f) Technical specification as per Annexure-F (A1-A10).

(g) Earnest Money Deposit of **Rupees 25000 (Rupees Twenty Five Thousand)** in the shape of demand draft in favor of State Bank of India, Administrative Office, Shimla.

### 2) **Opening of Technical Bid:-**

Technical quotation of empaneled vendors received timely through both i.e. online mode and physical mode only shall be opened at Administrative Office Shimla on 25.11.2024 at 1400 hrs.

3) **Opening of Price bid: -** Price quotations submitted through online mode at [www.tenderwizard.com/](http://www.tenderwizard.com/) and qualified in technical bid shall be opened at Administrative Office Shimla on 25.11.2024 at 1500 hrs.

In case the date of opening of tenders is declared as a holiday, the tenders will be opened on the next working day at the same time. Administrative Office Shimla has the right to accept / reject any or all tenders without assigning any reasons.

**Note: The interested firms are advised to keep on visiting Bank website <https://.sbi.co.in> for any subsequent changes/corrigendum/additions/updates etc., for which there would be no press notifications.**

For and behalf of SBI, Administrative Office, Shimla

**TERMS & CONDITIONS**

**1 WHEREAS THE FIRM** has represented to the Bank that the firm has necessary technical expertise and infrastructure including trained Technician & Engineers, Equipment etc. to undertake the Supply, Installation, Testing & Commissioning of Close Circuit Television and their maintenance including maintenance of existing systems in the Branches / Offices and after sales, their servicing & maintenance for the Bank and offered the Bank, to provide the required services to the Bank purely on contract basis.

**2. VALIDITY OF RATE CONTRACT:**

- a) The Agreement shall be effective from **the date of signing of the agreement** and shall be in force for an initial period of **One Year** and shall automatically be terminated after the expiry of one year unless renewed. However, the same shall be renewable only on getting a written request from the Firm before expiry and at the sole discretion of the Bank.
- b) SBI shall have sole discretion to terminate the contract agreement at any time during the contract period, if considered necessary, for any reason, whatsoever by giving a notice of 30 days.

**3. PROCEDURE AND SCOPE OF WORK**

**(a) FOR SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CLOSE CIRCUIT TELEVISION SYSTEM**

The following procedure of work is to be followed for Supply, Installation, testing & commissioning of Close Circuit Television System in the Branches / Offices:

- a) The Firm(s) will contact the Chief Manager (Operations) of AO / Chief Managers (Operations) of RBOs / Security Officer of Administrative Office Shimla/ Regional Office and obtain the list of the Branches / Offices.
- b) The Supply, Installation & Maintenance will be carried out by the Firm during any working day as per schedule, before or by the date or as and when ordered by branches on requirement basis. The installation of of Close Circuit Television System should be carried out under the supervision of Branch Manager/ Nominated official of the Branch by the Branch Manager. Care should be taken that the DVR/NVR of Close Circuit Television System is installed at a secure place in Branch under Lock and Key arrangement. Monitor to be provided with Branch Manager to regularly monitor the

CCTV footage. The CCTV Surveillance should cover the following key areas in the branch:-

- (i) All entrances and exits of Branch
- (ii) Parking area
- (iii) Onsite ATM cabin and its Parking
- (iv) Branch Manager Cabin
- (v) Banking Hall
- (vi) CCTV should be installed in such a way to cover all cash counters / teller counters operator area of operation and the faces/ activities of the customers.
- (vii) Inside Cash Safe Room to cover operations of cash safe.
- (viii) Inside Gold safe room to cover operations of Gold safe.
- (ix) Entry to Safe Deposit Locker Room
- (x) Joint Operation of Lockers Room
- (xi) Rear of Branch
- (xii) Any sides of Branch (premises surveillance)
- (xiii) **For a Currency Chest Branch,** it shall be mandatory to provide CCTV System which shall always be maintained in working order through service contracts and uninterrupted power supply.
  - a. CCTV shall cover the entire Chest covering all the bins. There shall not be any other dead area for CCTV. Area Outside the chest shall mandatorily cover all the approaches to the Chest, its unshared / exposed walls and peripheral pathway / driveway, if any. Cameras in such places shall be weatherproof and vandal proof.
  - b. Patrolling Corridors
  - c. The cameras should be so installed that all the cash transaction/ handling in currency chest, like receiving of boxes, opening, counting and sorting of cash are covered by cameras
  - d. Cash Department (cash shroffing areas/ Note sorting)

- e. Area outside Currency Chest should also be under CCTV Surveillance so that loading/unloading of cash boxes into/from Cash vans is also covered
- f. Frisking area
- g. Roof top of Currency Chest

c) **FOR MAINTENANCE OF EXISTING SYSTEMS INSTALLED IN THE BRANCHES/OFFICES/CELLS**

- (i). Maintain CCTV System installed in the Branches / Offices in good working order and for this purpose shall provide the maintenance service.
- (ii). Thorough check up, testing, servicing cleaning, inspection, & maintenance etc. of complete CCTV systems and its accessories like XVR, DVR system, Cameras, UPS, BNC Connectors etc.
- (iii). Check the cameras & their lenses for their serviceability. Check picture quality for each of the camera.
- (iv). Check picture quality of all IR/IP cameras during night recording.
- (v). Check availability of 180 days recording for all cameras in motion-detection mode.
- (vi). Check whether the CCTV is being kept switched ON 24X7 and appraise the Branch Manager and Security Officer, if found otherwise.
- (vii). Switch off the regular power supply and check the working of CCTV system on UPS/Battery back-up.
- (viii). To train bank staff on operations of the CCTV system including special features, data retrieval, copy it on pen drive, making of CD, troubleshooting & routine maintenance of CCTV.
- (ix) To rectify the equipment and replace worn out or defective parts of system.
- (x). Retrieval of CCTV footage as and when required / or called by the Bank.
- (xi). Maintain/ update record of CCTV in the Security Information Register.

Note: In case the DVR or the cameras requires major repairs, the vendor shall provide a replacement before taking the defective equipment for repairs so that the branch / Offices remain under CCTV cover all the time.

(xii). **Will have to mandatorily provide quarterly AMC visits at all currency chests and other branches/offices/cells and on-call/ emergency visits without any charge.**

(xiii). There must be a gap of minimum 70 days between two mandatory quarterly visits.

(xiv). The maintenance should be done in the presence of the Branch Manager or some other official of the Branch authorized by the Branch Manager. The engineer/ technician, who should have the Firm's Authority Letter and Identity Card should give demonstration/ training to all authorised staff members during the visit.

(xv). The maintenance of Close Circuit Television System will be carried out at the site and a certificate to this effect will be given to the Branch Manager and a copy of the same be enclosed with the bill.

d) AO/ RBOs to accord financial sanctions based on the clearance from Security Officer and issue work order in writing to the Firms.

e) For New Supply and Installation of the Close Circuit Television System, after obtaining the orders from the AO/ RBOs/ Branches in writing, the Firm will prepare Bill of Quantity (BOQ) and submit to the concerned branch/ office/cell.

f) AO/ RBOs/ Branches will get the BOQ vetted from the Security Officer posted at the AO/ RBO and release payment accordingly only after successful installation.

g) The work shall be completed within **03 DAYS** from the date of receipt of the work order.

h) Firms to complete the Supply, Installation work and get Installation/ Maintenance Certificate signed from the BM as per sample enclosed (**Annexure-'D' or Annexure-'E', as applicable**) in addition to the Firms/ Company's service certificate.

**i) Four copies of "Installation/ Maintenance Certificate" (sample copy enclosed as Annexure-'D'/Annexure-'E', as applicable)** will be prepared by the Firm and submitted to the following officials.

(i) CM (Operations)of AO/ CM (Operation) of RBO.

(ii) Zonal Security Officer of AO/RBO.

(iii) Branch Manager.

(iv) Their own copy.



- j) The Firm shall submit bills supported by Installation/ Maintenance Certificate, Tax Challan etc. to the concerned Branch / CM (Operation) for payment.
- k) The representative of the Firm should arrange to visit branches/offices during working hours, but they should try and complete their task well before the closing of working hours.
- l) The visiting mechanic / technician of the Firm, who should be in possession of identity card and authority letter, shall carry out the Periodic Inspection of of System. The following procedure shall be followed for maintenance of of Close Circuit Television System at the Branches / Offices:
- m) By accepting the work order placed by the Bank, the Firm shall assume all responsibilities and fully indemnify the Bank against liabilities and consequences of any damages to any part / equipment of the building and any accident / injury to any person, whether Firm's employee or anyone else, during the course of execution of work. The Firm shall reinstate all damages of any sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and also make good or otherwise satisfy all claims for damages to the property or of third parties.
- n) In case of any break down (minor/major) qualified technical/engineer should be deputed by the firm for repairing the system. On receipt of information from the branches/RBO/AO the firm shall respond within 72 hours. The repairs/servicing of the system/equipment's shall be done as per the guidelines of the respective manuals of the manufactures. In case the system requires major repairs, the Firm shall provide a replacement before taking the defective system for repairs.
- o) The Firm shall make necessary arrangements to acquire insurance cover against fire, damage, accidents, injury to workmen during installation work and of equipment till it is tested, commissioned, and handed over to the Bank. The acceptance of this work order by the Firm shall automatically indemnify the Bank against any claim pertaining to or arising out of the said work till the system is tested, commissioned, and handed over to the Bank.
- p) Any damage caused to the existing structure, wiring, other devices / equipment during installation shall have to be made good by the Firm at its own expense, failing which the Bank will be free to do the needful to restore the status-quo-ante at the risk

- and cost of the Firm and shall recover the cost for such rectification from the Firm's final bill or EMD as deemed fit.
- q) While carrying out wiring, it should be ensured that adequate flexibility is available in the wiring to allow the renovation work on the floor, whenever required. Required margins from the ceiling on each floor to allow renovation work, whenever required, will have to be catered for while executing the installation in consultation with Branch Manager/ Electrical Engineer.
- r) All cables / wires, sensors, panic switches should be properly anchored / fixed. The wiring for the system should be so spaced to cause no electrical interference in the data cables; this aspect shall be tested and confirmed by the Firm during the progress of the work. Whenever the data cables have to be crossed, as far as possible, the pattern of other electrical wiring shall be followed.
- s) A sample of all the cables/ wires/ connectors used should be provided by the Firm to the Branch Manager and Security Officer at AO Shimla for verification and comparison purpose.
- t) The Firm shall ensure that the work is carried out neatly and Bank's ambience is not disturbed. The Firm shall also ensure that there should be no damage to Bank's property/or any decorative structure, while carrying out the work. The contractor will rectify the damages at his own cost.
- u) The Firm will ensure that whenever the work is to be carried out in the working hours, the entire work involved shall be carried out with least disturbance. All dismantling work and work generating noise shall be done after office hours and holidays and day-time work shall have to be done in restricted hours, after obtaining written permission from the Branch Manager.
- v) The debris/ dust or any wastage generated out of the above work shall be cleaned as frequently as required and as instructed by the Branch Manager/ Bank's Engineer.
- w) The Firm shall make adequate arrangement for watch and ward of his material and shall ensure the safety, breakage and any theft of such material fixed or unfixed by him.
- x) The work executed/ equipment supplied should be got inspected by the authorized Official and the contractor shall rectify any bad workmanship/defect pointed out at any stage and rectify the same.

y) The Firm shall be responsible for the application of labour laws, all other social security enactments applicable to such works and workmen and compensation for injury and accident to person, if any, employed by it.

z) The statutory deductions like income tax and any other taxes, as applicable shall be deducted at source from each payment of the Firm.

aa) The Bank will be within its right to ask for the testing of item(s) supplied/material used from the competent/approved agency. The cost of testing will have to be borne by the Firm.

ab) The dealership of the Firm shall not be allowed to be discontinued by the principal manufacturer during the contract period. The Bank will be free to forfeit the security deposit of Firm in case dealership of the Firm is canceled by the principal manufacturer during the contract due to any reason.

4. **Firm shall, under no circumstances, be allowed any enhancement of rates for 12 months i.e., one year from the date of signing of the contract** The rates accepted are inclusive of packaging, labour, transportation, installation charges, toll taxes and **all other taxes, Except GST as applicable. No extra or additional charges other than the ones quoted in the respective tenders shall be allowed. It is also made clear that firm completely indemnify the Bank against such dues and/or any claims made by any statutory authority subsequently, and to settle all such claims shall remain firm's responsibility.**

5. In case of a serious lapse or non-fulfillment of any terms & conditions, the contract is liable to be canceled with forfeiture of the 'Security Deposit'/ 'Performance Guarantee Deposit'. The authority to take a decision in this regard shall be vested in the Security Officer/ Chief Manager (Operations) of AO Shimla/RBO, with the approval of the Competent Authority.

6. The Bank reserves the right, to make changes in method and specifications of work within the overall framework of the terms and conditions.

7. The Bank also reserves the right to seek downward revision of prices after the initial fixed rate period, if it finds that the prices have fallen 30% or more of the equipment being supplied.

8. All components/sub-assemblies/spares used shall be as per the Technical Specifications of the Bank. No deviation shall be allowable in this regard, unless approved by Administrative Office Shimla.

9. The responsibility for maintaining the equipment during the Warranty period and later during AMC, would be of the concerned contractor who has to diarize the schedule and ensure that the needful is done on or before the due date, but not more than 30 days before the due date.

10. **Warranty period:** For new supply of the of Close Circuit Television system, it shall be **12 calendar months** from the date of supply against any manufacturing defects.

11. The Firm shall attend to any other unforeseen, reasonable requirement of the Bank within the overall framework of the contract, which may arise during the course of operations/currency of Contract.

12. The Bank reserves the right to mete out penalty from the Firm upon receipt of recommendations duly supported by documents, from the Administrative Office /Branches/Cells.

13. The Bank shall extend its co-operation to facilitate the smooth execution of this contract. Any work which is not in the scope of this, if deemed necessary for enhanced security purpose may be arranged by the branch at its own cost. Any difficulty faced by the contractor in execution of this contract shall be brought to the notice of Security Officer of AO Shimla/ RBO without any delay.

14. In case of any dispute the procedure (under Arbitration Act 1996) shall be taken recourse to. **The courts at Shimla** shall alone have jurisdiction in this regard.

15. Notwithstanding any condition stipulated above, Poor performance, abnormal delay in completion of work, abandoning of allotted work, bankruptcy, for any activity detrimental to the interest of the Bank and cancellation of empanelment, the Bank shall have the right to instantly revoke / cancel the said contract without prior notice. In this regard, decision of the Bank will be final and binding on the Firm. The said contract is not binding on the Bank, and it is sole discretion of the Bank to cancel/terminate the contract without assigning any reason thereof with liability to pay only for the equipment supplied and installed at its entities.

16. **PAYMENTS AND DEDUCTIONS**

a) No advance payment will be made by the Bank. Payment will be made against supply and installation of material only.

b) **In Case of New Supply and Installation of Close Circuit Television System:**

In case of new supply and Installation of Close Circuit Television System at the branches/ offices/ cells, the Firm will submit an estimate to the branch/ office/ cell and on confirmation will supply and install the system together with the Bill. The Bills for new supply and installation of Close Circuit Television System will be vetted by the Security Officer posted at Administrative Office Shimla or Regional Office. On satisfactory completion of work respective Branch/ office/cell will pay the 95% amount of the bill to the Supplier and retain the 5% amount for one year warranty period, which will be released by the branch on completion of warranty period.

c) **In Case of Maintenance of Close Circuit Television System:** On completion of the Maintenance of Close Circuit Television System at the branches/ offices/ cells, the firm will submit their bills along with work completion certificate/ Service certificate duly signed by the Branch Manager to the respective Regional Business Office (RBO) and respective RBO will arrange to pay the bills after duly vetted by the Security Officer posted at Administrative Office Shimla or Regional Office.

d) The rates above are including all Taxes and other statutory dues.

#### 17. **PERFORMANCE GUARANTEE DEPOSIT & PENALTY:**

a) **NEW SUPPLY & INSTALLATIONS** Period of completion/execution of work/order for new supply & installations will be 03 days from the date of receipt of order. In case of delay in completion/execution of work/order a penalty of **Rs 100/-** per day per system subject to the maximum of 10% of cost of respective work/order shall be levied. Bank reserves its right to deduct the penalty amount from the billed amount or from the security money/deposit. The bank has the right to terminate the contract and forfeit the EMD & security money, if the vendor abandons the work or fails to commence and complete the work by given time or fails to abide by the contract conditions.

b) **DURING WARRANTY PERIOD** similarly, the Applicant, on execution of work, will also be required to attend to the complaints of Close Circuit Television System within 72 hours during the warranty period. In case of delay beyond above period in attending to the complaint during warranty period a **penalty of Rs 100/- per day per system (subject to the maximum 10% of billed amount)** shall be levied. Bank reserve its right to get the faulty items/systems repaired/ replaced at the risk & cost of vendor. Bank also

reserves its right to deduct the penalty amount from security money/deposit or from the any pending bills/dues.

c) Performance Guarantee (Security Deposit) of **Rs 50000 (Rupees Fifty Thousand only)** in shape of Fix Deposit Receipt (FDR) to be required to submit by successful bidder(L-1) and shall be retained by the Bank, during the entire contract period. In case Firm fails to supply the Security equipment in any of the branch in the allotted region for more than 30 days, Bank reserves the right to cancel the whole contract and forfeit the Security Deposit.

d) In case of supply of substandard materials. The acts, contrary to the laid down norms, or on detection of any tendency to cheat the Bank, the contract to the company will be cancelled without prior notice and the Firm will be delisted or blacklisted from the Bank.

e) **FOR AMC VISITS** For delay beyond 72 hours of getting to attend the break down complaint during AMC, penalty at the rate of Rs. 100/- per day to a maximum of 10% of the total AMC value shall be imposed. This amount shall be deducted from the AMC bill or Security Deposit as deemed fit.

**UNDERTAKING**

We undertake:-

(a) That we will carry out the supply/maintenance/service/ testing work of bank’s CCTV System (of any make) & supply of new CCTV System (of approved make) in the branches /offices of State Bank of India located in the state of Himachal Pradesh.

(b) That we will carry out the work at all allotted centers/branches/offices under the Administrative Office Shimla and will have our Service Center with technicians/representative **at Shimla as well as Hamirpur District (02 service center)** in the Himachal Pradesh. So as to be able to attend to the calls from branches/offices for maintenance/service & supply of CCTV System etc. promptly. We will also continue to keep activated a dedicated e-mail ID for receiving the complaints from branches/offices. We also undertake that we will receive the complaints from branches/offices from 9:30 AM to 5:30 PM telephonically on all banks working days. We also undertake that due record of each complaint lodged by branches/offices of bank will be maintained by us and complaint/docket number will be given to complainant.

Place:

Authorised Signatory of the  
firm / company with Seal

Date:

**INFORMATION OF VENDOR****SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CCTV SYSTEM AND THEIR MAINTENANCE (INCLUDING MAINTENANCE OF EXISTING SYSTEMS) AT BRANCHES/ OFFICES/ CELLS OF STATE BANK OF INDIA UNDER ADMINISTRATIVE OFFICE SHIMLA**

1. Name of the Firm/ Company/Agency : \_\_\_\_\_
2. Address with Communication Nos.
  - (a) Head Office : \_\_\_\_\_
  - (b) Local Office (s) in Service Center  
in the Himachal Pradesh : \_\_\_\_\_
3. Complaint attendance System.
  - (a) Land Line : \_\_\_\_\_
  - (b) Mob No : \_\_\_\_\_
  - (c) Dedicated e-mail : \_\_\_\_\_
4. Status of Firm (Whether Company/  
Firm/ Sole Proprietary) : \_\_\_\_\_
5. Organization Details ( Name of  
Directors / Partners / Proprietor ) : \_\_\_\_\_
6. Name and Address of Banker : \_\_\_\_\_  
Bank account No : \_\_\_\_\_
7. Name of Original Equipment Manufacturer : \_\_\_\_\_
8. Validity of Dealership Certificate : \_\_\_\_\_  
(Enclose Copy of Certificate)
9. GST No : \_\_\_\_\_
10. PAN : \_\_\_\_\_
11. EMD details
  - (a) DD No : \_\_\_\_\_
  - (b) Date & Amount : \_\_\_\_\_

Authorised Signatory of the firm / company  
with Seal

Place : .....

Date : .....



**CERTIFICATE**

**(Applicable for New Installation)**

It is to certify that the of Close Circuit Television system has been installed at .....(Name of the branch) on ....., in accordance with Administrative Office Shimla, .....vide their letter No.....dated ..... and the system is working satisfactorily. All the items as per invoice No..... dated.....have been installed at the branch and have been physically verified by the Branch Manager.

2. It is further certified that working of Close Circuit Television system has been explained to the following staff members by Shri....., authorised representative of M/S.....

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Signature</b>
1			
2			
3			
4			
5			

Signature

( )

Authorised Representative

Branch Manager

(Branch Seal)

M/s .....

Date : .....

**CERTIFICATE**

**(Applicable for Service/ Maintenance)**

It is to certify that the of Close Circuit Television system installed at .....(Name of the branch) has been checked by Shri ....., authorised representative of M/s ..... on .....(date), in accordance with Administrative Office Shimla, .....letter No.....dated ..... and the system is working satisfactorily.

2. It is further certified that working of Close Circuit Television system has been explained to the following staff members by Shri....., authorized representative of M/s.....

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Signature</b>
1			
2			
3			
4			
5			

Signature

( )

Authorised Representative

M/s .....

Date : .....

Branch Manager

(Branch Seal)

**TECHNICAL SPECIFICATION CLOSE CIRCUIT TELEVISION (CCTV) SYSTEM**

<b>S.No</b>	<b>Item</b>	
(a)	<b><u>XVR/NVR</u></b>	<b><u>MAKE &amp; MODEL APPROVED</u></b>
	(i) AI based HD (For HD & IP) 16 Ch with 8 SATA XVR	Dahua/DH-XVR5816S-I3 Hikvision/ DS-8116HQHI-K8 Cp Plus /CP-UVR-1616K8-H
	(ii) AI based HD (For HD & IP) 32ch with 8 SATA XVR	Dahua/ DH-XVR5832S-I3 Hikvision/ DS-8132HQHI-K8 Cp Plus/ CP-UVR-3216K8-H
	4 CH Network Video Recorders (NVR)	Dahua/ DHI-NVR4204-4KS2/L Hikvision/ DS-7608NI-K2 Cp Plus/ CP-UNR-4K4082-V2
	8 CH Network Video Recorders (NVR)	Dahua/ DHI-NVR4416-4KS2/I Hikvision/ DS-7716NI-K4/DS-7708NI-Q4 Cp Plus/ CP-UNR-4K4164-I
	16 CH Network Video Recorders (NVR)	Dahua/ DHI-NVR4816-4KS2/I Hikvision/ DS-8616NI-K8 Cp Plus/ CP-UNR-4K516R8-V2
	32 CH Network Video Recorders (NVR)	Dahua/ DHI-NVR4832-4KS2/I Hikvision/ DS-8632NI-K8 Cp Plus/4K532R8-V2
(b)	<b><u>Camera:</u></b>	
	(i) 3MP or higher Standalone IP Cam with 256GB SD Card slot with Inbuilt Audio (Fish Eye Camera)	Dahua/DH-IPC-EW5541P-AS Hikvision/ DS-2CD2935FWD-IS Cp Plus/ CP-UNC-EE51L1C-VMD
	(ii) 2 Megapixel IP IR Dome Varifocal Camera	Dahua/ DH-IPC-HDBW2231RP-ZAS-S2 Hikvision/ DS-2CD3721G0-IZS Cp Plus/ CP-UNC-VC21ZL4-VMDS
	(iii) 2 Megapixel IP IR Bullet Varifocal Camera	Dahua/ DH-IPC-HFW2231TP-ZAS-S2 Hikvision/ DS-2CD3621G0-IZS Cp Plus/ CP-UNC-TC21ZL6-VMDS
	(iv) 2 Megapixel IP IR Dome fixed lens Camera	Dahua/ DH-IPC- HDBW2231FP-AS-S2 Hikvision/ DS-2CD3121G0-ISF Cp Plus/ CP-UNC-VC21L5-VMDS
	(v) 2 Megapixel HD IR fixed lens IP Bullet Camera	Dahua/ DH-IPC-HFW2241T-AS Cp Plus/ CP-UNC-TC21L5C-VMDS
	(vi) 2 Megapixel IP IR Dome fixed lens Camera withinbuilt Micro SD/SDHC/SDXC card slot for min 256 GB with 24*7 Colour image	Dahua/ DH-IPC-HDW2231TP-AS-S2 Hikvision/ DS-2CD3321G0-IUF Cp Plus/ CP-UNC-DB21L3C-MDS
(c)	<b><u>Other Components:</u></b>	
	(i) Hard Disk	Seagate SKYHAWK / WD Purple Video Surveillance Series
	(ii) Monitor (Surveillance grade)	Samsung/ Dell/ LG/Acer/Equivalent
	(iii) Cable Video	Finolex/Polycab/Polycab or equivalent
	(iv) Electrical Wire	ISI Marked
	(v) PVC & Conduit	ISI Marked

(vi) 6 U Rack	D Link/ Equivalent
(vii) Sd Card	Sandisk/Hikvision/Honeywell
(viii) Network Switches	D Link /TPLINK / CISCO or equivalent

### Annexure-‘F’-A1’

#### XVR for (HD & IP Cameras) FOR 16 & 32 CHANNELS

S. No	Parameter	Specification
1.	Compatibility	Pentabrid Support (Analog cameras (mandatory), AHD, CVI, TVI (minimum one out of the three other than itself) and IP(Onvif) video output,tamper proof.
2.	Compression Method	H.265+ to Achieve Max recording days
3.	System Resources	Pentaplex function:recording, playback, live view, backup, remoteaccess over IP network
4.	Recorder Control Options	Video Front panel, IR Based remote control, Keyboard (both RS232cand IP), IP network, USB/wireless mouse
5.	Analog / HD Camera Input	Minimum 16 VideoChannel, BNC interface,
6.	IP Camera Input	2MP,1080P; IP Camera of upto 6MP support (Min 2 channel max can be 24 (Disabling 16 HD Ports for 6ch) and 40IPC by disabling 32ch HD port of 32ch DVR
7.	Recorder Video output	Minimum 1 VGA, 1 HDMI, RCA
8.	Recorder Audio Input	Minimum 1 audio channel,BNC or RCA
9.	Recorder Audio output	1 audio channel, BNC orRCA
10.	Recorder Bidirectional Talk	1 channel Input, BNC, 1channel Output, BNC or RCA
11.	Display Screen Mode	1,4,8,9,16,32, ALL (Window)
12.	Camera Scheduling	Supported (continuous/motion/ event based)
13.	On Screen Display	Date, Time, Camera Title, Video loss alert, motion detection alert, recording,camera lock alert, camera tampering, camera masking.
14.	Video/Audio Compression	H.265+ /G.711 respectively(One Channel) or higher
15.	Image Resolution	All channel HD, real-time recording @ 25 fps in all channels with selectable fps simultaneously.
16.	Encoding Stream	CIF; 2CIF; 4CIF; HD1; D1; 1080P or higher, real time recording @ 25 fps in all channels with selectable fps
17.	Video Encoding Bit Rate	Analog video:32~2048 Kb/s or higher, IPvideo: 32~4096Kb/s orhigher
18.	Image Quality	6 levels (VBR/ CBR)
19.	Recording Mode	Manual, Schedule,Regular, Motion detection,Camera blank, Video loss.Stop Recording. FIFO and auto overwrite facility should be there

20.	Recording Priority	Manual; Alarm; MotionDetection & regular
21.	Recording Interval	Prerecord: 1sec to 30 sec., Post-record: 10sec ~5 minutes
22.	Alarm Input	16 Input and 4 Output
23	Functionality	Support multiple VCAevents for both analog andIP cameras.
24.	Relay Output	Supported maximum2
25.	Water Marking	Supported
26.	Playback Channel	1,2,4,16
27.	Recorded Data Search Mode	Video Time & Date, Exact search (with Date, Hour,Minute and Second accuracy), MotionDetection, Alarm.
28.	Playback Options	Play, Digital zoom (any size), Pause, Rewind, Slow motion, shift to Next file, shift to Previous file, one click Previous camera, one click Next camera, Full screen mode, Replay, Backup selection, Fast forward, Shuffling and masking. Provision for support of the 3rd party cloud storage (Global Standard Cloud support).
29.	Operation OverNetwork	Monitor, Playback, Filedownload, Log information, Systemsetting,
30.	Hard Drive Storage Option	<b>16 &amp; 32Channel – 8 SATA.</b> Should support up to 10TB per SATA port. Channel shouldhave e-SATA interface
31.	USB Interface	Minimum 2 Ports (oneshould be 3.0)
32.	Serial Interface	1 RJ45 RS-232 interface; 1 RS-485interface,1 RS-485keyboard interface
33.	Power Supply	AC 100~240 V, 50/60 Hz
34.	Working Environment	All Indoor weather conditions
35.	Duplex type	Recorder should be ableto playback recorded footage without having to stop recording
36.	Certificate	UL/FCC & CE & BIS
37.	HDD quality	Surveillance (2/4/6 /8/10TB)

#### Annexure- 'F'A2'

#### NVR FOR 4/8/16/32 CHANNEL

S. No	Parameter		Specification
1.	Compatibility		IP cameras, tamper proof.
2.	Compression Technology		H.265+
3.	System Resources		Pentaplex function: recording, playback, live view, backup, remote access over IP network.
4.	Recorder Options	Control	Video Front panel, IR Based remote control, Keyboard (Both RS232c and IP), IP Network, USB/wireless mouse
5.	IP Camera Input		Minimum 4/8/16& 32 IP channel/ and each supporting upto 8 MP

7.	Recorder Video Output	Minimum 1 VGA, 1 HDMI			
8.	Recorder Audio Input	Minimum RCA	1	audio	channel
9.	Recorder Audio Output	1 audio channel, RCA			
10.	Recorder Bidirectional Talk	1 channel Input, BNC,1 channel Output, RCA			
11.	Display Screen Mode	1,4,8,9,16, 32, ALL (Window)			
12.	Camera Scheduling	Supported(continuous/ motion/ event based)			
13.	On Screen Display	Date, Time, Camera Title, Video loss alert, motion detection alert, recording, camera lock alert, camera tampering, camera masking.			
14.	Video/ Audio Compression	Minimum H.265+or better/G.711 respectively (One Channel) or higher			
15.	Image Resolution	1080P(2MP) or higher, real- time recording @ 25 fps in all channels with selectable fps simultaneously.			
16.	Encoding Stream	1080P(2MP) or higher, real time recording @ 25 fps in all channels with selectable fps simultaneously. Should support upto 8 MP.			
17.	Video Encoding Bit Rate	IP video: 32~4096Kb/s orhigher			
18.	Image Quality	6 levels (VBR) or equivalent.			
19.	Recording Mode	Manual, Schedule, Regular,Motion detection, Camera blank, Video loss. StopRecording, FIFO andauto overwrite facility			
20.	Recording Priority	Manual; Alarm; MotionDetection & Regular			
21.	Recording Interval	Pre-record: 1sec to 30 sec.,Post-record: 10sec ~ 5 minutes			
22.	Alarm Input	Supported Minimum 4			
23.	Relay Output	Supported Minimum 1			
24.	Water Marking	Supported			
25.	Playback Channel	1,2,4,16,32			
26.	Recorded Data	Video Time & Date, Exact search (with Date, Hour,			

	SearchMode	Minute and Second accuracy),Motion Detection, Alarm
27.	Playback Options	Play, Digital zoom (any size), Pause, Rewind, Slow motion, shift to Next file, shift to Previous file, one click Previous camera, one click Next camera, Full screen mode, Replay, Backup selection, Fast forward, Shuffling and masking. Provision for support of the 3rd party cloud storage (Global Standard Cloud support).
28.	Operation Over Network	Monitor, Playback, Filedownload, Log information, System setting.
29.	Network protocols	HTTP; HTTPS;TCP/IP;IPv4/IPv6; UPnP; SMTP; NTP; DHCP; DNS; DDNS; FTP; Alarm Server, IP search
30.	Hard Drive Storage Option	For <b>4 Channel – 2 SATA, 8channel - 4 SATA, 16 &amp; 32 Channel – 8 SATA</b> . Should support, up to 8 TB per SATA port.
31.	USB Interface	Minimum 2 Ports (one shouldbe 3.0) for all & 1 e-SATA (for 16& 32
32.	Serial Interface	1 Nos RJ45 Interface for 4 & 8 and <b>2Nos RJ45 for 16&amp; 32</b>
33.	Power Supply	AC 100~240 V, 50/60 Hz
34.	Working Environment	All Indoor weather conditions
35.	Duplex type	Recorder should be able to playback recorded footage without having to stop recording
36.	Certificate	CE, FCC, UL& BIS
37.	Compatibility	ONVIF registered for relevantprofiles.
38.	HDD quality	Surveillance (2 TB / 4 /6 /8TB)

**Annexure- 'F'A3'**

Sr.	Parameters	Specifications
No		
<b>Company</b>		
<b>Model</b>		

1	Video standards	H.265+/H.265/H.264 / MPEG4 / MJPEG
2	Sensor	1/2.8 inch Progressive scan CMOS
3	Scanning	Progressive Scan system
4	System Compatibility	System Compatibility ONVIF(Profile G,S)
5	Resolution	2048 × 1536 (3MP)
6	Display Mode	14 Display mode Fisheye View, 180 Panorama View, 4PTZ, Fisheye + 3PTZ, 360 Panorama View, 360 Panorama + PTZ, 360 Panorama + 3PTZ, 360 Panorama + 6PTZ, 360 Panorama + 8PTZ, 2PTZ, Fisheye + 8PTZ, Panorama View, Panorama + 3PTZ, Panorama + 8PTZ
7	Field of View	horizontal field of view 180°, vertical field of view 180°
8	Frame Rate	25fps (1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720)
9	Lens	1.16mm Lens to Achieve 180° View
10	Minimum Illumination	Color: 0.005Lux @ (F1.2, AGC ON), 0.017Lux @ (F2.2, AGC ON), 0 Lux with IR on
11	IR Cut Filter	Yes & with Auto switch
12	Wide Dynamic Range	120dB (less than 120dB not acceptable)
13	Audio Input-Output	Should supports, 1 audio input (line in), 1 audio output interface G.711/G.722.1/G.726/MP2L2/PCM
14	Alarm Input-Output	1 alarm input, 1 alarm output (12 VDC, max. 30 mA)
15	Intelligent Video Functions	Video tampering alarm, HDD full, HDD error, network disconnected, IP address conflicted, illegal login
16	Intelligent Video Functions	Motion detection, dynamic analysis, intrusion detection, line crossing detection
17	Protocols	TCP/IP, HTTP, HTTPS, FTP, DHCP,
18	Ethernet	1 RJ45 10M / 100M Ethernet port
19	Input voltage	12 VDC, 0.4 A, max.5 W PoE (802.3af, 36 V to 57 V), 0.2 A to 0.1 A, max.6.5 W
20	General	One-key reset, anti-flicker, password protection, privacy mask, IP



	Function:	Address filtering, health monitoring, watermark
21	Operating Temp.	-10 °C to +50 °C
22	Local Storage	Micro SD/SDXC card slot, up to 128GB Surveillance Grade
23	Housing & Mount	Housing & Mount
24	Certification	<b>BIS Standard (Indian Standard IS:13252)</b>

## Annexure- 'F'A4'

### **2 MEGAPIXEL VARIFOCAL IP IR DOME CAMERA**

S.No	Feature	Specification
1.	Image Sensor	2 Megapixel progressive scan CMOS
2	Compression technology	Efficient H.265+ compression
2.	Effective Pixels	1920 x 1080
3.	Electronic Shutter	Auto/Manual, 1/3(4)~1/10000s
4.	Video Frame Rate	25 fps @ 2 Mega Pixel
5.	Wide Dynamic Range WDR	<b>120dB True WDR</b>
6.	Mini. Illumination	0.005 Lux/F1.4(Color);0Lux/F1.4(IR on)
7.	Stream Support	Triple Stream (One for NVR, One for Command centre and one for Mobile Access) <u>DUAL Stream not accepted</u>
8.	Min. IR Length	<b>40m</b>
9.	Day/Night	Auto(ICR) / Color / B/W
10.	Back Light Compensation	True WDR (Minimum120 dB or higher)
11.	Audio In/Out for Bi-directional Talk	Audio port I/O 1/1
12.	Focal Length (lens)	2.7~13.5mm with <b>Motorized Lens</b>
13.	Video Compression	H.265+ or higher
14.	Alarm Port In/Out	1 input, 1 output
15.	Frame Rate (tripleStream)	Main Steam 2MP @25 fps, Sub Stream D1 @ 25 fps Third Stream CIF @1 fps
16.	Bit Rate	H.265: 40K ~ 8192Kbps
17.	Network Ethernet	RJ-45 (10/100Base-T)
18.	Network Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
19.	Compatibility	ONVIF
20.	Power Supply	DC12V, PoE (802.3af)
21.	Working Environment	-30°C~+60°C / Less than 95%RH (no condensation)
22.	Ingress Protection	Min IP67

23.	Vandalism Protection	IK 10 rated , METAL BODY Camera
24.	Video Analytics	Motion detection, video tampering alarm, exception, Line crossing detection, intrusion detection
25.	Certification	<b>BIS Standard (Indian Standard IS:13252)</b>
26.	Memory card	<b>Up to 256 Gb</b>
27.	Mac ID	Should be in the name of OEM

Annexure- 'F' A5'

## **2 MEGAPIXEL IP IR DOME FIXED LENS CAMERA**

<b>S.No</b>	<b>Feature</b>	<b>Specification</b>
1.	Image Sensor	2 Megapixel progressive scan CMOS
2.	Compression technology	Efficient H.265+ compression
2.	Effective Pixels	1920 x 1080
3.	Electronic Shutter	Auto/Manual, 1/3(4)~1/10000s
4.	Video Frame Rate	25 fps @ 2 Mega Pixel
5.	Wide Dynamic Range WDR	120dB True WDR Only accepted
6.	Mini. Illumination	0.005 Lux/F1.4(Color);0Lux/F1.4(IR on)
7.	Stream Support	Triple Stream (One for NVR, One for Command centre and one for Mobile Access) DUAL Stream not accepted
8.	Min. IR Length	40m
9.	Day/Night	Auto(ICR) / Color / B/W
10.	Back Light Compensation	True WDR(Minimum120 dB or higher)
11.	Audio In/Out for Bi-directional Talk	<b>Audio port I/O 1 input, 1 output</b>
12.	Focal Length (lens)	2.8mm Fixed lens
13.	Video Compression	H.265+ or higher
14.	Alarm Port In/Out	<b>Alarm port I/O 1 input, 1 output</b>
15.	Frame Rate (triple Stream)	Main Steam 2MP @25 fps, Sub Stream D1 @ 25 fps Third Stream CIF @1 fps
16.	Bit Rate	H.265: 40K ~ 8192Kbps
17.	Network Ethernet	RJ-45 (10/100Base-T)
18.	Network Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
19.	Compatibility	ONVIF
20.	Power Supply	DC12V, PoE (802.3af)
21.	Working Environment	-30°C~+60°C / Less than 95%RH (no condensation)
15.	Network Ethernet	RJ-45

16.	Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
17.	Compatibility	ONVIF
18.	API	Open network video interface, ISAPI
19.	Event	Motion detection, video tampering alarm, exception, Line crossing detection, intrusion detection
20.	Power Supply	DC12V, PoE (802.3af)
21.	Working Environment	-30°C~+60°C / Less than 95%RH(no condensation)
22.	Ingress Protection	IP67, IK10 ( <i>Metal Body with Dome cover to avoid lens Change by hand</i> )
23.	Certification	<b>BIS Standard (Indian Standard IS:13252)</b>
24.	Mac ID	Should be in the name of OEM

Annexure-‘F’A6’

## **2 MEGAPIXEL FIXED IP IR BULLET CAMERA**

<b>S.No</b>	<b>Feature</b>	<b>Specification</b>
1.	Image Sensor	2 Megapixel progressive scan CMOS
2.	Compression technology	Efficient H.265+ compression
2.	Effective Pixels	1920 x 1080
3.	Electronic Shutter	Auto/Manual, 1/3(4)~1/10000s
4.	Video Frame Rate	25 fps @ 2 Mega Pixel
5.	Wide Dinamic Range WDR	120dB True WDR Only accepted
6.	Mini. Illumination	0.005 Lux/F1.4(Color);0Lux/F1.4(IR on)
7.	Stream Support	Triple Stream (One for NVR, One for Command centre and one for Mobile Access) DUAL Stream not accepted
8.	Min. IR Length	40m
9.	Day/Night	Auto(ICR) / Color / B/W
10.	Back Light Compensation	True WDR(Minimum120 dB or higher)
11.	Audio In/Out for Bi-directional Talk	<b>Audio port I/O 1 input, 1 output</b>
12.	Focal Length (lens)	2.8mm Fixed lens
13.	Video Compression	H.265+ or higher
14.	Mic	Inbuilt Mic
15.	Frame Rate (triple Stream)	Main Steam 2MP @25 fps, Sub Stream D1 @ 25 fps Third Stream CIF @1 fps
16.	Bit Rate	H.265: 40K ~ 8192Kbps
17.	Network Ethernet	RJ-45 (10/100Base-T)
18.	Network Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
19.	Compatibility	ONVIF
20.	Power Supply	DC12V, PoE (802.3af)
21.	Working Environment	-30°C~+60°C / Less than 95%RH (no condensation)
22.	Network Ethernet	RJ-45

23.	Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
24.	Compatibility	ONVIF
25.	API	Open network video interface, ISAPI
26.	Event	Motion detection, video tampering alarm, exception, Line crossing detection, intrusion detection
27.	Power Supply	DC12V, PoE (802.3af)
28.	Working Environment	-30°C~+60°C / Less than 95%RH(no condensation)
29.	Ingress Protection	IP67, IK10 ( <i>Metal Body with Dome cover to avoid lens Change by hand</i> )
30.	Certification	<b>BIS Standard (Indian Standard IS:13252)</b>
31.	Mac ID	Should be in the name of OEM

**Annexure- 'F' A7'**

**2 MEGAPIXEL for 24\*7 Colour Image IP IR DOME FIXED LENS CAMERA WITH INBUILT MICRO SD/SDHC/SDXC CARD SLOT FOR MIN 256GB**

S.No	Feature	Specification
1.	Image Sensor	1/2.8" 2 MP Progressive scan CMOS or better
2.	Effective Pixels	1920 x 1080 or higher
3.	Video Frame Rate	25/30 fps @ 2 Mega Pixel
4.	Scanning System	Progressive
5.	S/N Ratio	More than 55dB
6.	Min. IR LEDs Length	Upto 30m
7.	Day/Night	Auto (ICR) / Color / B/W
8.	Back Light Compensation	True WDR (Minimum 120 dB or higher)
9.	White Balance	Auto/Manual
10.	Focal Length (lens)	2.8mm /4mm
11.	Video Compression	H.265 or higher
12.	Resolution	2 MP (1920x 1080) or higher
13.	Frame Rate (Dual/tripleStream)	Main Stream 2MP @25 fps, Sub Stream D1 @ 25 fps Third Stream CIF @1 fps
14.	Bit Rate	H.265: 40K ~ 8192Kbps
15.	Network Ethernet	RJ-45 with inbuilt microphone
16.	Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,
17.	Compatibility	ONVIF
18.	API	Open network video interface ISAPI
19.	Power Supply	DC12V, PoE (802.3af)
20.	On-Board storage	<b>Built-in Memory Card slot, Support Micro SD/SDHC/SDXCcard for minimum 128GB with</b>

		<b>audio.</b>
21.	Working Environment	-30°C~+60°C / Less than 95%RH(no condensation)
22.	Ingress Protection	IP67
23.	Certification	<b>BIS Standard (Indian Standard IS:13252)</b>

**Note:** All DVRs/NVRs and CCTV cameras should be tampered proof and can be connected to Command Centre through LAN Port and should be under ONVIF

## ANNEXURE 'F' A8'

### 2 MEGAPIXEL VARIFOCAL IP IR BULLET CAMERA

S.No	Feature	Technical Specification
1.	Image Sensor	2 Megapixel progressive scan CMOS
2.	Compression technology	Efficient H.265+ compression or equivalent
3.	Effective Pixels	1920 x 1080
4.	Electronic Shutter	Auto/Manual, 1/3(4)~1/10000s
5.	Video Frame Rate	25 fps @ 2 Mega Pixel
6.	Wide Dynamic Range WDR	120dB True WDR Only accepted
7.	Mini. Illumination	0.005 Lux/F1.4(Color);0Lux/F1.4(IR on)
8.	Stream Support	Triple Stream (One for NVR, One for Command centre and one for Mobile Access) Dual Stream not accepted
9.	Min. IR Length	50m
10.	Day/Night	Auto(ICR) / Color / B/W
11.	Back Light Compensation	True WDR (Minimum 120 dB or higher)
12.	Audio In/Out for Bi-directional Talk	Audio port I/O 1/1
13.	Focal Length (lens)	2.7~13.5mm with Motorized Lens

14.	Video Compression	H.265+ or higher
15.	Alarm Port In/Out	Alarm port I/O 1 input, 1 output
16.	Frame Rate (triple Stream)	Main Stream 2MP @25 FPS, Sub Stream D1 @ 25 fps Third Stream CIF @1 fps
17.	Bit Rate	H.265: 12kbps-6144kbps
18.	Network Ethernet	RJ-45 (10/100Base-T)
19.	Network Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS
20.	Compatibility	ONVIF
21.	Working Environment	-30°C~+60°C / Less than 95%RH (no condensation)
22.	Power Supply	12V DC
23.	Power Consumption	10 watts maximum
24.	Weatherproof Ratings	Minimum IP67
25.	Vandalism proof	Metal Body
26.	Mac id	Should be in the name of OEM
27.	IR Range	≥ 50 mtr
28.	Memory card	Up to 256 GB
29.	Compatibility	ONVIF registered for relevant profiles
30.	Certifications	CE, FCC, UL & BIS

**Annexure-‘F’ A9’**

**SURVEILLANCE GRADE SD CARD**

S.No	Feature	Specification
1.	Grade	Surveillance Grade
2.	Capacity	64GB, 128GB & 256 GB
3.	Approved Make	Hikvision, Honeywell, SANDISK

**Annexure-‘F’ A10’**

**OTHER COMPONENTS OF CCTV**

Sl. No.	Item Name	
1	Hard Disk Drive (SATA II or III)	Seagate SKYHAWK / WD Purple Video Surveillance series (Rated for 24x7 operation). <b>32-64 MB Cache, 3Mb – 6Mb per second data transfer rate, Spindle Speed 7200 RPM or</b>

		<b>more.</b>
	Capacity	2 TB/4TB / 6TB surveillance grade 8TB & 10TB Should be surveillance AI Drives with Backup recovery option
2	<b>MONITOR</b>	Anti-glare surveillance grade 24x7 working LED with TCO 03 or higher certification.
	Screen size	21.5" to 31.5 ". 40" diagonal LED
	Warranty	03 Years
	Video	PAL
	Resolution (Min)	Full HD (FHD)
	Power Input	12/24 V DC
	Viewing Angle	140° H, 130° V
	Power Consumption	NOT EXCEEDING 40 Watts/ 3 star minimum
	Make	SAMSUNG/ DELL/ LG/ACER/equivalent
3	<b>Cable - Video</b>	
	Category	Category – 6 / Cat 6 Cable (SFTP solid cable)
	Mutual Capacitance @300MHz	5.60 nF/100mtrs maximum
	DC resistance @ 300 MHz	9.38 ohm / 100 mtrs max at 20° C
	Impedance @ 300 MHz	100 +/- 15 ohm
	Insulation	High Density Polyethylene
	Sheath	Fire Retardant PVC Compound (FRPVC)
	Standards	TIA / EIA 568 B.2-1
	Acceptable Quality	Make-Finolex/Polycab/Polycabor equivalent
4	<b>Cable - Power</b>	
	Category	2 core power cable (Armoured)
	Type	2core 1 sq. mm each
	Acceptable Quality	ISI Marked (IS-694,1990)
	Insulation	PVC Insulated
5	<b>PVC Conduits for cabling</b>	
	Specifications	IS-9537-1983; Internal Dia 20 mm, Wall Thickness-4.2-5mm
	Acceptable Quality	ISI Marked.
	Grade	Medium
6	<b>6 U Rack – (Wall Mount)</b>	Dimension: 630 mm x 500 mm depth Power Strip: 6 Socket power supply: 1 No. Equipment Mounting Tray: 1 No Mounting screws & studs: 1 pack Transparent front door with Lock, Fan tray with 2 Fans, Provision for cable routing at the bottom of Rack.
7	<b>I/O Box</b>	Per Camera
8	<b>Network POE Switch</b>	
	Type	Unmanaged (Plug n Play type) with PoE Ports, 10/100 mbps
	No. of input PoE ports	4/8/16/24 RJ 45 (10/100 Mbps)
	Uplink ports	<b>2, RJ 45 (10/100 Mbps) 2 UPLINK is mandatory</b>

	Network Protocol compliant	IEEE 802.3i, IEEE 802.3u, IEEE 802.3 x IEEE 802.3af, IEEE 802.3at, IEEE 802.3az
	LED Indicators	Power ON (System), Activity / Link, Speed, Power fault /Fail (Each PoE Port)
	Input Voltage	230 V AC
	Surge Protection	<b>6 KV surge protector</b>
	Operating temperature	0° C - 40° C
	Make	TPLINK / CISCO or equivalent
	Power transmission	250 mtr with compatibility for PoE extender