



REQUEST FOR PROPOSAL

FOR

**SETTING UP OF CYBER SECURITY CENTRE
IN C-DAC TECHNOPARK CAMPUS**

(e-Procurement)

WORK SITE: C-DAC (T), TECHNOPARK, KARIYAVATTOM P O,
THIRUVANANTHAPURAM
Pin code 695581

**TENDER NO: CDACT/Civ/TDR/742/19-20
04th February 2020**

Centre for Development of Advanced Computing (C-DAC)
A Scientific Society of Ministry of Electronics & IT, Government of India
Vellayambalam, Thiruvananthapuram
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Section 1 Notice Inviting Tender

This invitation to bid is for “Setting up of Cyber Security Centre in C-DAC Technopark Campus, Kariyavattom, Thiruvananthapuram”

1.1 Preamble

(a) Bidders are advised to study the Bid document carefully. Online Submission of bids shall be deemed to have been done after careful study and examination of the bid document with full understanding of its implications. Offers prepared in accordance with the procedures enumerated in Section 2 should be submitted online through CPPP website: <https://eprocure.gov.in/eprocure/app> not later than the date and time given in the **Schedule for Invitation to Bid under Clause 1.2** Prospective Bidders are advised to follow the instructions provided in the “**General Instruction to Bidders**” for the e-submission of the bids online through the Central Public Procurement Portal for eProcurement at <https://eprocure.gov.in/eprocure/app>. Bid documents may be scanned with **100 dpi with black and white option** which helps in reducing size of the scanned document.

(b) Bidder who has downloaded the tender from Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in/eprocure/app>, shall not tamper/modify the tender form including downloaded price bid template in any manner. In case if the same is found to be tampered/modified in any manner, tender will be completely rejected and EMD would be forfeited and bidder is liable to be banned from doing business with C-DAC.

(c) Prospective bidders are advised to visit CPPP website <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender for any corrigendum / addendum/ amendment.

(d) The original instruments in respect of cost of tender document, Earnest Money Deposit and original copy of affidavits must be delivered to the address as mentioned in the Clause 1.2 on or before bid opening date/time as mentioned in Important Dates section.

(e) The Bidder is required to pay **Rs.2,240/-** (Rupees Two Thousand Two Hundred and Forty only) which is inclusive of 12% GST towards Bid Document Fee, at the time of submission of Bids, in the form of a Bank Demand Draft failing which the Bids submitted by the Bidder shall be liable to be rejected. The Bank Demand Draft should be from Nationalised Bank or Scheduled Bank in favour of “Centre for Development of Advanced Computing” and payable at Thiruvananthapuram. The Bid Document Fee is non-refundable.

However, no Bid Document fee is payable if the bid documents are downloaded online.

(f) All Bids must be accompanied by an EMD (Earnest Money Deposit) of Rs. 3 Lakhs (Rupees Three Lakhs only) in the form of Bank Guarantee or Demand Draft from a Nationalized / Scheduled Bank and valid for a period of 6 months. However bidders who possess valid registration

for EMD Exemption with the Central Purchase Organization, NSIC, MSME or with the Ministry of Electronics and Information Technology (MeitY) may submit Bid Securing Declaration as per the format enclosed as Annexure-II of this RFP, in lieu of payment of EMD subject to the terms and conditions specified thereof, and shall submit relevant documents for EMD Exemption along with the Bid documents.

(g) The detailed Scope of Work has been included in the RFP for selection of Bidder for “Setting up of Cyber Security Centre in CDAC Technopark Campus, Kariyavattom, Thiruvananthapuram”. The pre-qualification eligibility criteria for the bidders should be fulfilled for consideration of the bid.

(h) Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>.

Note: CDAC(T) shall not be responsible for non-receipt / non-delivery of the Bid documents due to any reason whatsoever.

1.2 Schedule for Invitation to Bid

1	Name and Address of the Purchaser	The Department Head, Administration Centre for Development of Advanced Computing, P. B. No. 6520, Vellayambalam, Thiruvananthapuram - 695033, Kerala Phone: +91 471-2723333, Extn 234 email: admintvm@cdac.in
2	Closing Time and Date for receipt of online bids	On or before 13:00 hours of xx-xx-2020
3	Name of the Contact Person for any clarification	Saiju Nath K. S. Centre for Development of Advanced Computing, Technopak Campus , Karyavattom, Thiruvananthapuram - 695581, Kerala Phone: +91 471-2781500, Extn. 244 Mobile: 90371 60167 email: saiju@cdac.in
4	Bid validity period	90 days from the due date of bid submission

1.3 Important Dates

Table 1.1 provides information regarding the important dates of the Bid process for this Bid.

Table 1.1 Important Dates

Activity (Date & Time)	Date
Release / Issue of Bid Document	04.02.2020 (12:00Hrs)
Last date for submission of written queries for clarifications on Bid document	07.02.2020 (18:00Hrs)
Pre-Bid Meeting (Venue: C-DAC, Technopark, TVM)	10.02.2020 (14:00Hrs)
Last date for submission of written queries for clarifications on Bid document raised during Pre- Bid Meeting	12.02.2020 (17:00Hrs)
Last date for reply to written queries of prospective bidders	14.02.2020 (17:00 Hrs)
Start date & time of submission of Bids	17.02.2020 (10:00 Hrs)
Last date & time of submission of Bids	25.02.2020 (18:00 Hrs)
Opening of Technical Bids (Packet-1)	27.02.2020 (11:00 Hrs)
Opening of Commercial Bids (Packet-2)	Will be informed later

Note: C-DAC(T) shall not be responsible for any technical snag encountered by the bidder in e-Procurement portal during bid submission, due to any reason whatsoever.

1.4 Check lists

Two part bid system will be followed for this tender. In this system, bidder must submit their offer - online in separate packets as explained below:

Packet-1: The first uploaded packet shall comprise of the following:

- Documents supporting Bidder Eligibility and Pre-Qualification criteria, provided as per Table 1.2
- Technical bid containing the information mentioned as per Table 1.3

Packet-2: Commercial bid packet shall contain the information mentioned as per Table 1.4

Please check whether following have been included viz. Bidder Eligibility and Pre-Qualification criteria documents, Technical bid and Commercial Bid.

- Checklist (as per Table 1.2) duly signed and sealed and supporting documents for Bidder Eligibility and Pre-Qualification criteria shall be placed in the Packet-1.
- Checklist (as per Table 1.3) duly filled, signed and supporting documents of Technical bid including datasheets, brochures and test reports shall be placed in the Packet-1.
- Check-list (as in Table 1.4) duly filled, signed and BOQ.xls should be made part of the Packet-2 to be uploaded as part of Commercial Bid.

1.5 Check List of documents to be uploaded in the Bidder Eligibility and Pre-qualification Packet (Packet 1)

Table 1.2: Bidder Eligibility & Pre-Qualification Criteria

Sl. No	Bidder Eligibility & Prequalification criteria	Supporting Documents to be uploaded	Whether uploaded (Yes/No)
1	Remittance of Tender Fee Not applicable for online download	Signed and Scanned Copy of Tender Fee document	
2	Submission of EMD	1) Signed and Scanned Copy of details of Demand Draft OR 2) Signed and scanned copy of Bid Security Declaration as per the Annexure-II in RFP along with relevant documents.	
3	General Information of the Bidder	Signed and Scanned Copy of the format as per Attachment 1 in Section 8.	
4	Bidder should be a Registered & licensed business Organization and Legal entity in the form of a Company/ Firm/ Society/ Proprietary concern duly registered/ licensed in India to carry on business activities and in operation in the	Duly approved signed and Scanned Copy of Certificate of Incorporation /Registration /Deed /License issued by a Competent Authority in India.	

	relevant field for the last 5 years.		
5	Bidders minimum financial capability shall be as follows: Average Annual financial turnover during the last three years, ending 31st March 2019, should be at least Rs.140 Lakhs. Bidder should have Positive Net worth during last three years, ending 31.03.2019.	Duly signed and scanned copies of 1. Audited financial performance for last three years as per Attachment 2 in Section 8. 2. Audited Annual accounts / balance sheet along with Profit & Loss account for the financial year 2016-17, 2017-18 and 2018-19. 3. Statement of net worth for last three financial years. 4. All the above documents shall be duly certified by a qualified Chartered Accountant in practice.	
6	Bidder should have experience in successfully completing implementation of similar projects (such as IT Labs / Control Centres integrated with Audio Video systems including Video Wall & Video Conferencing) in India, during the last five years ending on 31st December 2019. The value of such projects should belong to anyone of the following categories. (a) Three completed projects costing not less than Rs.56 Lakhs each or (b) Two completed projects costing not less than Rs.70 Lakhs each or (c) One completed project costing not less than Rs.112 Lakhs	Signed and Scanned copies of documents for 1. Experience in similar projects as per Attachment 3 of Section 8. 2. Certificate of successful completion from the end user for the above, detailing the scope of work, total project cost and date of completion. 3. Diagrams / photos etc. may be attached. Visit and inspection by CDAC(T) officials shall be arranged if necessary.	

7	Bidder must have presence in Kerala with an office / authorised agent with in 250 Kms of Thiruvananthapuram or they should give an undertaking to establish the same within 30 days from the date of work order if awarded to them.	Signed and Scanned Copy of valid documentary evidence of office address/ Undertaking.	
8	Bidder should be an OEM or Authorized Dealer/ Distributor/System Integrator of the OEM for the offered products or should have definite agreement with OEM (Audio Video Systems, etc.).	Signed and Scanned copy of details filled as in table in Attachment 4 of Section 8 including OEM commitment and authorisation form for all mandatory items as per format in Attachment 4. Certificate to that effect from OEM to be enclosed.	
9	Bidder should not be blacklisted/banned/ declared having delivered dissatisfactory performance by any government/ semi-government authority in India for supply of materials / carrying out operations and Implementation work .	Signed and Scanned copies of an undertaking by an authorized signatory of the bidder company in this regard	

1.6 Check List of documents to be uploaded in Technical Bid Packet (Packet 1)

Table 1.3: Technical bid documents

Sl. No.	Technical proposal documents	Whether uploaded (Yes/No)
1	Signed and scanned copy of tender acceptance letter (As per Attachment 5)	
2	Compliance statement (As per Attachment 6A)	
3	Non-compliance statement, if any (As per Attachment 6B)	
4	Manpower deployment plan (As per Attachment 7)	
5	Project management Plan and schedule (As per Attachment 8)	

6	Un-priced Commercial Bid as per BOQ.xls template with value/price information masked (as per Attachment 9)	
7	Attachment 10(Datasheets for Audio Video Systems, and other relevant items quoted)	

1.7 Check List of documents to be uploaded in the Commercial Bid Packet (Packet 2)

Table 1.4: Commercial Proposal

Sl. No.	Commercial proposal documents	Whether uploaded (Yes/No)
1	Signed and Scanned Copy of Commercial Bid Letter (as per Section 9.1)	
2	Commercial bid as per BoQ.xls template (MS Excel format) from https://eprocure.gov.in/eprocure/app	

Section 2 General Instruction to Bidders

2.1 Procedure for Submission of Online Bids on CPP Portal

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. All the pages of bid being submitted must be signed and sequentially numbered by the Bidder irrespective of nature of content of the documents before uploading. All the files mentioned should be in .pdf format except for the BoQ which should be .xls format. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

2.2 Registration

- a) Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online bidder Enrolment” on the CPP Portal which is free of charge.
- b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- c) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- d) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- e) Only one valid Digital Signature Certificate (DSC) should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC’s to others which may lead to misuse.
- f) Bidder then logs in to the site through the secured log-in by entering their user ID/password and the password of the DSC / e-Token.

2.3 Searching for tender documents

- a) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

- b) Once the bidders have selected the tenders they are interested in, they may download the required documents/ tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS/ e-mail in case there is any corrigendum issued to the tender document.
- c) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/ help from the Helpdesk.

2.4 Preparation of bids

- a) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- b) Bidders are advised to go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- c) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/ schedule and generally, they can be in .pdf/.rar/.xlsformats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- d) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

2.5 Submission of bids

- a) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- b) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- c) Bidder has to select the payment option as "offline" to pay the tender fee and EMD and enter details of the instrument. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official as specified in Section 1.2, latest by the last date and time of bid submission or as specified in the tender documents. The bidder shall seal the original Demand Draft/Bank Guarantee in an envelope. **The Bidder shall mark its name and tender reference number on the back of the Demand Draft before sealing the same. Name and address of the bidder and the Tender Reference Number shall be marked**

on the envelope. The envelope shall also be marked with a Sentence “NOT TO BE OPENED BEFORE the Date and Time of Bid Opening”. If the envelope is not marked as specified above, CDAC(T) will not assume any responsibility for its misplacement, premature opening etc. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid is liable to be rejected.

- d) All brochures, data sheets and other supporting documents mentioned as per checklist given in Table 1.3 of Section 1, shall be uploaded online in .pdf format along with the technical bid, failing which the bids are liable to be rejected at the discretion of CDAC(T). These documents are essential for technical bid evaluation.
- e) Bidders are required to download the BoQ file, open it and complete unprotected cells with their respective Commercial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- f) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- g) All the documents being submitted online by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- h) Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date& time of submission of the bid with all other relevant details.
- i) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

2.6 Assistance to bidders

- a) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- b) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462.

2.7 Bidder Eligibility and Pre-Qualification Criteria

The bidder shall meet the following eligibility and pre-qualification criteria for considering the bid for technical evaluation.

- a) The bidder should be a Company, Firm or a Proprietary concern duly registered in India and has been in operation in the relevant field for at least 5 years. The copy of Certificate of Incorporation/Registration shall be submitted.
- b) The bidder should be an OEM or Authorized Dealer/Distributor/System Integrator of the OEM for the products offered (Audio Video Systems). or should have definite agreement with the OEM. Bidder to submit OEM commitment and authorisation/association form, as per the template given in Section 8.
- c) Average annual financial turnover during the last three years, ending 31st March 2019, should be at least Rs. 140 Lakhs Audited balance sheet for the financial year 2016-17, 2017-18 and 2018-19 shall be submitted.
- d) The Bidder should have Positive Net worth during last three years, ending 31.03.2019. The copies of Audited Annual Accounts/Balance Sheet along with Profit & Loss Account and CA Certified Statement for last three financial years shall be submitted.
- e) Bidder should have experience in successfully completing implementation of similar projects (such as setting up of IT Labs / Control Centres Integrated with Audio Video systems including Video Wall & Video Conferencing) in India, during the last five years ending on 31st December 2019. The value of such projects should belong to anyone of the following categories.
 - i. Three completed projects costing not less than Rs.56 Lakhs each
or
 - ii. Two completed projects costing not less than Rs.70 Lakhs each
or
 - iii. One completed project costing not less than Rs.112 Lakhs
- f) Bidder/ Authorised agent must have presence with an office in Kerala within 250kms of Thiruvananthapuram or they should give an undertaking to establish the same within 30 days from the date of work order if awarded to them. Valid documentary evidence of office address (if already available) to be enclosed.
- g) Bidder should not be blacklisted / banned / declared having delivered dissatisfactory performance by any government / semi-government authority in India for supply of materials / carrying out operations and Implementation work .

Section 3 General Terms and Conditions

1. The bids can be submitted only as single party. Consortium of bidders shall not be entertained.
2. The tender shall be submitted Online (complete in all respect) must be uploaded on <https://eprocure.gov.in/eprocure/app> in two packets i.e. Two Bid system (Pre-Qualification cum Technical Bid and Commercial Bid), and bidder must follow the procedure as detailed in Section 2.1
3. Bids should clearly specify item/equipment delivery and implementation schedule.
4. Any taxes or statutory levies payable should be included in the Commercial Bid (BoQ.xls); otherwise quoted price will be treated as all inclusive.
5. Bids meeting the bidder eligibility and prequalification criteria shall only be qualified for technical bid evaluation
6. Technical bid evaluation shall be based on the datasheets/test reports submitted online for the items offered in the BOQ and compliance to the technical specifications and other tender requirements (like terms and conditions, project schedule and manpower deployment, etc.).
7. The technical bids meeting the technical specifications and compliance to the tender terms and conditions shall only be qualified for Commercial bid opening
8. The technically qualified bidder quoting the lowest price shall be considered as the Successful Bidder for the award of contract.
9. CDAC(T) desires to obtain the most suitable product/service to meet the requirements of the tender . The bidder shall quote items which meet the requirements and specification of the tender. The bidder shall provide the make, model, part no., technical specifications, brochures, photos, catalogues of items quoted along with the technical bid. Any deviation from the technical specifications mentioned in the tender shall be spelled out clearly with justification and necessary supporting published data sheets and proposed alternatives. However, CDAC(T) reserves all rights to accept or reject the proposed alternatives without assigning any reason whatsoever thereof.
10. Bidder should ensure that if in any case, any of the quoted Items are not available in the market, the bidder will have to supply higher version/replacement of that item in the quoted cost in the same time duration

11. OEM Support & Commitment letter for major components (Audio-Video Systems, etc.) as per the formats given in Section 8 shall be submitted.
12. CDAC(T) reserves the right to change (increase or decrease) the quantity of items upto 30% to be procured or place Purchase Order for selected items only.
13. If any information provided by the Bidder is found to be inaccurate at any stage of the selection process, CDAC(T) may, at its discretion disqualify the bidder and no correspondence will be entertained in this regard.
14. Delivery & storing of material at site and its installation including loading and unloading shall be the responsibility of bidder.
15. Bidder shall contact CDAC(T) in writing for any clarification regarding the technical requirement before the pre-bid meeting.
16. The bidder should give in writing the acceptance of work order within seven working days of receiving the order.
17. The offer prepared by the bidder and all correspondence and documents relating to the bid exchanged by the bidder and CDAC(T) shall be written in English.
18. Bidder shall quote for the unit rate of all items mentioned in BOQ in Indian Rupees only. Order shall be released for the BOQ mentioned in the RFP. The rate quoted shall be valid during the contract period (includes implementation and warranty) and for the placement of repeat order, if required.

19. EARNEST MONEY, SECURITY DEPOSIT & RETENTION MONEY

- The bidder will have to deposit an amount of **Rs.3 lakhs** only in the form of crossed demand draft / Bank Guarantee, dischargeable / payable at Thiruvananthapuram and drawn **in favour of 'C-DAC, Thiruvananthapuram'** at the time of submission of tender as Earnest Money (if applicable). The DD /BG should be taken from any Nationalized/Scheduled bank and valid for a period of 6 months. CDAC(T) is not liable to pay any interest on the Earnest Money. The Earnest Money of the unsuccessful bidders will be refunded without interest soon after the decision to award the work is taken or after the expiry of the validity period of the tender. However, bidders eligible for exemption may submit Bid Security Declaration as per the format enclosed as Annexure-II of this RFP, in lieu of payment of EMD subject to the terms and conditions specified thereof.
- The successful bidder to whom the contract is awarded will have to deposit an "Initial Security Deposit" (ISD) a further sum to make up 5% of the value of the accepted tender. ISD may be submitted in the form of Demand Draft / Bank Guarantee from any Nationalised/Scheduled bank and valid for a minimum period of one year. The initial

Security Deposit will have to be made within 07 (Seven) days from the date of receipt of work order, failing which CDAC(T) at its discretion may revoke the Letter of Acceptance and forfeit the Earnest Money deposit (if applicable) furnished along with the tender.

- The Initial Security Deposit amount of 5% the value of the accepted tender will be released to the bidder after the end of Defect liability period /Warranty obligations proportionately, provided he has satisfactorily carried out all the work, submitted all documents contractually called for and attended to all defects during defect liability/warranty period. Further, if some dues to CDAC(T) from the bidder have still to be recovered, CDAC(T) reserves the right to withhold payment of so much of the security deposit money as in its opinion, represents the cost of the same.
- Apart from the Initial Security Deposit made as above, Retention Money shall be deducted from progressive running bills @ 5% of the gross value of each running bill and in total for 5% of the value of the accepted tender. Cost of work shall mean accepted contract sum initially and ultimately shall mean the actual total cost i.e. Gross value of the final bill by CDAC(T). After realization by deduction from the bill of the total retention as specified above, the total retention amount will be due for release after 15 days of completion certificate issued by the Consultant / CDAC(T).The retention amount will be refunded to the bidder on completion, subject to the following
 - a) Issue of Completion Certificate by the Consultant / CDAC(T)
 - b) Bidder's removal of his materials, equipment, labour force, temporary sheds/stores etc. from the site.

20. PAYMENT TERMS

- a) Mobilization advance up to 30% of the tender value may be allowed against a bank guarantee of 110% of Mobilization Advance. If the contract is terminated due to default of the contractor or the contractor failed to complete the work within the stipulated time, the mobilization advance would be deemed as an interest bearing advance at an interest rate of 10% to be compounded quarterly on the impacted portion of the defaulted work. The paid mobilization advance will be recovered from the running bills, if any submitted and the final bill proportionately during payments.
- b) Part payment up to 90% may be considered at the discretion of CDAC(T) for OEM Products delivered at site on pro-rata basis, on specific approval of the competent authority.
- c) All payments will be made based on the actual quantity of materials delivered, installed and accepted at site duly certified.
- d) The first running bill of the work may be raised by the bidder after completion of 25% of total value of accepted tender. Second/ third running bill may be raised by the bidder after completion of 50%/ 75% of total value of accepted tender respectively. Final bill may be raised by the bidder after completion of 100% of total value of accepted tender, and payments will be made as per the norms stated above.
- e) All bills shall be prepared by the bidder in the format prescribed by CDAC(T) The bills in proper forms must be duly accompanied by detailed measurements recorded in the

approved Computerized measurement book should be submitted, duly endorsed by the Nominated Technical Officer as defined above in support of quantities of work done and must show deductions for all previous payments, retention money, etc. Ad-hoc payment for work actually executed together with other accepted claims will be made for the interest of CDAC(T)'s work at absolute discretion of CDAC(T) on specific request of the bidder. However ad-hoc payment made, shall not exceed more than 80% of billed value. The bidder will be required to submit the bill along with the records of joint measurements for claiming ad-hoc payment together with vouchers / bills etc.

- f) A Performance Bank Guarantee for 5% of the total value of OEM supplied for a period of 03 years from the date of supply and successful installation of the said products is to be submitted towards product warranty, which will be released on completion of the warranty period.
- g) The final bill shall be submitted by the successful Bidder on completion of the works accompanied by:
 - Completion certificate issued by the Nominated Technical Officer.
 - No claim certificate by the Bidder.
 - Original guarantee furnished by Bidders' suppliers for applicable items.
 - Maintenance guarantee by the Bidder.
 - Test certificate for items and materials.
 - Submission of all design documents, Operation & Maintenance manual etc.

21. TAXES, DUTIES, LEVIES AND OTHER CHARGES

- a) GSTIN & PAN No. of the supplier should be mentioned in the payment invoice submitted to CDAC(T).
- b) All applicable taxes, duties and levies shall be shown separately
- c) Charges towards freight, forwarding, transit insurance, installation, commissioning and warranty support shall be included in the quoted price.
- d) Loading and unloading of materials is the responsibility of the bidder and any charges in this regard to be borne by the bidder.
- e) TDS as applicable will be deducted.
- f) The base rates quoted by the bidder shall be firm throughout the project execution period. Any revision in the rate of Taxes, Duties, levies etc; or introduction of new taxes/duties/levies by government shall be honored, provided bidder has clearly shown the taxes, duties, levies etc. in the Commercial bid.

22. LD CLAUSE

- Liquidated damage shall be levied @ 0.5% of the total value of the impacted portion, per week or part of the week of project completion, subject to maximum of 10% of the total contract value.

23. PERIOD OF VALIDITY

- The bid shall remain valid for acceptance for a minimum period of 90 days from the date of bid submission.

24. WARRANTY AND MAINTANANCE

- a) Warranty of all quoted items shall start from the date of commissioning and acceptance.
- b) Bidder shall provide comprehensive on-site warranty for all Audio Video items/equipment supplied for a period of 3 years and 1 year for the remaining items from the date of acceptance by CDAC(T).
- c) Bidder is required to produce OEM's confirmation in OEM's Letter head with serial numbers of goods/products supplied for back to back warranty support for Audio Video systems etc. as per RFP terms and conditions.

25. CLARIFICATIONS ON BID

- CDAC(T) shall hold a pre-bid meeting with the prospective bidders for any clarifications regarding RFP technical specifications and RFP terms & conditions. Queries received, from the bidders, prior to the pre-bid meeting shall be addressed. All clarifications/queries on the technical specifications, tender terms and conditions, etc; should be requested in writing to the address given in Section-1 by email on or before 00.00.2020,15:00Hrs. Clarifications/queries from bidder shall be accompanied by Section no., page no. and clause no. of tender document. CDAC(T) reserves all rights to clarify any queries received after the above mentioned date. Any queries raised during the pre-bid meeting shall be submitted in writing/through email on or before 00.00.2020, 17:00Hrs. CDAC(T) shall publish all clarifications as corrigendum in CPP portal by 00.00.2020, 17:00Hrs. Individual mails on the clarifications to the queries raised will not be sent to any of the bidders. CDAC(T) will not be bound to clarify any query received after the stipulated date and time for submission of queries.

26. AMENDMENT TO BID DOCUMENT

- At any time prior to the last date and time for online submission of bids, CDAC(T) may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Bid document by a corrigendum. The corrigendum will be notified in the eProcurement website, which will be binding on all bidders. In order to provide prospective Bidders reasonable time to take the corrigendum into account in preparing their bids, CDAC(T) may, at its discretion, extend the last date and time for submission of bids. The extension time for submission of bids online in such cases shall be not less than three days.

27. If any of the above terms is not agreeable to the bidder, it should be specifically mentioned in the noncompliance statement along with the alternative suggested, if any. CDAC(T) reserves all rights to accept or reject the suggestion without assigning any reason whatsoever thereof.

28. CDAC(T) reserves the right to accept or reject any bid or cancel tender proceedings without assigning any reason whatsoever.

29. Jurisdiction

- The disputes, legal matters, court matters, if any shall be subject to Thiruvananthapuram jurisdiction only.

30. Force majeure

- CDAC(T) may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states / state agencies, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises or any other act beyond control of the bidder.

31. Arbitration

- All disputes/claims of any kind arising out of supply, commissioning, acceptance, warranty etc; under this Contract, shall be referred by either party (CDAC(T) or the bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to the Arbitrator appointed, who is mutually agreeable to both the parties.
- The arbitration proceedings shall be conducted in English and as per the provisions of Indian Arbitration and Conciliation Act, 1996. The decision of the Arbitrator shall be final and binding on both the parties.

32. Risk and ownership

- C-DAC(T) shall become owners of goods ordered but all risks, responsibilities; liabilities thereof in all goods shall remain with selected bidder till project completion.

33. Detailed drawing and instructions

- C-DAC(T) shall furnish with reasonable promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings

and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable there from.

- It is the responsibility of the bidder to prepare shop drawings in detail and get it approved by C-DAC(T) official before execution of the work as and when required.
- The work shall be executed in conformity therewith and the bidder shall not work without proper drawings and instructions.

34. Ownership of drawing

- All drawings, specifications and copies thereof furnished by the Consultant /Authorized representative are the property of CDAC(T). They are not to be used on other work, and with the exception of the signed contract set, are to be returned to CDAC(T) on request at the completion of the work.

35. Permits and licenses

- Permits and licenses for release of materials if any, which are under Government control will have to be arranged by the bidder. C-DAC(T) will render necessary assistance, sign any forms or applications that may become necessary.

36. Government and local rules compliance

- The bidder shall conform to the provisions of all local Bylaws and Acts relating to the work and to the Regulations etc; of the Government and Local Authorities and of any company with whose system the structure is proposed to be connected. The bidder shall give all notices required by the said Act, Rules, Regulations and Bylaws etc; and pay all fees payable to such authority / authorities for execution of the work involved. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses, fees for encroachment and restorations etc; and shall indemnify CDAC(T) against such liabilities and shall defend all actions arising from such claims or liabilities.
- The bidder shall at his own cost comply with all the statutory provisions, laws, rules, orders, notifications, etc; whether issued by Central or State or Local Government as applicable to him and to this contract from time to time while discharging his responsibilities under this contract and indemnify CDAC(T) against any loss which accrues to the department directly or indirectly on account of commission/ omission of his responsibilities under this contract.

37. Quantity of work to be executed

- The Quantities shown in the BoQ are based on the calculations and may be approximate only and actual quantities are to be measured from the site. Any unforeseen item of work / extra item of work as being authorized by CDAC(T) and not included in the contract shall be done by the bidder at mutually agreed rates. Written prior approval of

CDAC (T) should be obtained before undertaking any extra work. Payment of such items shall be made at actual supported by documentary evidence duly approved.

38. Bidder to provide everything necessary

- The bidder shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, BoQ and specifications taken together whether the same or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the bidder finds any discrepancies, he shall immediately and in writing refer the same to CDAC(T) whose decision shall be final and binding.
- The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of the contract and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and / or materials inclusive of all taxes and duties whatsoever except for specific items, if any stipulated in the tender documents.
- Single point electricity will be provided by CDAC(T) with sub-meter and bidder will bear the electricity charges as per sub-meter reading. Since requirement of water for this project will be minimal the bidder is exempted from water charges.

39. Tools, storage of materials, protective works and site office requirements

- The bidder shall provide, fix up and maintain in an approved position proper office accommodation for the bidder's representative and staff, which offices shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the work and make good all work distributed.
- All drawings maintained on the site are to be carefully mounted on boards of appropriate size. They are to be protected from ravages of termites, ants and other insects.
- The bidder shall provide at his own cost all artificial light required for the work and to enable other Bidders and sub-contractors to complete the work within the specified time.

40. Clearing and setting out works

- The bidder shall set out the work and shall be responsible for the true and perfect setting out of the work and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the bidder shall at his own expenses rectify such error, if called upon to the satisfaction of CDAC(T) and no extra cost on this account will be entertained.

41. Materials, workmanship, samples, testing

- All the work specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workman like manner with materials of the approved quality of the

respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by CDAC(T) during the execution of the work, and to its entire satisfaction.

- A list of materials of approved make and brand is shown in the “Technical Specifications”. Materials are to be used from the annexed approved materials list. In case of non-availability of specified makes, alternative products of equivalent quality may be used with prior permission from CDAC(T).
- All the materials (except where otherwise described) stores and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charges for all duties, taxes, etc; and other charges legally payable and must be the best of their kind available and the bidder must be entirely responsible for the proper and efficient carrying out of the work. The work must be done in the best workman like manner. Samples of all materials to be used must be submitted to CDAC(T) when so directed and written approval from CDAC(T) must be obtained prior to placement of order.
- Should the work be suspended by reason of rain, strike, lock-outs or any other cause, the bidder shall take all precautions necessary for the protection of work at his own expenses and shall make good any damage arising from any of these causes.

42. Removal of improper work

- CDAC(T) shall during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of CDAC(T) are not in accordance with specifications or instructions, the substitutions or proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions. In case the bidder refuses to comply with the order CDAC(T) shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by CDAC(T) shall be borne by the bidder or may be deducted from any money due to or that may become due to the bidder.

43. Site engineer

- The term Site Engineer shall mean the person appointed and paid by CDAC(T) to superintend the work. The bidder shall afford the Site Engineer every facility and assistance for examining the work and materials and for checking and measuring work and materials. The Site Engineer shall have no power to revoke, alter, enlarge or relax any requirements of the contract or to sanction any day work, additions, alterations, deviations, or omission or any extra work whatever, except in so far as such authority may be specially confirmed by a written order of CDAC(T).
- The Site Engineer shall have power to give notice to the bidder or to his supervisor, of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of CDAC(T)/ Consultant is obtained. The work will from time to time be examined by the Consultant, Engineer of

CDAC(T) and the Site Engineer. But such examination shall not exonerate the bidder from the obligation to remedy any defects which may be found to exist at any stage of the work or after the same is complete. Subject to the limitations of this clause the bidder shall take instructions only from CDAC(T).

44. Bidder's employees

- The bidder shall employ technically qualified and competent supervisors for the work who shall be available (by turn) throughout the working hours to receive and comply with instruction of CDAC(T). The bidder shall engage at least one experienced Engineer as Site Engineer for execution of the work. The bidder shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently.
- The bidder shall employ laborers with Police Clearance Certificate (PCC) on the work as per Technopark administrative rules.
- The bidder shall comply with the provisions of all labour legislation including the requirements of –
 - a) The Payment of Wages Act
 - b) Awarder's Liability Act
 - c) Workmen's Compensation Act
 - d) Contract Labour (Regulation and Abolition) Act, 1970 and Central Rules – 1971.
 - e) Apprentices Act 1961
 - f) Any other Act or enactment relating thereto and rules framed there under from time to time.
- The bidder shall keep CDAC(T) saved harmless and indemnified against claims if any of the workmen and all costs and expenses as may be incurred by CDAC(T) in connection with any claim that may be made by any workmen.
- The bidder shall arrange to provide first-aid treatment to the laborers engaged on the work. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the work, report such accident to the CDAC(T) and also to the competent authority where such report is required by law.

45. Dismissal of workmen

- The bidder shall on the request of CDAC(T) immediately dismiss from work any person employed thereon by him, who may in the opinion of CDAC(T) be unsuitable or incompetent or who may misconduct himself. Such discharge shall not be the basis of any claim for compensation or damages against CDAC(T) or any of their officer or employee.

46. Assignment

- The whole of the work included in the contract shall be executed by the bidder and the bidder shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take a new partner, without written consent of

CDAC(T) and no subletting shall relieve the bidder from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

47. Nominated sub-contractor

- All specialists, Merchants, Tradesmen and others executing any work or supply and fixing any goods for which prime cost prices or provisional sums are included in the BOQ / Rates and / or specifications who may be nominated or selected by CDAC(T) are hereby declared to be sub-contractors employed by the Bidder and are herein referred to as nominated sub-contractors.
- No nominated sub-contractor shall be employed on or in connection with the work against whom the bidder shall make reasonable objection or save where CDAC(T) and bidder shall otherwise agree who will not enter into a contract provided:
 - i. That the nominated sub-contractor shall indemnify the bidder against the same obligations in respect of the subcontract as the bidder is under in respect of this contract.
 - ii. That the nominated sub-contractor shall indemnify the bidder against claims in respect of any negligence by the sub-contractor, his servants or agents or any misuse by him or them of any scaffolding or other plants the property of the Bidder or under any Workman's compensation Act in force.

48. Damage to persons and property, insurance etc.

- The bidder shall be responsible for any injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-Contractor or of any of his or a sub-Contractor's employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract. The clause shall be held to include inter-alia, any damage to buildings whether immediately adjacent or otherwise, and any damage to roads, street, foot-paths or pathways as well as damage caused to the buildings and the work forming the subject of this contract by rain, wind or other inclemency of the weather. The bidder shall indemnify and hold harmless CDAC(T) in respect of all and any expenses arising from any such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.
- The bidder shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract work complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

Compensation

- CDAC(T) shall not be liable for in respect of any damages or compensation payable as per regulations or in consequence of any accident or injury to any workmen or other

person in the employment of the bidder or his sub-contractors and the bidder should settle all such damages and compensation and all claims, demands, proceedings cost, charges and expenses whatsoever in respect thereof or in relation thereof.

Insurances

- The bidder shall obtain a policy covering under Workmen Compensation Act, a third party Insurance as well as any other insurance and indemnify CDAC(T) entirely from all responsibility in this respect. The insurance must be placed with a company approved by IRDAI.
- Unless otherwise instructed, the bidder shall insure the work and keep them insured until the virtual completion of the contract against loss or damage by fire and/or earthquake, flood or damages from whatever cause by an “All Risk Insurance Policy” for the full value of the contract and workmen.
- The insurance is to be at their own cost and must be placed with a company approved by IRDAI, in the joint names of CDAC(T) and the bidder for such amount. For any additional coverage if called upon to do so by CDAC(T), the premium of such further sum being allowed to the bidder as an authorized extra.
- Moreover, the bidder will be required to obtain “Workmen’s Compensation Insurance” from an approved insurance company at his own cost.
- The bidder shall deposit the policy and receipt for premiums paid with CDAC(T) within 21 (twenty one) days from the date of commencement of the work unless otherwise instructed. In default of the bidder insuring as provided above, CDAC(T) on its behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the bidder.
- Insurance is compulsory and must be affected from the very initial stage. The bidder shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.
- CDAC(T) shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or accruing from or in respect of any such claim or damages from any sums due or to become due to the bidder.

49. Accounts receipts and vouchers

- The bidder shall, upon the request of CDAC(T) furnish them all the invoices, accounts, receipts and other voucher that they may require in connection with the work under this contract.
- If the bidder shall use materials less than what he is required under the contract, the value of the difference in the quantity of the materials he was required to use and that he actually used shall be deducted from his dues. The decisions of CDAC(T) shall be final

and binding on the bidder as to the amount of materials the bidder is required to use for any work under this contract.

50. Measurement of work

- The bidder will record the measurements in the approved computerized measurement book and submit for verification and endorsement of Site Engineer / Nominated Technical Officer of CDAC(T). The bidder should submit the bill with such endorsement.
- Should the bidder not attend or neglect or omit to send such agent then the measurement taken by CDAC(T) or an agency appointed by CDAC(T) shall be taken to be the correct measurement of the work.
- The bidder or his agents may at the time of measurement take such notes and measurements as he may require. All authorized extra work, omissions and all variations made without the Consultant's knowledge, if subsequently sanctioned by him in writing, with the approval of CDAC(T) shall be included in such measurements.
- Unless otherwise mentioned elsewhere in the tender document, measurements will be done on the net quantities of work produced in accordance with up to date rules laid down by the Indian Standard Institution. In the event of any dispute with regard to the measurement of the work executed, the decision of CDAC(T) shall be final and binding on the bidder.

51. Action where no specification

- In the case of any class of work for which there is no such specification in Technical Specification, such work shall be carried out in accordance with the I.S. Specification and in the event of there being no I.S. Specification, then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of CDAC(T).

52. Variation / deviation

- The bidder may when authorized and shall when directed in writing by CDAC(T) add and / or omit or vary the works shown in the drawings or described in the specifications or included in the BoQ. The bidder on his own accord shall make no addition, omission or variation without authorization or direction by CDAC(T) or its representative.
- The price of all such non-tendered / substituted items will be worked out on the basis of rates quoted for similar items in the contract wherever existing or on engineering rate analysis based on prevalent fair price of labour, materials at site of work and other components as required.
- No claim for an extra shall be allowed unless it shall have been executed by the authorization of CDAC(T) / Consultant. No variation i.e. addition, omission or substitution shall vitiate the contract.

53. Substitution

- Should the bidder desire to substitute any materials and workmanship, he/they must obtain the approval of CDAC(T)/ Consultant in writing for any such substitution well in advance a minimum of 15 days along with reasons & justification. For materials designated in this specifications by such term as “Equal” or “Other approved” etc. specific approval of CDAC(T)/ Consultant has to be obtained in writing.

54. Clearing and cleaning site on completion

- On completion of the work the bidder shall clear away and remove from the site all constructional plant, surplus materials, waste materials and temporary work of every kind and leave the whole of the site and the work clean and in a workmanlike condition to the satisfaction of CDAC(T).

55. Defects after completion

- The bidder shall make good at his own cost and to the satisfaction of CDAC(T) all defects, shrinkage, settlements or other faults which may appear within 12 months after completion of the work considered as the “defect liability period”. In default CDAC(T) may employ and pay other persons to amend and make good such damages, losses and expenses.
- Consequent thereon or incidental thereto shall be made good and borne by the bidder and such damages, loss and expenses shall be recoverable or deducted from him by CDAC(T), in lieu of such amending and making good by the bidder, deduct from any money due to the bidder a sum equivalent to the cost of amending such work, If the amount retained being insufficient to recover the balance from the bidder from amount retained under Clause No.19 together with any expenses CDAC(T) may have incurred in connection therewith.

56. Suspension

- If the bidder except on account of any legal restraint upon CDAC(T) preventing the continuance of the work or in the opinion of CDAC(T) shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default CDAC(T) shall have the power to give notice in writing to the bidder requiring the work be proceeded within a reasonable manner such notices purport to be a notice under this Clause.
- After such notice been given, the bidder shall not be at liberty to remove from the site of the work or from any ground contiguous thereto, any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the bidder shall fail for 7 (Seven) days after such notice has been given to proceed with the work as therein prescribed, CDAC(T) may proceed as provided in the Clause 31.

57. Termination of contract by awardee

- If the bidder being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or

shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the bidder in insolvency, shall repudiate the contract, or if a Receiver of the bidder's firm appointed by the court shall be unable, within fourteen days after notice requiring him to do so, to show to the reasonable satisfaction of CDAC(T) that he is able to carry out and fulfil the contract and if so required by CDAC(T) to give reasonable security there for, or if the bidder shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the bidder, or shall assign, charge or encumber this contract or any payments due or which may become due to the bidder, there under, or shall neglect or fail to observe and perform all or any of the acts matters of thing by this contract, to be observed and performed by the bidder in manner hereinafter mentioned requiring the bidder to observe or perform the same or shall use improper materials or workmanship in carrying on the work, or shall in the opinion of CDAC(T) not exercise such due time agreed upon and shall fail to proceed to the satisfaction of CDAC(T) after three clear days' notice requiring the bidder so to do shall have been given to the bidder as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, CDAC(T) may not withstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby affecting the powers of CDAC(T) of the obligations and liabilities of the bidder the whole of which shall continue in force as fully as if the contract had not been so determined and as if the work subsequently executed had been executed by or on behalf of the bidder (without thereby creating any trust in favour of the bidder) further CDAC(T) or its agent, or servants, may enter upon and take possession of the work and all plants, tools, scaffolding, sheds, machinery, steam and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the work or by employing any other Bidders or other persons or person to complete the work, and the bidder shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other Bidders or other persons or person employed from completing and furnishing or using the materials and plants for the work when the work shall be completed, or as soon thereafter as conveniently may be CDAC(T) shall give notice in writing to the bidder to remove his surplus materials and plants and should the bidder fail to do so within a period of 14 days after receipt by him CDAC(T) may sell the same by Public Auction and shall give credit to the bidder for the amount so realized. Any expenses or losses incurred by CDAC(T) in getting the work carried out by other Bidders shall be adjusted against the amount payable to the bidder by way of selling his tools and plants or due on account of work carried out by the bidder prior to engaging other Bidders or against the Security Deposit.

Section 4 Bid Evaluation Criteria

- Online bids along with envelop with original instruments for tender fee and EMD will be opened at the date and time as mentioned at Section 1 in the presence of bidder's representative, if available.
- During the bid opening, CDAC(T) will verify the submission of Tender fee and EMD as per bid terms and conditions. CDAC(T) will verify the submitted bids to determine whether they are complete, supporting documents attached and the bids are generally in order. The bidder eligibility and pre-qualification criteria evaluation will be carried out for the submitted bids later. The technical proposal of the bidders who are complying with all the eligibility criteria will be considered for technical evaluation. CDAC(T) will seek clarifications if required on bidder eligibility & pre-qualification and technical details during the evaluation process.
- Bid opening and evaluation at all stages will be carried out by a Tender Evaluation Committee (TEC), duly constituted by the Competent Authority of CDAC(T).

4.1 Bidder Eligibility and Pre-Qualification evaluation criteria

Stage-A (Bidder Eligibility and Pre-Qualification Evaluation criteria)

Bidder eligibility and Pre-Qualification evaluation will be carried out by Tender Evaluation Committee (TEC) as detailed below

- TEC will examine all the bid(s) to determine whether the Bidder qualifies the essential eligibility and pre-qualification criteria i.e. submission of EMD & Tender fee (submission of original instruments prior to bid due date & time) and other pre-qualification criteria. All supporting documents submitted online are examined by TEC to determine whether they comply with the eligibility and pre-qualification criteria.
- The technical bid(s) of bidders qualifying the Eligibility and Pre-qualification criteria shall only be taken up for technical bid evaluation. Bidders who do not qualify this stage shall be summarily rejected and no correspondence shall be entertained.

4.2 Technical bid evaluation

Stage – B (Technical bid evaluation):

- Technical bid evaluation will be carried out only for the bidders who qualify the bidder eligibility and pre-qualification eligibility criteria as mentioned in Stage – A.
- Technical bid evaluation will be carried out by Tender Evaluation Committee (TEC) as detailed below.

- During the evaluation of the technical bids, compliance of the bidder solution with necessary documentary evidence will be checked upon. Evaluation criteria will include fulfilment of all specifications mentioned in the bid. Specifications of the products offered shall be verified with the datasheets enclosed in the bid. Any deviation from the tender specifications, terms and conditions, delivery schedule, project completion time, etc. shall be clearly mentioned with the proposed alternatives (as per format mentioned in Attachment #6) which comply with the project requirements. TEC reserves all rights to accept or reject the proposed alternatives without assigning any reason whatsoever thereof. Non-compliance of any of the technical specifications or tender terms and conditions will lead to rejection of the bid. **If noncompliance statement as per Attachment 6 is not uploaded, it will be assumed that the bid offered is in line with the RFP requirements. Partial compliance shall be treated as Non-compliance.**
- Any falsification, suppression of facts would lead to rejection of the bid along with the forfeiture of EMD, or punitive action under relevant clauses.
- The bidder shall submit the following documentation in detail for the technical evaluation of the bid. The technical bid shall broadly contain the following details:
 - OEM Associations and support agreement for this project.
 - Datasheets of all items quoted
 - Project Management Plan and week-wise project schedule
 - Manpower deployment plan
- Un-priced BOQ (as per BOQ.xls template in Commercial bid) in **.pdf** format with make, model and part nos., unit & quantity of the items quoted. The price columns shall be marked as “*”.
- TEC will examine un-priced BoQ to ensure that bidder has quoted all items as per BOQ.xls template in Commercial bid. When deemed necessary, based on the recommendations of TEC, CDAC(T) may seek clarifications on any information in technical bid from the bidder. However, that would not entitle the bidder to change or cause any change in the substance of the bid submitted or price quoted.
- TEC shall evaluate the Technical bids by considering the minimum benchmark of technical parameters of the equipment and services as mentioned in RFP. No benefit for offering of equipment and services with higher specifications will be allowed.
- After evaluation of the technical bid(s), a list of the bidders who qualify the technical bid evaluation (Stage-B) shall be informed for witnessing the opening of the Commercial bid(s) along with date, time and venue through e-mail/ eProcurement website notification. The Commercial Bid(s) of technically qualified bidders shall only be opened. However, the bidder can authorise their one representative for witnessing the opening of Commercial Bid.

4.3 Commercial Bid Evaluation

Stage – C (Commercial bid evaluation):

- Commercial bid evaluation will be carried out only for the bidders who qualify both Stage A (Eligibility and Pre-Qualification criteria) & Stage B (Technical bid evaluation).
- Commercial bid evaluation will be carried out by Tender Evaluation Committee (TEC) as detailed below.
- The Commercial bids of only those bidders short listed after the Technical Bid evaluation by TEC will be opened. The Commercial Bid Opening date and time shall be intimated to the respective Bidders by CDAC(T). The Commercial bid shall be complete in all aspects as mentioned in Section 9.
- TEC will examine all the bid(s) to determine whether the bidder has submitted the following as per templates provided:
 - Commercial bid covering letter as per format in Section 9.1
 - Commercial bid as per BoQ.xls template
- ***Bidders are required to spell out the rates of GST, Levies, Freight & insurances, etc. in unambiguous terms. Bidders are required to quote the total GST, Levies, Freight & insurances, etc. in the BoQ.xls.*** In the absence of any such stipulation, it will be presumed that the prices quoted are firm and final with all taxes, duties, levies, freight & insurances etc. and no claim on account of such charges will be entertained after the bids are submitted.
- The Commercial bids uploaded online shall be evaluated based on the total bid value submitted by the bidder in BoQ.xls. The ultimate cost of this bid would be the deciding factor for ranking of Bids. The lowest bid shall be decided based on the lowest cost and all taxes, as per the Commercial bid template specified in the bid document. TEC shall evaluate the submitted commercial bids and the bidder with lowest price bid (L-1 Bidder) will be considered as the successful bidder.
- No enquiry shall be made by the bidder(s) during the course of evaluation of the tender, after opening of Commercial bid, till final decision is conveyed to the successful bidder.

Section 5 Schedule of Requirements

5.1 About C-DAC

- ❖ Center for Development of Advanced Computing (C-DAC) is a Premier R&D Organization of Ministry of Electronics and Information Technology (MeitY), Government of India. The Thiruvananthapuram Centre of C-DAC has been working in application oriented research, design and development for various industrial and customer requirements. The Centre has acquired competency, expertise and extensive experience in the areas of Intelligent Transportation Systems (ITS), Cyber Forensics, Broadcast & Communications, Control & Instrumentation, Networking, Power Electronics, ASIC Design, Language Computing and Underwater Electronics. C-DAC (T) also houses National Resource center for computing in Malayalam, Resource Centre for Cyber Forensics and National Mission on Power Electronics Technology (NaMPET). The Centre has a VLSI/ASIC design center, PCB-CAD facility, DSP lab, Industrial design facility, Pilot production facility and a Technology Promotion center. C-DAC (T) is an ISO 9001:2008 certified R&D Centre for the Design, Development, Supply, Installation, Commissioning, Turnkey Implementation, Maintenance, Customer Support, Consultancy and Transfer of Technology of Products and Systems in the area of Professional Electronics and Information Technology.

5.2 Purpose

- CDAC(T) is in the process of setting up state of the art Cyber Security Centre in its Technopark campus at Kariyavattom, Thiruvanthapuram, Pincode 695581.
- CDAC(T) intend to issue this bid document to eligible bidders to participate in the competitive bidding for “Setting up of Cyber Security Centre in CDAC Technopark Campus, Kariyavattom, Thiruvananthapuram” as per the technical specifications mentioned in this document. Purpose of this RFP is to invite Technical and Commercial bids from eligible bidders and identify the successful bidder to execute the above work on behalf of CDAC(T) and provide one year warranty and maintenance support for the equipment and systems supplied and installed under this RFP.

5.3 Required Components and Services

- The bidder shall supply, Install and commission the Cyber Security Centre with Full height partitions in toughened glass/ toughened switchable smart glass/Laminated double skin, False ceiling, Flooring, Painting, Electrical works, Network cabling and Installations, Audio Video systems, etc. as per this RFP.

5.4 Project Time Schedule

- The total duration of the project is for a period of **90 days** from the date of release of work order or handing over of site, whichever is later.
- The schedule for supply, Implementation and commissioning is given in Table 5.1.

Table 5.1: Schedule for Supply, Implementation and commissioning.

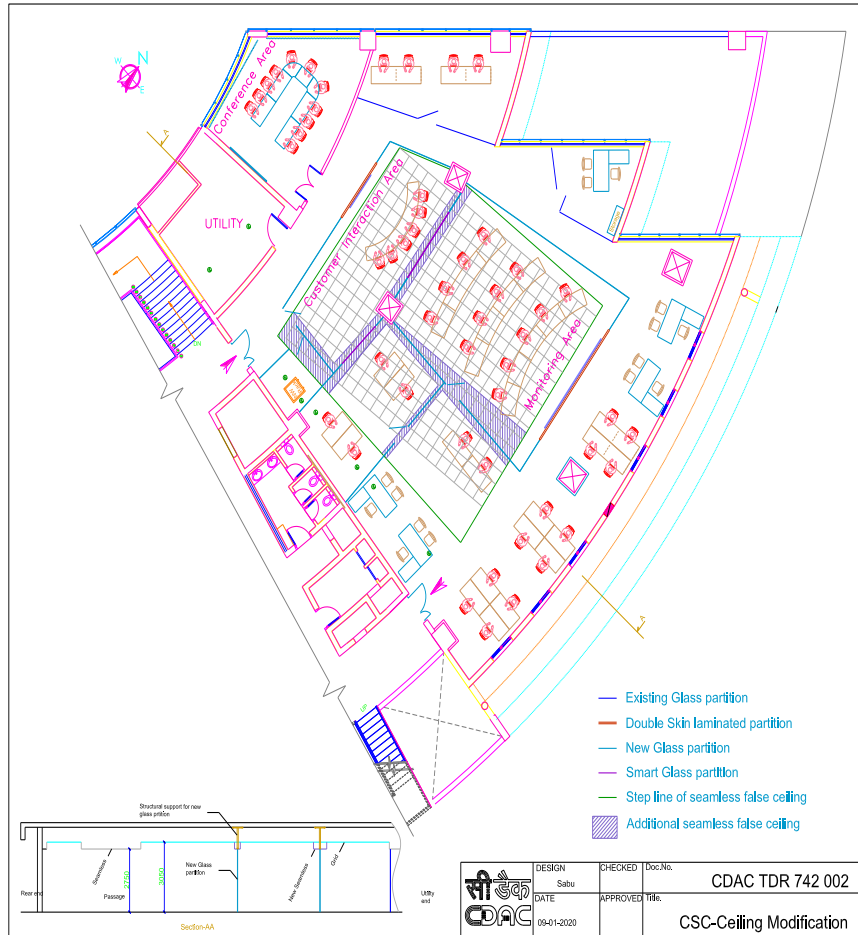
Sl No	Activity	Time of Completion (in Days)
1	Release of Work Order	T
2	Acceptance of work order and submission of Security deposit	T+7
3	Set out of SOC layout over floor, ceiling and marking with yellow paint, Laying of floor protector along with dismantling work if any	T+15
4	AC duct modification, providing new vents etc.	T+25
5	Modification of False ceiling along with above ceiling structure work required for toughened glass partitions.	T+35
6	Electrical / Network Cable rerouting, and repair works in floor and refinishing	T+40
7	Toughened glass partition, Smart glass, Double skin partition, Repositioning of light fixtures and other fixtures if any	T+50
8	Positioning of furniture and termination of cables	T+60
9	Final coat painting, Etch film, Roller blinds, Installation and commissioning of Audio Video systems and full cleaning.	T+90
10	Warranty support	36/12 months in accordance with RFP

5.5 Concept Drawings

5.5.1	Layout	Page No. 37
5.5.2	Ceiling Plan	Page No. 38
5.5.3	Furniture	Page No. 39



Layout



Ceiling Plan

1-Table-CT-1		12-Storage Desks-SD
2-Table-CT-2	7-Table-GT-2	13-Storage Full height-SF
3-Table-MT-1	8-Table-GT-3	14-Pedestal Storage-PS
4-Table-MT-2	9-Table-ST-R	15-Bench-UD
5-Table-MT-3	10-Table-ST-L	
11-Desk-UD		
Note For material, Finish and other details refer RFP and BOQ for quantity.		
	DESIGN Sabu	CHECKED
DATE 09-01-2020	APPROVED	Doc.No. CDAC TDR 742 003
		Title. CSC Furniture

Furniture

Section 6 Scope of Work

- The scope of the project is to set up a state of the art Cyber Security Centre in the finished space (flooring, Air-conditioning, False ceiling and lighting etc. completed) as per the drawings and instructions specified in the RFP. Major activities involved are to build and finish the internal partitions with toughened glass, Switchable Smart Glass, Double skin laminated partitions, Air Conditioning duct alterations, Electrical/ Network cable rerouting and terminations, Supply and Installation of furniture / other equipments, Supply Installation and commissioning of Audio Video systems, etc. for the proposed Cyber Security Centre in CDAC(T), Technopark campus.
- CDAC(T) will provide the concept drawings to the bidder for the Cyber Security Centre layout, False Ceiling rework plan, AC vents location, Furniture layout, etc. The bidder may further innovate on these schemes based on his experience for improvement on aesthetics as well as functional performance without major impact on cost aspects. Additional items if any required for these innovations / Improvements during the course of implementation if approved by competent authority, the cost will be allowed on mutually agreed terms on actual basis with supporting bills and vouchers.
- Major aim of this project is to create a state of the art Cyber Security Centre with high performance functional aspects along with aesthetically pleasing interior finishing; hence workmanship and finish in every aspect of this project are very important. Shop drawings along with proposed designs, samples, colour schemes etc. needs to be submitted and got approved before the commencement of each work.

Section 7 Technical Specifications

7.1 Civil Works

7.1.1 General

- Unless otherwise specified in the nomenclature of individual item or in the specifications, for all works mentioned in this tender, the specifications and mode of measurements shall be in accordance with CPWD specifications. For the item not covered under CPWD specifications mentioned above, the work shall be executed as per latest relevant standards / codes published by BIS inclusive of all amendments issued thereto or revision thereof, if any, up to the date of submission of tender.
- All mandatory tests specified in CPWD specifications shall be carried out from the approved laboratories as desired by Architect / Engineer in charge of CDAC(T). Testing charges including cartage, conveyance etc. what so ever shall be borne by the successful bidder. If after any such test and in the opinion of the Architect / Engineer In-charge of CDAC(T), any work found defective or unsound, the same shall have to be dismantled and to be redone by the successful bidder at their own cost.
- In case of BIS codes / specifications are not available for any item of work the decision of the Engineer based on acceptable sound engineering practice and local usage shall be final and binding on the successful bidder.
- The work shall be carried out in accordance with the approved drawings/specifications. The drawings shall have to be properly co-related before executing the work. In case of any difference noticed between the drawings, final decision, in writing of the Engineer-in-Charge shall be obtained by the Bidder. For items, where so required, samples shall be prepared before starting the particular items of work for prior approval of the Engineer and nothing extra shall be payable on this account.

7.1.2 Material

- All materials shall be of standard quality and from approved manufacturer, conforming to Indian Standards or equivalent and shall have IS Mark as far as possible unless otherwise approved by CDAC(T). The Bidder shall get all materials approved by CDAC(T) prior to procurement and use. The Bidder shall furnish manufacturers certificates, for the material supplied by him when asked for. Further to that he shall get all the materials tested from an approved test house, if asked for by CDAC(T). The cost for all tests and test certificates shall be borne by the Bidder. No separate payment shall be made for the testing. CDAC(T) shall have the right to determine whether all or any material are suitable. If any material procured or brought to site found not conforming to

specifications and satisfaction of CDAC(T), the Bidder shall have to remove the same immediately from the site at his own expense and without any claim for compensation due to such rejection. The Bidder shall ensure that the bought-out materials are brought to site in original sealed containers or packing bearing name of manufacturer and brand.

7.1.3 Cement

- The cement shall be Portland pozzolana cement/ordinary Portland cement of 43/53 grade conforming to IS: 8112 / IS: 12269 of approved manufacturer, as applicable for design and drawing

7.1.4 Vitrified tiles

- Vitrified polished porcelain floor tiles shall be of 1st quality. These vitrified tiles are classified under group B1a of the International Standard for ceramic tiles ISO: 13006. Tiles shall be hard, dense, impervious and frost resistant. Water absorption of tiles shall be less than 0.5% and flexural strength (Modulus of Rupture) shall be more than 35 N/Sqmm. Vitrified polished porcelain floor tiles shall be provided of sizes, colour, shades, texture and designs as indicated. The thickness shall be as specified by the manufacturer but not less than 6mm..

7.1.5 Glazed tiles in skirting / dadoing

- The tiles shall be 1st quality conforming to IS: 15622 of minimum thickness of 5 mm and of size as mentioned in the drawing / finishing schedule. The colour shall be got approved by Engineer-in-Charge and shall be sound, true to shape, flat and free from flaws and other manufacturing defects affecting their utility. The tiles shall be laid over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and joining with grey cement slurry @ 3.3 kg / sqm including pointing with joint filler of matching shade.

7.1.6 Synthetic enamel paint

- Shall be made from synthetic designs and drying oil with rutile titanium dioxide and other selected pigments to give a smooth, hard, durable and glossy/mat finish to all exterior and interior surfaces. The paint shall conform to IS: 2932 and IS : 2933.

7.1.7 Acrylic emulsion paint

- Shall be water based acrylic copolymer emulsion with rutile titanium dioxide and other selected pigments and fungicide. It shall exhibit excellent adhesion to plaster and cement surface and shall resist deterioration by alkali salts. The paint film shall allow the moisture in wall to escape without peeling or blistering. The paint, after it is dried,

should be able to withstand washing with mild soap and water without any deterioration in colour or without showing flaking, blistering or peeling.

7.1.8 Toughened glass

- The glass shall be clear, toughened, non-wired fire resistant having 12 mm thickness of approved brand and having a sound reduction of 35dB. Glass shall be compliant to class 1(C)3 category of Impact Resistance as per EN 12600. The glass should be manufactured in UL / TUV audited facility and including UL / EU Certification. The test report for the complete system will be considered valid only if it contains the stamp and signature of the authorized signatory from the glass manufacturer. All damages to the floor finish to be reinstated without any extra cost including the cost of other fittings & fixtures, necessary holes, etc. and joints to be sealed with clear transparent silicone sealant on all sides.

7.1.9 Toughened Switchable Smart glass

- The toughened switchable smart glass having a thickness of 12mm shall be by providing a switchable inter-layer bonded in between two sheets of glass. It shall be frosted opaque in normal condition and capable to achieve a transparency of 84% or above when switched on, and all other specifications as applicable for toughened glass. Provision for controlling the smart glass through a touch pad control shall be provided. Manufacturer's certificate of authenticity is to be submitted.

7.1.10 Carpentry and joinery

- This shall include supply and fixing of door and window shutters, panelled and flush doors, partitions, wall panelling, pelmets etc. as shown in drawings including a prime coat of approved paint, varnish/synthetic enamel paint or fixing of laminate where called for in the schedule. This shall also include supply and fixing of all hardware and fittings shown in the drawings.

7.1.11 Timber

- Unless otherwise specified all timber shall be best quality well-seasoned first class hard wood free from larger loose knots, cracks, and other defects. Where specified timber shall be treated with approved wood preservative. Before starting the carpentry work, the Bidder shall have the wood approved by the Engineer in charge.

7.1.12 Plywood

- Plywood shall be marine quality or with decorative surface veneer. Unless otherwise stated, the adhesive used in plywood shall be phenol formaldehyde resin of B.W.R. grade conforming to IS: 848.

7.1.13 False ceiling

- The false ceiling comprises of Gyp-Board & Mineral Fiber Board. The Gyp board false ceiling is to be in different Levels /shapes such as Vaults, Coffers, cove's and Plain in unison with Acoustic Mineral Fiber Board Ceiling. The technical assistance and guidance is to be taken from manufacturers and work has to be done according to the manufacturer specifications and work schedule. A sample of each finish shall be got approved before proceeding for bulk production. GI framing shall be erected as per recommendation of the manufacturer specification and approval of the Engineer in charge. The work shall be executed through the Bidder recommended by the manufacturer. False ceiling work shall be carried out in accordance with the actual site conditions at different / split-levels. Any sagging, unlevelled stretch of work shall be redone / replaced and made good, at no extra charge, to the satisfaction of Engineer in charge. No compensation shall be paid on account of provision / coverage of openings for lighting fixtures, air – conditioning ducts and the likes as detailed in drawings and / or as directed. Measurements shall be taken on plan area of the completed work or as specified. Deductions for openings, wherever applicable, shall be implied upon as per Specification. Only approved bolts, screws and other metal fixing devices shall be used to secure frames, panels and other units in position. Holes shall be formed with electrical drills wherever required. Structural members shall not be cut or drilled without prior consent of Engineer in charge. No deduction shall be made for openings provided nor shall extra payment be made either for any extra material or labour involved in such openings. Rate shall be inclusive of providing the total system with installation etc. The Bidder has to maintain all Mineral Fiber Board Ceiling tiles in good order and replace the defected tiles (at his own cost) before handing over the site include provision for scaffolding staging etc.

7.1.14 Gypsum board ceiling

- The filler, paper tapes, finishes and primers suitable for Gypsum boards, shall be as per recommended practices of India Gypsum or Equivalent. Framework grid and suspenders shall be fixed to avoid fouling with services such as ducting, sprinklers, electrical fixtures, etc. All the hardware such as fasteners, hangers, suspenders, etc. required for erection of the false ceiling shall be approved by the Engineer in charge. Metal frame False Ceiling of 12 mm thk conforming to IS: 2095: :1982 of Gypsum Board including vertical drop panels. The metallic grid shall consist of the following:

- GI Perimeter channels of size 27mm and 0.5mm thick having one flange of 20mm and another flange of 30mm. GI intermediate channel of size 45mm 0.5mm thick. With two flange of 15mm. GI Cleat and Steel Expansion Fasteners: Ceiling section of 0.5mm thickness having curled wedge of 51.5 mm and two flanges of 26mm each with lips of 10.5mm.
- The metallic grid shall be installed as follows: The perimeter channel along the perimeter of the ceiling with screw fixed to brick wall / partition with the help of rawl plugs and screws. The intermediate channels shall be suspended from the ceiling with steel GI hanger fixed to the slab soffit with GI cleat and steel expansion fasteners. Finally, the 12mm thick Gypsum boards shall be fixed to the metal frames and the tapered/square edges of the boards shall be finished to a flush joint with requisite filler, paper tapes, finisher and primer suitable for Gypsum plaster boards, (as per recommendations of manufacturers or equivalent) including Acrylic Emulsion Paint of approved make and shade and colour. The rate shall include the cut-outs to be made for light fittings, grills, diffusers, speakers, smoke detectors, sprinklers etc. with provision of the frame along perimeter of the cut outs/ opening with channels/ ply to support the ceiling adequately as per the directions of Engineer in charge. The rate shall include necessary shapes, designs, patterns in curvature, sloping, dome, oval & elliptical shaped etc. including the necessary provisions of coved lighting scheme etc. complete as per the designs, drawings and instructions of the Engineer in charge.

7.1.15 Mineral fibre ceiling board

- The Mineral fiber ceiling should be a recessed visible grid and a tegular edge design, creating a ceiling with a shadow effect that accentuates each tile and partially conceals the grid system. The system should be consists of connect grid system , with an approximate weight of 2.5 kg/m² , manufactured room high density glass wool, Erecting false ceiling of Mineral Fiber ceiling Board Armstrong or equivalent approved make with framework, runners, cross runners & suspenders from the existing ceiling as per the manufacturers details and specification and 600X 600mmX 15mm thk tiles of approved design, texture & in micro look pattern including the grids in black / white silhouette pattern, 15mm as per manufacturers specifications complete including making necessary cut-outs for electrical fixtures, AC diffusers, access etc. as per the instructions of the Engineer in charge. Approved premium acoustic Tile in Dune RH Micro look category with Fine Fissured narrow reveal edge.

7.1.16 Fittings and fixtures

- Fixtures and fittings for doors, windows etc., shall be as shown on drawing and finishing schedule. These shall be heavy type, good quality and from approved manufacturer.
- The work shall be done by skilled carpenters as per details shown on drawing or instructed by the Engineer-in-Charge. Farming timber and other work shall be close

fitting with proper wood joinery, accurately set to required lines or levels and rigidly secured in place. The surface of frames etc., which will come in contact with masonry after fixing, shall be given two coats of approved paint before fixing. Mastic caulking shall be done after fixing external door and window frames. Special care shall be taken to match the grain of timber or plywood which will be subsequently polished. Screwing or nailing will not be permitted to the edge of plywood. All exposed plywood edges shall be finished with teakwood lipping unless otherwise shown on drawings.

- All carpentry work after finishing shall be sand papered smooth. A prime coat of paint shall be given after inspection to all surfaces other than those which shall be subsequently polished or covered with laminated plastic sheet.

7.1.17 Double Skin Laminated Partition

- Double skin laminated partition wall up to 70 mm thick are to be made with MS GP hollow rectangular sections of 40x40x2mm welded and painted frame work at 600mm intervals in both direction. Vertical members are to be anchored to the floor and roof slab firmly using suitable expansion bolts, and 12 mm thick marine ply on both sides are to be fixed to the frame work with SS self-tapping screws at suitable intervals and the approved 0.8mm thick laminate is bonded firmly to the plywood using high quality adhesive without bulges. Glass wool/ honeycomb paper board insulation shall be provided in between skins for improved acoustic properties. Provision for concealed cabling for Power, Network and AV shall be provided as per drawings / Instructions.

7.1.18 List of approved makes

Synthetic Enamel Paint	:	Asian, Berger, Dulux, Nerolac
Plastic Emulsion Paint	:	Asian, Berger, Dulux, Nerolac
Other Paints / Primer	:	Asian, Berger, Dulux, Nerolac
Ceramic Tile	:	RAK, Kajaria, Simpolo, Nitco, Somany
Glazed Tile	:	RAK, Kajaria, Simpolo, Nitco, Somany
Vitrified Tile	:	RAK, Kajaria, Naveen, Nitco, Somany
Cement	:	Ramco, Sankar, ACC, Ultratech,
MS GP hollow rectangular sections.	:	APL, Apollo, GSW, Tata
Pre-laminated (phenol bonded) Particle Board	:	Novapan, Century, Kitply, Greenlam
Block Boards / Particle board / Ply Board	:	Century, Green Ply, Uniply
Door Closer / Floor Spring	:	Dorma, Geze, Maganum,

Aluminium Section	:	Jindal, Hindalco, Bhoruka
Clear Glass / Clear Float Glass / Toughened Glass	:	Saint Gobain, Ashai, Modiguard, Atul
Accessories / Fittings for toughened glass work	:	Geze, Dorma
Texture Paint	:	Asian, Berger, Spectrum or equivalent
Reinforcement Steel MS & TMT	:	TATA / VIZAG / KAMDHENU/ SAIL
Laminate	:	Greenlam, Merino, Century, Orchid.
Motorised roller blinds	:	Duyoo, Somcy
Manual type roller blinds	:	Vista or approved equivalent
Etch film	:	3M or approved equivalent

7.2 Furniture

7.2.1 General

- The scope of work under this heading is to provide robust furniture system with due ergonomic considerations and with pleasing aesthetics to enhance the overall ambience and performance of the Cyber Security Centre.

7.2.2 Tables

- Custom built table of various size and shapes made of 25mm thick interior grade both side laminated MDF board top of approved design and shade, with matching 2mm thick PVC edge banding on the exposed sides and other sides with 0.8mm thick PVC edging and shall be supported with 18mm thick both side laminated MDF board verticals and modesty panels by metallic brackets, provided with cable managers and cable trays to pass wires, etc. as per drawings / Instructions. Table structure made of 1.0 mm thick MS CRCA steel/Aluminium in powder coated finish in approved colour also are acceptable.

7.2.3 Privacy Panels/ dividers

- Privacy panels having a height of approximately 450mm from table top, made of 10mm thick Acrylic with polished edges in approved colour and finish, Installed using aesthetically pleasing SS mounting brackets / Stand offs etc. over the tables as per drawings/Instructions.

7.2.4 Pedestal Storage

- Metal Pedestal trolley storage on castor wheels with 2 equal size drawers and 1 file drawer with an overall dimension of 400x680x520mm (W,H,D) made of 0.8mm thick MS CRCA sheet in powder coated finish. Top and front panels are to be provided with pre laminated particle board/MDF in approved design & shade with matching edge banding of 1.6mm thick including lock & key, Telescopic slides, Brush finish SS recessed handles etc. complete.

7.2.5 Storage (Full height)

- Full height Storages are to be made as per drawings/Instructions using 18mm interior grade pre laminated MDF board of approved design & shade, in an overall Size 900 x 2000 x 400 mm (W H D) with vertical & horizontal partitions, Shutters using auto close hinges of Kaff or Hettich. Backside shall be of 12mm thick interior grade pre-laminated MDF board. 1.6mm thick PVC edge banding on all exposed edges, including multipurpose lock, brush finish SS recessed handle etc. complete.

7.2.6 Net Chairs

- Sturdy Net back chairs of overall height 105cm with Metal base, Nylon Castors, 360 Swivel, Synchro tilt mechanisms, Pneumatic height adjustment of at least 100mm, Mesh fabric upholstered moulded pu foam seat, Lumbar support and adjustable PU armrest. Make & model: Godrej Oxbo HB / Wipro Adapt MB/ Featherlite Anatom MB

7.2.7 Visitors Chairs

- Sturdy Net back chairs, same as and matching to the Net Chairs without Castors, 360 Swivel, Synchro tilt mechanism and Pneumatic height adjustment.
Make & model: Godrej Oxbo / Wipro Adapt/ Featherlite Anatom

7.2.8 Upholstered Bench

- Custom built Bench made of Steel powder coated under structure of 38mm square tube of 1.6mm thick and the seat with 50mm thick High density PU form upholstered in good quality fabric over 12mm thick marine plywood backing. Legs shall be provided with rubber backed levelling foots.

7.3 ELECTRICAL

7.3.1 General

- The scope of work under this heading is to provide necessary power outlets to tables and other fixtures wherever required by rerouting the existing cables and branching with additional cables and all outlets such as switches/ Sockets etc. matching to the existing Installations.
- All materials used in the work shall be of ISI approved / quality and in its absence conforming to the I.S. Specification and The equipment shall be designed to confirm to the requirements of I.S. 4237, I.S. 2147 and I.S. 375. For fabricated equipment special care shall be taken to make the enclosed equipment proof against entry of creeping reptile which may create electrical short circuits inside the live equipment

7.3.2 Lighting equipment

- The existing lighting fixtures may be repositioned suitably for even lighting in line with the new partitions. If additional lighting fixtures are required then similar to the existing fixtures may be used.

7.3.3 Switches

- Light and fan switches shall be rated for 6/10 Amp Modular type , 240 volts and of Piano-key type and suitable for flush mounting on modular cover plates. The switches shall be of Crabtree or equivalent make acceptable to CDAC(T). For mounting these shall be either open or concealed way as by design. The switches shall comply with relevant I.S standards.

7.3.4 Socket outlet and plug

- These shall be of 3 pin / 5 pin modular type and of rating 6 amps (For light) and 16 amps. (for power). Each socket outlet shall be complete with controlling switch and plug top. Protective MCB control shall be provided with 16 amps. power socket outlet. The socket outlets shall have piano-key type switches and of Crabtree or equivalent make acceptable to CDAC(T) The socket outlet and plug shall comply with the relevant I.S. specifications.

7.3.5 Switch boxes

- Sheet metal (18 SWG) switch boxes / PVC connection boxes with PVC cover plate modular in wall by open or concealed housing, the box after cutting brick wall. Sheet metal boxes shall be treated against corrosion by zinc passivation.

7.3.6 Wiring system

- The electric load of all lights, power outlets, etc. shall be balanced across the three phases. Generally the final loading of any sub-circuit for lights and fans shall not exceed 800 watts and shall not be connected to more than total 10 fans, lights, socket outlets, etc. Bell push if operated at low voltage shall be fed from a separate circuit of distribution fuse board. The final 16 amps sub-circuit for power shall be connected to a maximum on 16 amps. Socket outlet or two 6 amp. Socket outlets. A power circuit shall always be originating from a distribution fuse board or MCB DB and the same shall run in a separate conduit. Point wiring shall mean wiring from one way of distribution board to point of utilization of electricity i.e. where the load is applied and this shall include complete wiring from distribution board, supply and fixing of switch board, controlling switches, ceiling rose, batten holder and socket outlets etc.
- Insulated or covered earthing conductors where used, shall have green insulation braiding or covering as appropriate. Under no circumstances shall the colour green be used for other than earthing conductor. In addition where it is required, cables of different colours be used. For identification purposes the following system shall be employed:
- Red or any colour (other than Black or green) : For outer phases or switch wire
Black : For middle wire or Neutral.
- Distribution wiring in conduit to light, fan, plug points etc. shall be done in looping in system, where no joints shall be made anywhere of the system except at terminating points such as a terminals of switches, ceiling roses, socket outlets etc; Intermediate wiring joints of neutral wire in junction boxes are not permitted.

7.3.7 Conduit wiring

- PVC Conduit less than 20mm in diameter shall not be used. All conduits shall be of 1.4 to 1.8 mm thickness below 32 mm dia. And 1.6 to 2.2 mm thickness for 32 mm dia. and above. The conduit for each circuit shall be erected complete with shall be used between the conduit saddle and fixing surface. The saddle shall be fixed at an interval of not more than 750 mm apart for vertical run and 600mm apart for horizontal run.
- Where specified, P.V.C. conduit conforming to IS: 2509-1973 or IS: 9537 (Part – III) shall be used. The thickness of P.V.C. conduit shall be adequate to withstand mechanical injuries. Where necessary PVC conduit accessories conforming to IS: 3419-1976 shall be used along with PVC conduit.

7.3.8 Wires

- Unless otherwise mentioned in the schedule of quantities, only single core PVC insulated / PVC insulated & sheathed cable consisting of single / multistrand / flexible copper conductor and of approved manufacturers conforming to relevant BIS shall be used for wiring in conduit system.

7.4. NETWORK

7.4.1 General

- The scope of work under this heading is to provide additional Network system and integrating the same with the existing Network infrastructure available in CDAC campus to enhance the overall performance of Cyber Security Centre. The following brands may be considered for installation to match with the existing components.

- Molex for UTP components
- AMP for Fiber components

7.4.2 UTP cabling system

Type	-	Unshielded twisted pair cabling system, TIA / EIA 568Category 6 or higher Cabling System.
Networks Supported	-	10 /100/1000 Ethernet, 155 Mbps ATM, IEEE 802.3ab Ethernet or higher
Warranty	-	25-year systems warranty; Warranty to cover Bandwidth and Installed cabling system.
Performance characteristics	-	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return loss, ACR and PS ACR for 4-connector channel to be provided along with bid

UTP cabling Solution should be ETL verified for CAT6 component compliance certified and zero bit error compliant.

UTP Cable Cat 6 or higher

Type	-	Unshielded Twisted Pair, Category 6 or higher
Conductors	-	23 AWG solid bare copper or better
Insulation	-	Polyethylene
Jacket	-	Flame Retardant PVC
Pair Separator	-	Star Quad Separator/equivalent
Approvals	-	UL listed, ETL verified to TIA / EIA Cat 6
Frequency tested up to	-	Minimum 250 MHz
Packing	-	Box of 305 meters
Conductor Diameter	-	0.54mm
Filler	-	Polyethylene
Rip Cord	-	Yes
1-100MHz Input		

Impedance (Ohms)	-	100+/-15
Outer Diameter	-	6.20mm
Average Thickness (±0.05mm)	-	0.50
100-250MHz Input Impedance (Ohms)	-	100 Ohms +/-22
1-250 MHz delay skew (ns/100m)	-	45

Reference Standard- UL Subject 444, EIA/TIA-568 B.2.1, ISO/IEC 11801 & IEC61156-5

- All qualified cables shall exceed the most severe requirements provided in the Industry Requirements by the worst case margins listed below for all specified frequencies (except where noted):
- Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and beyond.
- Incorporates central spine – star quad separator/equivalent maintaining pair separation during installation to ensure premium performance after installation.

Parameter UTP Cable Performance

	100 MHz	200MHz	250MHz
Return Loss (dB)	18.9	18.0	17.3
Attenuation Loss (Db/100m)	19.8	29.0	32.8
NEXT (dB)	44.3	39.8	38.3
ACR (dB)	25	10.8	5.5
PSNEXT(dB)	42.3	37.8	36.3
ELFEXT (dB)	27.8	21.8	19.8
PSELFEXT (dB)	21.3	18.8	16.8
Delay (dB)	536.9	536.5	536.3

7.4.3 RJ 45 Information Outlet Jack:

- Be available in Orange, Blue, Yellow, White, Green, and Purple & Black.
- To be fully compliant to AS/NZS 3080:2003, ISO/IEC 11801 edition 2002 and ANSI/TIA/EIA-568-B series connecting hardware standards.
- To be backward compatible with category 5 and 5e products.
- To be available with flexible locking tabs
- Accept solid 22-24 AWG diameter conductors
- Should be certified for UL94V-0 rated.
- Clear IDC caps that allow for termination verification and assist in cable termination.
- The information outlets should use strain relief mechanism to simplify and reduce installation time protecting the quality of the termination simultaneously.

- The termination cap shall provide strain relief on the cable jacket, ensure cable twists are maintained to within 1/2" (12.7. mm) and include a wiring scheme label.

Must meet the following performance specifications:

Margin over Cat 6 @ 250MHzs		
Parameters	Worst Case	Typical
Attenuation(dB)	0.12	0.14
NEXT" (dB)	0.84	4.37
FEXT" (dB)	2.1	5.1
Return Loss (dB)	6.9	8.3

Modular Connector (Information Outlets)

Jack Type	-	Flush faced
Durability	-	1000 mating cycles min
RJ45 8-Pin	-	FCC part68, Subpart F and IEC-60603-7 compliant
Contact Material	-	Copper Alloy
Material	-	Phosphor bronze with 50 micro inches of gold over 100 Micro inches nickel plating
Dual colour coding	-	allows for 568 A/B wiring configuration.
Standards	-	ETL Verified for CAT6 Component Compliance.
Others	-	Pre-shuttered dust-cover preferred

IDC Connector

Contact	-	IDC Contact
IDC Connector	-	Insulation slicing of 22 to 24 AWG (0.64mm to 0.41mm)
Insulation Diameter	-	0.70mm - 1.40mm
Connector Material	-	Phosphor bronze with nickel plating
Temperature	-	40 °C to +70 °C

Transmission

Performance	-	Exceeds ISO / IEC 11801 class EASINZS 3080:2003 Class E
Fire Retardant	-	IDC body & cover material Fire – Retardant.

Colour coding of the jacks (information outlets) at both ends (workstation end & Patch panel end) should be explicitly visible.

7.4.4 UTP patch panel – Cat 6 or higher

Type	-	24-port, Unshielded Twisted Pair, Category 6 or higher, TIA / EIA 568-6.2
Ports	-	24
Port arrangement	-	Each port to be modular and be able to remove & plug in back
Category	-	Category 6 or higher
Port Identification	-	Labelling provision to be in built in the jack panel
Height	-	1 U (1.75 inches)
Others	-	Pre-shuttered dust-cover preferred

Modular Connector

Jack Type	-	Flush faced
Durability	-	1000 mating cycles min
RJ458-Pin	-	FCC part68, Subpart F and IEC-60603-7 compliant
Material	-	Phosphor bronze with 50 micro inches of gold over 100 micro Inches nickel plating
Dual colour coding	-	allows for 568 A/B wiring configuration

IDC Connector

Contact	-	IDC Contact
IDC Connector	-	Insulation slicing of 22 to 24 AWG (0.64mm to 0.41mm)
Insulation Diameter	-	0.70mm - 1.40mm
Connector Material	-	Phosphor bronze with nickel plating
Temperature	-	40 °C to +70 °C

Transmission

Performance	-	Exceeds ISO/IEC 11801 class EASINZS 3080;2003 Class E
Fire Retardant	-	IDC body & cover material Fire - Retardant
Panel Material	-	Powder coated metal framework
Colour coding	-	Universal colour coding for 568A and 568B standards

- The jack panel specifications should meet or exceed EIA/TIA category 6 or higher connecting hardware specifications for all pair combinations up to 250 MHz.
- The Jack Panel should be mountable directly to an EIA standard 19-inch relay rack or cabinet.
- The Jack Panel should support universal wiring for both T568A and T568B termination methods
- The Jack Panel should also have Metal rear cable manager to properly guide cables to point of termination and come with Velcro straps for tying the cables

- The Jack panel should come with caps to cover the screws after the installation on the network rack.
- The Jack Panel should support a strain relief mechanism to simplify and reduce installation
- Time protecting the quality of the termination simultaneously.
- The Jack Panel should have individual jacks to allow for change-out in the event of damage to any jack- without disturbing the other jacks in the panel.
- The jacks should have lead-frame design to ensure full compliance and consistency with category 6 specifications.

Must meet the following performance specifications:

Margin over Cat 6 @ 250MHz		
Parameters	Worst Case	Typical
Attenuation(dB)	0.13	0.15
NEXT" (dB)	0.75	4.0
FEXT" (dB)	2.0	4.9
Return Loss (dB)	6.5	8.0

- Tested in both Differential and Common modes

7.4.5 Faceplates- Cat 6 or higher

- To be compatible with UK standard (86 x 86 mm)
- The work area, faceplates should offer a sleek, clean appearance for mounting Outlets. The designation labels cover the mounting screws (should be included as part of the standard equipment) and provide ample circuit identification.
- The faceplates should be available in white / Ivory version.
- Protected labelling facility and service I.D. icons.
- The faceplates should be UV resistant, should be made using high impact plastic to prevent colour fading and to provide added durability.
- The faceplates should include quick pressure-release designation label covers for quick, tool- less removal.
- The information outlets should be easily snapped out from the back of faceplates making moves, adds, and changes quick and easy.
- Faceplate should be available in 1,2,4 Gang.

7.4.6 Workstation I Equipment Cords (Patch Cords) Cat 6 or higher

Type	-	Unshielded Twisted Pair, Category 6 <u>or higher</u> , TIA / EIA 568-8.2
Gauge	-	FCC part 68, subpart F and IEC-60603-7 compliant
Length	-	To be available in standard lengths 1 / 2 / 5 / 10mtrs
Separator	-	Star Quad separator/equivalent inside the patch cord to separate all the 4 pairs
Warranty	-	25-year component warranty
Category	-	Category 6 <u>or higher</u>

Jacket	-	Should be LSOH - Low Smoke Zero Halogen Free.
Durability	-	1000 mating cycles
RJ45 Plug	-	Polycarbonate, FCC part 68 subpart F, UL 94V-0
Plug Boot	-	PVC Strain relief boots.
Contact Material	-	Phosphor bronze with 50 micro-inches gold over 100 micro Inches nickel.
Standards	-	Should meet or exceed TIA/EIA 568B, ISO Category 6 Performance requirements.

All category 6 or higher compliant modular equipment cords shall:

- The modular cord should be compatible with both T568A and T568B wiring schemes
- The modular cord should have strain relief boots with a latch guard or a one-piece, tangle free latch design to protect plug latch from snagging when pulling cords through pathways or cable managers.
- All the modular cords should be factory assembled cords made out of stranded cable and should be 100% tested to 250 MHz
- The modular cords should be made using excellent plug-to-cable strain relief without causing pair deformation.
- The modular cord should provide strain and bend relief mechanism to improve the plug-to-cable retention and maximum performance by preventing pair deformation, as caused by mechanical strain.
- The modular cord boots should be colored for additional color-coding.
- The modular plugs should provide long-term resistance to corrosion from humidity, extreme temperatures, and airborne contaminants.
- The modular cord plug geometry should meet FCC 68.500 and IEC 60603-7 specifications for modular plugs.
- The cordage and boots should be available in a Blue, Grey, Red & Yellow colours
- The Category 6 Stranded cable used to manufacture the modular patch cords should meets the specifications set forth by both ANSI/TIA/EIA-568-B.2-1 and ISO/IEC 11801:2002.
- The modular patch cords should have compliance to both '568 and '11801 to ensure minimal cable impedance variation and superior return loss performance.

7.4.7 48 - Port Layer 3 Whitebox Switch with Openflow support

Hardware and interface requirements

- Access ports : 48 x 10/100/1000 BASE-T RJ-45 (of which atleast 24 ports shall support PoE+)
- Uplink ports: 4X 10G SFP+ Port (shall be populated with 4X 10G SFP+ Port Modules)
- Stacking ports: atleast 2X40G in redundant mode.
- Management ports : 1 RJ45 Console Port, 1 RJ45 10/100/1000BASE-T Management Port, 1 USB Type A
- Power Supply : Dual high efficiency redundant, hot swappable power supplies
- Form factor: 1 U
- LED indication: For Link Speed and Link Status.

Performance requirements

- Packet switching capacity shall be atleast 840 Gbps
- Forwarding rate shall be atleast 630 Mpps.

Switching requirements

- Switch shall support minimum 48000 MAC addresses per system
- Switch shall support Jumbo frames of 9,000 bytes
- Switch shall support minimum 3000 VLAN's
- Switch shall support Port-based VLAN and MAC-based VLAN
- Switch shall support 802.1Q VLAN tagging
- Switch shall support Voice VLAN and LLDP
- Switch shall support IEEE 802.3ad: Link Aggregation Control Protocol (LACP).
- Switch shall support IPv4/v6 routing suite (OSPFv2, OSPFv3, BGPv4/v6, Static)
- Packet buffer memory : Atleast 10 MB
- CPU memory : Atleast 4GB

Quality of Service (QoS) requirements

- Switch shall support class-based queuing with prioritization
- Switch shall support queuing based on VLAN, interface, bundles, or filters
- Switch shall support marking, policing, and shaping
-

System Management and Administration

- Switch shall support Software upgrades
- Switch shall support SNMPv2 and SNMPv3
- Switch shall support IPv4 and IPv6 Management including Neighbour discovery, Logging, Telnet, SSH, Web, NTP and DNS.
- Switch shall support Openflow Protocol version 1.0 or higher.
- Netwrok operating system shall be included in the the switch.
- Switch shall have support for newtork Operating Systems such as PicOS, Cumulus Linux, Switch Light, etc.

Security features

- Switch shall support port, VLAN and route based Access control lists (ACLs)
- Switch shall support MAC limiting
- Switch shall support Dynamic ARP Inspection (DAI)
- Switch shall support DHCP snooping
- Switch shall support L2-L4 ACL
- Switch shall support RADIUS/TACACS+, and SSH to enhance security and control change management access.

Services and Manageability

- Switch shall be manageable through CLI, Web Interface, SSHv2 and HTTP/HTTPS
- Switch shall support configuration backup via FTP/secure copy.

Warranty, Installation & Support

- Rack mounting kit shall be provided.
- Physical installation including configuration for stacking, VLAN and uplink as per CDAC requirement.
- 24x7 Technical Support and Assistance by email, telephonic and remote login by WebEx/Team viewer /Net meeting for administration & Configuration.
- Availability of patches and updates for atleast 5 years from the date of purchase.
- Comprehensive OEM warranty for 3 Years.

7.5.AUDIO VIDEO SYSTEMS

7.5.1. Customer Interaction Area

A 65" display or better system as per the specification is required for presentation of the activities with necessary VGA/HDMI ports from the conference table.

1	65" Display: Supply, Installation, Testing & Commissioning of 65" Display with backlight: Direct or Edge LED, Supports 16/7 hours operation, Resolution of 3840 x 2160 pixels, Brightness is 350 nit or better, Contrast Ratio of 4000:1 or better, Viewing angle: Horizontal 178 degree & Vertical 178 degree, Display Colors of 16.7 Million or better, Connectivity: 1xDVI-D In, 2xHDMI 2.0 In, 1xAudio In, 2xUSB2.0, 1xAudio Out, Controls: IR, RS232, Ethernet, Built-In Speaker: 2 nos. of 10W speakers or better
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7.5.2. Monitoring Area

A 4 X 2 55" Video wall or better with minimum 14 video inputs should be provided in the monitoring room with VGA & HDMI connection in each table

1	55" Video Wall LED Display: Supply, Installation, Testing & Commissioning of 55" LED Video wall with 2 x 4 Configuration, 3.5mm Bezel -to -Bezel depth, Pixel Pitch: 0.63mm(H) x 0.63mm(V), Anti-glare panel, 24/7 Operation, Resolution (Pixels): FHD 1920 x 1080, Brightness: 500 nits, Contrast Ratio: 1200:1, Viewing Angle: Horizontal 178 degree, Vertical 178 degree, Input Connectivity: 1x VGA, 1x DVI-D, 1x DP, 2x HDMI, 1x USB, 1x Audio, Output Connectivity: 1x DP, 1x Audio, Control: RS232, IR, RJ45 or better
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7.5.3. Conference Area

A 55" or better display system with a PTZ video conferencing camera, necessary ceiling microphones and speakers

1	55" Display: Supply, Installation, Testing & Commissioning of 55" Display with backlight: Direct or Edge LED, Supports 16/7 hours operation, Resolution of 3840 x 2160 pixels, Brightness is 350 nit or better, Contrast Ratio of 4000:1 or better, Viewing angle: Horizontal 178 degree & Vertical 178 degree, Display Colors of 16.7 Million or better, Connectivity: 1xDVI-D In, 2xHDMI 2.0 In, 1xAudio In, 2xUSB2.0, 1xAudio Out, Controls: IR, RS232, Ethernet, built-In Speaker: 2x10W or better
2	Ceiling Speaker: Supply, Installation, Testing & Commissioning of 2-way dual 5" ceiling speakers with RMS Power: 60 Watts, Frequency Range: 65 Hz to 20 kHz, Nominal coverage: 90°, Nominal Impedance: 6/8 ohm, Sensitivity: 85 dB, Transformer tapping: 70/100 V or better

3	Ceiling tile beamforming microphone: Supply, Installation, Testing & Commissioning of Ceiling tile beamforming microphone with size of 600 mm x 600 mm or better with LED status indication, features Acoustic echo cancellation, Noise reduction, Mixing, Gain control, Beam pattern: 5 or better, Connectivity: 1xRJ45, Frequency Response: 180Hz – 17 KHz, THD + Noise: < 0.2%, Dynamic Range: 82 or better
4	Video Conferencing Codec with PTZ Camera & Speakerphone: Supply Installation Testing & Commissioning of Video Conference codec with Protocols of SIP/H.323 Multi-site collaboration with traditional video conferencing and cloud video collaboration, Transmission speed is between 64Kbps - 6Mbps, supports HD Data Sharing at 1080p resolution using H.239 ITU standard, Features echo cancellation, Automatic Noise suppression (ANS), Automatic gain control (AGC), Voice Activity Detention (VAD), Recording facility: built - in storage or ability to connect external hard drive, Inputs of 2x HDMI, 2xUSB, 1xAudio In, Outputs: 1x HDMI, 1x Display port/VGA, 1xAudio Out, It should able to connect up 1+7 sites or better in H.264 protocol with content sharing features, Camera: PTZ camera supports 1080p 60fps resolution with 12xOptical zoom, Field of view: 70-degree, Auto Focus/Automatic Gain Control, Pan Angles: $\pm 100^\circ$, Tilt: -30° to $+90^\circ$, Speakerphone: Support microphone array each consisting of three mic elements, guaranteeing 360-degree coverage better

7.5.4. Centralized Video & Audio Control System

A centralized audio and video control system with a recording and streaming, wireless presenter section should be provided

1	Control System: Supply, Installation, Testing & Commissioning of Control System with 12 Mic/Line Inputs with AEC, 8 Line outputs, Bidirectional USB audio, Telephone interface via RJ-11 connector, features Mix Minus, Flexibility to Change Each Output channel line levels signal to mic level or vice-versa, Controls: RS232, Ethernet, 4 nos. of GPIO, Hardware controlling: Windows,iOS,App to provide PSTN telephone dialing, Frequency Response: 20Hz – 20kHz, Dynamic range: >105dB, Input Impedance: Balanced 2 K Ω to 8 K Ω or better, Output Impedance: Balanced 95 Ω to 300 Ω or better
2	24x24 Matrix Switcher: Supply, Installation, Testing & Commissioning of 24x24 or better HDMI 2.0 digital crosspoint Matrix Switcher with Control over RS-232 and Ethernet, Supports full 4K @ 60 Hz resolution with 4:4:4 colour sampling, HDMI resolutions Supports HDCP 2.2 encryption capability, Front panel USB for the device configuration, Support CEC control, Support audio embedding & de-embedding, Support pixel clock upto 600 MHz, Support Dolby Vision HDR Formats, Ethernet ruggedized LAN connector, Built in website for device configuration, Front panel LCD menu for configuration & Crosspoint control, Cross point configuration can be recalled as preset, Supports Redundant Power supply with Connectors, Supports Uncompressed video data rate up to 18 Gbps, supports EDID Management on individual inputs, Supports PCM, Dolby Digital and DTS audio formats, No Signal latency – Zero frame Delay or better

3	Wireless Presenter: Supply, Installation, Testing & Commissioning of Wireless Presentation device with Max. Output Resolution: 1080p@60Hz or better, Operating Systems: Windows 7&8, Mac OS X, Apple iOS, Android, Video Outputs: 1xHDMI, Number of sources simultaneous on-screen: 1, Number of simultaneous connections: Atleast 8, Frame Rate: 30fps or better, Ethernet: 1 LAN, Communication & Control: 2xUSB or better
	Recording and Streaming Section
4	Video Streaming Server: Supply, Installation, Testing & Commissioning of Video Streaming Server with Simultaneous Live Streaming & Recording, Encoding protocol: H.264, Streaming Protocol: TS over UDP unicast & multicast, supports input resolution upto 1080p60, Video Bitrate: 24Mbps or better, Modes: Quad View, Full Screen, PIP, PBP, POP mode for monitoring, Input: 1xHDMI/SDI, Output: 1xHDMI/SDI, Recording Formats: MOV, MP4 or better
5	Hard Disk Drive: Supply, Installation, Testing & Commissioning of 512 GB External Hard Disk Drive for storage or better
6	AV Control Processor: Supply, Installation, Testing & Commissioning of Control Processor including built-in control card expansion slots with 1 GBRAM & 4GB Flash memory, Expandable storage up to 1TB, iPhone, iPad, and Android control app support, Connectors: 8xRelay port, 6xRS232, 8xIR, 1xLAN, 1xUSB, & Three built-in RS232 card expansion slots or better
7	Touch Panel: Supply, Installation, Testing & Commissioning of 10.2 inch, LED -Backlit with Multi Touch 2160x1620 Resolutions, 32 GB, Wifi Model, 500 nits brightness or better
8	Docking Station: Supply, Installation, Testing & Commissioning of Docking Station for above Touch Panel or better
9	28 port Network Switch: Supply, Installation, Testing & Commissioning of 28-Port Gigabit Managed Switch with following Specification Spanning Tree Protocol, Port grouping Up to 8 groups, VLAN Support for up to 4096 VLANs simultaneously, Port-based and 802.1Q tag-based VLANs, MAC-based VLAN, Management VLAN, Private VLAN Edge (PVE), also known as protected ports, with multiple uplinks, DHCP snooping Filters out DHCP messages with unregistered IP addresses and/or from unexpected or untrusted interfaces. This prevents rogue devices from behaving as DHCP Servers or better
10	Router: Supply, Installation, Testing & Commissioning of Wireless Router using the DIR-825/AC device, high-speed wireless network, Simultaneous activity of 2.4GHz band and 5GHz band allows performing a wide range of tasks, 300+700 Mbps Speed, Frequency: 2.4 GHz, 5 GHz External Antenna or better

7.5.5 LIST OF APPROVED MAKES FOR AUDIO - VIDEO ITEMS

65/55" Display	:	Samsung / Sharp / NEC
HDMI Input Port Transmitter	:	Lightware / Extron / AMX
HDMI Input Port Transmitter	:	Lightware / Extron / AMX
Transmitter	:	Lightware / Extron / AMX
Mounting kit	:	Lightware / Extron / AMX
HD Base-T Input Port Receiver	:	Lightware / Extron / AMX
55" Video Wall LED Display	:	Samsung / Christie / NEC
Ceiling Speaker	:	Clearone / Tannoy / Bose
Amplifier	:	Clearone / Lab gruppen / Bose
Ceiling tile beam forming microphone	:	Clearone / Shure / Sennheiser
Control System	:	Clearone / Symmetrix / Bi-amp
24x24 Matrix Switcher	:	Lightware / Extron / AMX
Wireless Presenter	:	Barco / AMX / Extron
Video Streaming Server	:	Datavideo / AJA
Hard Disk Drive	:	Samsung / WD / Seagate
AV Control Processor	:	Extron / Crestron / AMX
Touch Panel	:	Apple / Extron / AMX
Docking Station	:	Logic / Crestron / Extron
28 port Network Switch	:	Cisco / D-Link / Netgear
Router	:	Cisco / Netgear / TP Link
Video Conferencing Codec with		
PTZ Camera & Speakerphone	:	Clearone / Polycom / Cisco
Cable cubby	:	Logic / Extron / AMX
HDMI to USB Converter	:	Clearone / Extron / Epiphan
PoE power supply	:	Clearone / Shure / Schnnheiser
Floor Box	:	Legrand / Hubbell / Leviton

HDMI Cable	:	Kramer / Extron / Crestron
HDMI Cable	:	Kramer / Extron / Crestron
VGA+A Cable	:	Kramer / Extron / Crestron
DP Cable	:	Extron / Crestron / Kramer
Trunking	:	MK / Legrand / Precision
Rack	:	Middle Atlantic / Valrack / Netrack
DP to HDMI Converter	:	Kramer / Extron / Crestron
Mic Cable	:	Belden / Kramer / Klotz
SDI Cable	:	Belden / Kramer / Klotz
Catx Cable	:	Belden / Kramer / D-Link
USB Cable	:	Logic / Kramer / Extron
USB 3.0 cable	:	Clearone / Polycom / Cisco
USB Cable	:	Logic / Kramer / Extron
Speaker Cable	:	Belden / Klotz/ krame

Section 8 Details of Bid Documents for online submission

The following bidder eligibility and pre-qualification criteria documents shall be submitted online as described in Section 2.

- A. Tender fee
- B. Earnest Money Deposit/ NSIC/MSME exemption certificate
- C. Eligibility and Pre-qualification criteria supporting documents

A. FORMAT FOR TENDER FEE

Tender Fee Details – If applicable

Sl.No.	Demand Draft no. & date	Amount (in Rs.)	Name of the Bank & Branch
1	-	-	-

Note:

The original instrument towards Tender fee and the template containing the Tender fee details are to be submitted offline at CDAC(T) in a separate cover super scribed with “**Tender Fee**” as part of packet 1

B. FORMAT FOR EMD

EMD Details – If applicable

Sl.No.	Demand Draft /BG no. & date	\Amount (in Rs.)	Name of the Bank & Branch
1			

Note :

The original instrument towards EMD and the template containing the EMD details are to be submitted offline at CDAC(T) in a separate cover super scribed with “**Earnest Money Deposit**” as part of Packet 1

C. Eligibility and Pre-qualification criteria supporting documents as per attachment# 1, 2 & 3

Attachment #1

General Information of the BIDDER

1	Name of BIDDER	
2	Address	
3	Telephone Number	
4	Fax Number	
5	Email	
6	Web Site	
7	Legal status a Government/ Public Sector Undertaking a propriety firm a partnership firm (if yes, give partnership deed) a limited company or limited corporation a member of a group of companies (if yes, give name and address, and description of other companies) a subsidiary of a large corporation (if yes give the name and address of the parent Organization) If the company is subsidiary, state what involvement if any, will the parent company have in the project.	
8	Date of registration of the bidder firm in India. Submit copy of Certificate of Incorporation / Registration.	
9	Correspondence Address Name/Designation Address E-mail/Phone/Fax	
10	Goods and Service Tax registration no. Submit copy of GST registration.	
11	Income Tax registration details. Submit copy of PAN	
12	Is the firm registered under Labour Laws Contract Act? If yes, submit valid registration certificate.	
13	Number of years of experience in projects of similar nature (such as setting up of IT Labs / Control Centres Integrated with Audio Video systems including Video Wall & Video Conferencing)	
14	Do you have an office/ authorized agent in Kerala with in 250km radius to Thiruvananthapuram? If so, please give the	

	address and the details of staff, infrastructure, etc; Valid documentary evidence of address to be enclosed. If an office/ authorized agent in Kerala with in 250km radius to Thiruvananthapuram is not available, bidder should submit an undertaking to do the same within 30 days from the date of work order, if awarded to them.	
15	Please give the number of employees engaged in similar work (such as setting up of IT Labs / Control Centres Integrated with Audio Video systems including Video Wall & Video Conferencing)	
16	List the major clients with whom your organization has been/ is currently associated for similar work.	
17	The bidder shall disclose details pertaining to all contingent liabilities, claims, disputes, matters in appeal & in court and any pending litigation against the bidder. If nil, an undertaking from the bidder mentioning the same to be submitted.	
18	Have you been blacklisted / banned / declared having delivered dissatisfactory performance by any government / semi-government authority in India for supply of materials / carrying out operations and Implementation work. An undertaking by an authorized signatory of the company needs to be submitted in this regard.	

Signature of Bidder with seal

Attachment # 2

Financial Information of the bidder

Particulars(Amount in Rs. Crores)	Financial Year		
	2016-17	2017-18	2018-19
Annual Turnover			
Net profit			

Networth			
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Note:

- Submit the Audited balance sheet along with Profit & Loss Account for the financial year 2016-17, 2017-18 and 2018-19.
- Submit CA Certified Statement for the financial year 2016-17, 2017-18 and 2018-19 on the Net worth.

Attachment # 3**Experience in implementation of similar works**

Sl. No.	Name of Organization with address	Contact Person and contact telephone no.	Scope of Work enclosed (Yes/No)	Project duration (in months)	Date of completion	Project Cost (Rs.Lakhs)	Copy of certificate for project completion & sign off by customer enclosed (Yes/No)

Attachment #4

List of items where Letter of authorization from the OEMs is required

Sl. No.	Item	OEM	Model	OEM Authorisation letter	
				Mandatory/ Desirable (M/D)	Enclosed (Yes/No)
1	Audio Video System			M	

FORMAT FOR OEM Support & Commitment through Bidder
[On the Letter head of the OEM]

Date:

The Department Head, Administration
Centre for Development of Advanced Computing (C-DAC)
Vellayambalam, Thiruvananthapuram
Kerala-695033

Sub: Product Compliance with the tender specifications
Ref: Tender No.:

This is to certify that the bidder M/s _____ (name of bidder) is representing us, M/s _____ (name of OEM) for _____ (name of product category) for the above referred tender no., for "Setting up of Cyber Security Centre in CDAC Technopark Campus, Kariyavattom, Thiruvananthapuram, Pincode 695581"

We confirm that we have understood the delivery & installation timelines defined in the tender. We confirm that we have worked out all necessary logistics and pricing agreement with <Bidder Name> and there won't be any delay in delivery, installation and support due to any delay from our side. Our full support is extended in all respects for supply, warranty and maintenance of our products. We also assure to provide the required spares and service support for the supplied equipment for a period of minimum 5years from date of installation of the equipment.

M/s _____ (name of OEM) hereby certify that the products offered for this tender are not declared end of sale and if any of the product is declared end of sale during the installation and commissioning phase, it will be replaced with suitable equivalent or higher roll over product.

We declare that the following details provided below are correct and submitted to ensure that the tender specifications are fully met by the bidder without any non-compliance through the offered solution:

Sl. No	Information Details	Response from OEM
1	Product Category	
2	Product Name	
3	Model no.	
4	Part no.	
5	OEM Warranty period	
6	Address of Product Manufacturing Centre in India	

7	Address of Product Support Centre in India	
8	Communication Details of Contact Official(s) – Name, Designation, Phone & Fax Number (with STD/ISD code), Mobile No. & E-mail Address.	

Signature of the OEM with seal

D. Technical bid supporting documents

The following technical bid documents shall be submitted online as described in Section 2.

- A. Tender Acceptance letter
- B. Compliance statement
- C. Non Compliance statement
- D. Manpower Deployment Plan
- E. Project Management Plan
- F. Un-priced Commercial Bid as per BoQ.xls template
- G. Datasheets of products offered

Attachment #5

FORMAT FOR TENDER ACCEPTANCE LETTER (To be given on Company Letter Head)

Date:

The Department Head, Administration
Centre for Development of Advanced Computing (CDAC)
Vellayambalam, Thiruvananthapuram
Kerala-695033

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No:

Name of Tender / Work:

Dear Sir,

1. I/We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: eprocure.gov.in as per your NIT / advertisement, given in the above mentioned website.

2. I/We hereby certify that I/ We have read the entire terms and conditions of the tender documents (including all documents like annexure(s), schedules(s), etc.), which form part of the contract agreement and I/ We shall abide hereby by the terms / conditions/ clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/ organization too has also been taken into consideration, while submitting this acceptance letter.
4. I/We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I/We do hereby declare that I / We have read and understood the entire technical specification laid down in the tender document and has prepared the technical bid in compliance with the technical requirements specified in the document.
6. I/ We certify that all information furnished by our firm are true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full earnest money deposit absolutely.

Yours Faithfully,

Authorized Signatory.
(Signature of the Bidder, with Official Seal)

Attachment #6A

Compliance Statement

Technical specifications of the product offered and its compliance to RFP technical specifications should be explicitly mentioned below.

Sl No	Section/ Page No. in RFP	Clause No. as in RFP	Requirement as specified in RFP	Compliance	Remarks

Attachment #6B

Non-Compliance Statement

Any proposed deliverable/ functional aspects/ technical aspects/ terms/ conditions or any other item NOT IN compliance to RFP Requirement should be explicitly mentioned below.

Sl. No.	Section/ Page No. in RFP	Clause No. as in RFP	Requirement as specified in RFP	Deviation	Remarks/ Reasons / Alternatives suggested

Attachment #7

Manpower deployment

Bidder has to provide the details of Project Manager and Supervisors who will be involved in this project during implementation, their role, qualifications & experience as per the template given below.

Sl. No.	Name/ No. of Staff member(s)	Designation	Role in the project	Academic Qualification	Professional qualification	Industry work experience
	Implementation period					
1						
2						
3						

Attachment# 8

Project Management Plan

- a. Proposed project execution methodology in terms of resources and logistics planning, office facility, storage and insurance of supply items upto installation and acceptance or till project is complete, phased installation and service support, etc.
- b. Detailed Project Management Plan and schedule to meet the project timelines as mentioned in Section 5.4

Attachment # 9

Un-priced Commercial Bid as per BOQ.xls template to be signed and submitted.

Attachment #10

Datasheets for the following items:

1. Audio Video System

Section 9 Commercial Bid

Commercial Bid shall be submitted online as described in Section 2.

- Commercial Bid covering letter
- Commercial bid as per BoQ.xls duly filled

9.1 Commercial Bid Covering Letter Template

< In Bidders letter head >

Date: [Insert: date of bid]

From

(Registered name and address of the bidder)

To:

The Department Head, Administration

Centre for Development of Advanced Computing (CDAC)

Vellayambalam, Thiruvananthapuram

Kerala-695033

Dear Sir,

Having examined Request For Proposal (RFP) number -----
 ----- dated ----- the receipt of which is hereby acknowledged, we,
 the undersigned, offer for Setting up of Cyber Security Centre in CDAC Technopark
 Campus, Kariyavattom, Thiruvananthapuram(meaning as realized in RFP), in full
 conformity with the said RFP, for a total project cost of Rs (Rupees
 only). The above amount is in accordance with the Price
 Schedules herewith made part of this bid as per the Commercial bid template.

1. We undertake that we shall successfully complete the Setting up of Cyber Security Centre in conformity with the bidding documents (and as amended from time to time) for a total cost as provided in the Commercial bid if the contract is awarded to us.
2. We declare that we have studied RFP and are making this proposal with a stipulation that you shall award us Contracts, either in part or whole, for theSetting up of Cyber Security

Centre in CDAC Technopark Campus, Kariyavattom, Thiruvananthapuram(meaning as realized in RFP), identifying separately including all other services specified in the Contract Documents.

3. We have read the provisions of RFP and confirm that these are acceptable to us. All necessary clarifications, if any, have been sought for by us and duly clarified in writing, by C-DAC, Thiruvananthapuram. We understand that any other ambiguous clauses in the RFP, if any, are subject to interpretation of CDAC(T).
4. We further declare that additional conditions, variations, deviations if any, found in the proposal other than those listed in Attachment pertaining to any rebates offered, shall not be given effect to.
5. We undertake, if our bid is accepted, to commence the work on the project immediately upon your Award of Contract to us, and to achieve completion within the time stated in the bid documents.
6. If our bid is accepted, we undertake to execute all contractual documents and provide all securities & guarantees as required in the bid document (and as amended from time to time).
7. We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely “Prevention of Corruption Act”.
8. We agree to abide by this bid, consisting of this letter, the Bid security, Eligibility and Pre-Qualification criteria, Technical bid and Commercial bid, for a period of bid validity from the date fixed for submission of bids as stipulated in the RFP, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.
9. Until the formal order is placed and final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us.

Dated this [insert: number] day of [insert: month], [insert: year] Signed:

In the Capacity of [insert: title of position]

Duly authorized to sign this bid for and on behalf of [insert: name of the Bidder]

Witness:

Address:

9.2 Bill of Quantity

SL No	DESCRIPTION OF ITEM	ITEM CODE	QTY	UNIT
1	SCHEDULE OF WORKS AND BILL OF QUANTITIES			
2	BILL OF QUANTITIES FOR CIVIL WORKS			
3	Laying of floor protector (Dura floor protector or equivalent) over the finished tiled surface, including removal of the same and cleaning of the area after completion of other works.	item1	400	Sqm
4	Dismantling of existing glass partition and related supports including stacking of material inside the campus as directed by C-DAC official.	item2	10	Sqm
5	Dismantling of existing false ceiling and related supports etc. wherever required, including disposal of material outside the campus as directed by C-DAC official.	item3	40	Sqm
6	Dismantling of existing Tile flooring and related base materials etc. wherever required, including disposal of material outside the campus as directed by C-DAC official.	item4	50	Sqm
7	MS GP rectangular hollow section of 1.6mm thick welded and painted framework of suitable size and design anchored to roof slab as supports for partitions including labour, materials etc. complete.	item5	300	Kg.
8	Relaying of Gypsum false ceiling in the dismantled area to provide a matching finish using dismantled/New materials of good quality.	item6	40	Sqm
9	Providing and fixing suspended Seamless Gypboard false ceiling in all shapes and design, as per technical specifications and smoothly integrated to the existing false ceiling. Rate to be inclusive of cutting and making good the ceiling for AC ducts, grills, diffusers, lights, trapdoors etc; fixing of any additional ply or padding as support for light fixtures, AC fixtures etc; and include Stepping of seamless Gyp False ceiling to a depth of 30 cms as per design.	item7	40	Sqm
10	Providing and applying 12mm to 15mm cement plaster of mix 1:4 (1 cement : 4 fine sand) finished with a floating coat of neat cement on all surfaces such as concrete walls, brick walls, columns, beams etc; at all heights.	item8	2	Sqm

11	Providing and laying coloured Full body Vitrified Tiles (600x600mm), stain free/nano finish in flooring/skirting of different sizes in the dismantled area in matching colour and shade to the existing tiles, laid on 40 mm thick cement mortar 1: 4 and grouting the joints with matching colour epoxy joint filler,including preparation of base surface,cleaning and finishing at all heights. Basic rate of tile is Rs.750/Sqm.	item9	50	Sqm
12	Providing and laying Coloured Vitrified Tiles (800x150 mm or above, wood finish-matt) in flooring/skirting of different sizes in dismantled area in matching colour and shades laid on 40mm thick cement mortar 1:4 and grouting the joints with matching colour epoxy joint filler, including preparation of base surface, cleaning and finishing at all heights. Basic rate of tile is Rs.1250/Sqm.	item10	5	Sqm
13	Providing and fixing clear toughened float glass of 12mm thick, which will be held within the embedded Slim anodised aluminium channels at top and bottom fixed to the floor and ceiling with appropriate type Hilti/Fischer make ss fastener.The glass to glass joints will be sealed with approved transparent weather sealant. All glass edges shall be of polished finish.The top Al Channel need to be fixed to the support frame work above false ceiling which is anchored to roof slab to support the glazing system.	item11	160	Sqm
14	Providing and fixing in position full height double skin laminated partition wall up to 70 mm thick with MS GP tubular section (40x40x2mm) welded and painted frame work at 600mm intervals, Vertical members anchored to the floor and roof slab, and 12 mm thick marine ply on both sides along with 0.8mm thick matt finish laminate. Plywood is fixed to the frame work with SS self tapping c'sk screws at suitable intervals and the approved laminate is bonded firmly to the plywood using high quality adhesive without bulges. Glass wool/ honeycomb paper board insulation in between skins for improved acoustic properties along with provision for concealed cabling shall be provided as per drawings / Instructions.	item12	30	Sqm
15	Providing and fixing frameless Patch fitted glass door with 12mm thick clear float toughened glass of size (2.4 x 1.0/1.2) m with double acting floor springs and related patch fittings of Dorma/ Geze or approved equivalent make including all necessary hardware and accessories such as 450 mm SS H-handles, Mortise lock with one side knob and other side key, pivot etc.	item13	4	Nos

16	Supply, Installation and commissioning of toughened switchable smart glass having a thickness of 12mm shall be made by providing a switchable inter-layer bonded in between two sheets of glass. It shall be frosted opaque in normal condition and capable to achieve a transparency of 84% or above when switched on with provision for controlling the same through a touch pad control.	item14	24	Sqm
17	All required Electrical items and accessories including protective devices, Control System, Cabling etc. for the Smart Glass work (item no. 15)	item15	2	Set
18	Providing and fixing SS Electric strike (fail secure type) for access control in doors including all accessories matching with existing lock system.(Geze).	item16	2	Nos
19	Providing and fixing magnetic door lock and strike plate for frameless toughened glass door including the required accessories and cabling for the Access Control supplied by C-DAC.	item17	1	Set
20	Painting internal walls/ceiling with plastic emulsion paint of approved colour & make in 2 or more coats over existing painted surface.	item18	100	Sqm
21	Supply and fixing of motorized Roller Blinds (blackout) with Group control facility of approved shade, make and finish including Heavy duty motor and all accessories. Number of windows : 2 Nos.	item19	25	Sqm
22	Supply and fixing Roller Blinds of approved shade, make and finish (manual type) including all accessories.	item20	30	Sqm
23	Providing and fixing Etch film of approved strip pattern for glazing panels as per design and direction.	item21	185	Sqm

24	Supply, laying and installation of following size rectangular box type mig welded G 275 grade GI under floor ducting in 1.5 mm thick supplied in 2.5 meters per length with additional accessories of trunking connecting shackle, vertical access box etc where required in floor/wall in line with EN 50085 including chasing and refilling the trench as per the route requirement approved by C-DAC official at site including clamping and closing the open ends temporarily by suitable end covers against entry of any foreign materials. Installation rates of GI under floor ducting should be inclusive of necessary hardware and arrangement required for fixing of trunk with duct connector and fastening clamp. This activity also includes connecting shackles along with associated accessories and all other accessories as required for complete installation. Necessary cutting of floors as per site requirements for fixing the same shall also be considered in this scope. Make: OBO Bettermann. Size 150x38x2500 mm, 2 compartment 1.5 mm thick	item22	25	Rm.
25	Size 200x38x2500 mm, 2 compartment 1.5 mm thick (Description same as Item No.23)	item23	20	Rm.
26	Repositioning of existing fire sensors on false ceiling as per the requirement and site condition. Rate inclusive of labour, any related materials if any required etc. complete.	item24	3	Nos
27	BILL OF QUANTITIES FOR HVAC	item25		
28	Supply, fabricate, and erect 0.63mm GSS ducting as per drawing / instructions, complete with all fittings as per IS 655 including suspension and supporting arrangements. Make: Rolarstar, Zeco or approved equivalent.	item26	20	Sqm
29	Supply and fix the following aluminium Grills and Diffusers as per specifications / Instructions. Make: Cosmic or approved equivalent.	item27		
30	1) Supply air grill with vcd	item28	3	Sqm
31	2) Return air grill w/o vcd	item29	5	Sqm
32	Supply & fixing of 9 mm thick class 0 nitrile rubber insulation with adhesive as per the recommendation of the manufacture with density 45-55kg/m ³ . Make: Armacell approved equivalent.	item30	25	Sqm
33	BILL OF QUANTITIES FOR FURNITURE	item31		
34	Supply and Installation of custom built tables in various shapes and sizes as per drawings / Instructions following the technical specifications	item32		
35	Table CT-1	item33	1	Nos
36	Table CT-2	item34	1	Nos

37	Table MT-1	item35	1	Nos
38	Table MT-2	item36	1	Nos
39	Table MT-3	item37	1	Nos
40	Table GT-1	item38	4	Nos
41	Table GT-2	item39	4	Nos
42	Table GT-3	item40	5	Nos
43	Table ST-L	item41	2	Nos
44	Table ST-R	item42	3	Nos
45	Desk UD	item43	2	Nos
46	Privacy panels made of 10mm thick Acrylic with polished edges in approved colour and finish, installed over the tables using SS accessories as per drawings/ Instructions.	item44	8	Sqm
47	Supply and Installation of Dual arm full motion monitor mounting arm as per Instructions. Make: Ebco	item45	13	Nos
48	Supply and Installation of Telescopic CPU stand as per Instructions. Make: Ebco	item46	13	Nos
49	Supply and installation of custom built storages in various shapes and sizes as per drawings / Instructions following the technical specifications	item47		
50	Storage SD	item48	4	Nos
51	Storage SF	item49	2	Nos
52	Storage PS	item50	27	Nos
53	Supply and Installation of Net back chairs as per technical specifications. Make & Model: Godrej Oxbo HB/Wipro Adapt MB/Featherlite Anatom MB.	item51	60	Nos
54	Supply of Visitors Chair as per specifications / Instructions. Make: Godrej Oxbo /Wipro Adapt /Featherlite Anatom	item52	6	Nos
55	Supply of Moulded Chairs as per specifications/Instructions	item53	4	Nos
56	Supply of Upholstered Bench as per specifications/Instructions	item54	1	Nos
57	BILL OF QUANTITIES FOR ELECTRICAL WORKS	item55		
58	Supplying and fixing & termination of following rating MCB's - C curve, suitable for inductive load of following poles in MCB DB complete with connections, testing and commissioning etc. as required. MAKE:ABB/LEGRAND	item56		
59	Single pole 10A	item57	10	Nos
60	Single pole 16A	item58	20	Nos
61	Single pole 20A	item59	15	Nos
62	Single pole 32A	item60	15	Nos
63	Supplying and fixing modular blanking plate (1 M) on the existing modular plate & switch box excluding modular plate as required. MAKE: ABB/LEGRAND/HAVELLS	item61	60	Nos

64	Supply and laying Electrical rigid PVC conduits of ISI grade, Medium duty for laying through roof/surface/Floor/brick wall or hollow block wall as spare item if required for extra cabling of power and Network. MAKE: BALCO	item62		
65	20 mm	item63	600	Mtr
66	25 mm	item64	600	Mtr
67	32 mm	item65	150	Mtr
68	Supplying and fixing following modular switch / socket on plate connections required. MAKE: CRABTREE	item66		
69	10A Modular One Way switch	item67	50	Nos
70	10A Modular Two way switch	item68	5	Nos
71	16 A Modular One Way switch	item69	25	Nos
72	5 pin 6A Plug socket outlet - 2 Module	item70	5	Nos
73	6 pin 6/16 A socket outlet - 2 Module	item71	40	Nos
74	Supply and fixing of 8M Modular plate (without box) consist with 6/16A socket out let (3 Nos) controlled by one 16 A modular 1 way switch & 1 modular blanking Plate on front plate mounting on Module partition or module table bottom for UPS supply/Main supply connections out let to table supply for connection of Computer/Printer Load (Use different colours for UPS & mains supply). Make: Crabtree (Sapphire)/Legrand	item72	55	Set
75	Supply and fixing of 3M Modular plate (without box) consist with 6/16A socket out let (1 Nos) controlled by one 16 A modular 1 way switch mounting on Module partition or module table bottom for UPS supply/Main supply connections out let to table supply for connection of Computer/Printer Load (Use different colours for UPS & mains supply). Make: Crabtree (Sapphire)/Legrand	item73	20	set
76	Supplying and fixing the following size Modular,GI box with modular cover plate for switch board/sockets in concealed way etc as required. Make: Crabtree (Sapphire)/Legrand	item74		
77	3 Module G.I metal box with cover plate	item75	20	Nos
78	4 Module G.I metal box with cover plate	item76	10	Nos
79	6 Module G.I metal box with cover plate	item77	5	Nos
80	8 Module G.I metal box with cover plate	item78	10	Nos
81	Supplying and fixing & termination 6 A , 3 plate ceiling rose on the existing junction box including connection etc as required.	item79	20	Nos

82	Supply, installation and testing for wiring of light/fan points according to IS 732 -1989 PVC conduit using 1.5sq.mm FRLS insulated stranded single core copper wire 1100V grade conforming to IS 694 part 1 1964 with 1.53mm. continuous copper earth wire, each circuit. MAKE :HAVELLS / V-GUARD	item80		
83	One light point controlled by one one way switch.	item81	5	Point
84	One light point controlled by 2 Nos two way switches.	item82	5	Point
85	One Wall fan point controlled by one way switch	item83	10	Point
86	2 Nos. light points group controlled by 1 No 6A, one way switch.	item84	10	Point
87	3 Nos. light points group controlled by 1 No 6A, one way Switch.	item85	15	Point
88	4 Nos. light points group controlled by 1 No 6A, Switch.	item86	10	Point
89	Supply, laying & termination for Wiring of ups / power circuit / sub main circuits using copper wire along with earth copper wire in the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/concealed through PVC conduit and all accessories as required. MAKE:HAVELLS/V-GUARD	item87		
90	2 x 1.5 sq. mm +1.5 sq. mm earth wire	item88	500	Mtr
91	2 x 2.5 sq. mm +2.5 sq. mm earth wire	item89	1500	Mtr
92	Supply, installation, Testing and Commissioning of recess mounted 24/30 W LED 300 x 300 mm Slim Panel Light(Square)of recessed ceiling mount type. Make: Crompton / philips/Wipro	item90	6	Nos
93	Supply, Installation, Testing and Commissioning of 18/20 W, indoor recessed ceiling mountable direct LED down light (Round) complete with all necessary accessories for passage lighting & bath room lighting as required. Make: Crompton / lucker	item91	25	Nos
94	Supply, Installation, Testing and Commissioning of LED STRIP LIGHT of indoor decorative with electronic driver and all accessories for display area as required. Make: Crompton / philips/Wipro (CAT REF: LST 655050 CDL / BL/ RGB)	item92	6	Mtr
95	Supply, Installation, Testing and Commissioning of Round recess mounted Tilttable/adjustable LED SPOT LIGHT/Focus light of indoor decorative with electronic driver and all accessories for display area as required. Make:Make: Crompton / philips/Wipro (CAT REF: LGSR -10 -W / LGSR -18-W)	item93	10	Nos

96	BILL OF QUANTITIES FOR BILL OF QUANTITIES FOR NETWORKING	item94		
97	Supply of Passive Cabling Items. Make: Molex	item95		
98	Cat-6 or higher UTP 4 Pair Cable	item96	2	Box
99	Cat-6 or higher Information Outlet	item97	120	Nos
100	24-port unloaded Straight Patch Panel, 1U	item98	1	Nos
101	Single Face Plate (3x3)	item99	25	Nos
102	Dual Face Plate (3x3)	item100	50	Nos
103	Cat-6 or higher RJ45-RJ45 UTP Patch Cord 4ft	item101	75	Nos
104	Cat-6 or higher RJ45-RJ45 UTP Patch Cord cord 7ft	item102	20	Nos
105	Supply, installation and configuration of 48 port Layer 3 whitebox switch with Openflow support as per technical specifications. Make: Dell, HP, Arista.	item103	2	Nos
106	Supply of Cabling Accessories	item104		
107	3 X 3 PVC / Metal Mounting Boxes	item105	10	Nos
108	1U UTP Cable Manager	item106	1	Nos
109	32 mm PVC conduit with all accessories including coupler, bend, flexible pipes, etc. - ISI Marked	item107	50	Mtr
110	25 mm PVC conduit with all accessories including coupler, bend, flexible pipes, etc. - ISI Marked	item108	50	Mtr
111	25 mm Heavy Duty Casing & Capping - ISI Marked	item109	50	Mtr
112	32 mm Heavy Duty Casing & Capping - ISI Marked	item110	50	Mtr
113	50 mm Heavy Duty Casing & Capping - ISI Marked	item111	50	Mtr
114	Supply of Slotted rail/Sloted angles and 8mm threaded Rod with all accessories including M08 Anchor Fastners, M08 Nut & Washer etc	item112	2	Mtr
115	25mm/32 mm Fibre Reinforced Flexible Pipes	item113	100	Mtr
116	PVC Cable duct: 100mm x 50mm	item114	100	Mtr
117	Installation Charges	item115		
118	Laying of UTP Cable	item116	610	Mtr
119	Information outlet Termination & labelling with laser print Label (on Patch Panel)	item117	50	Nos
120	24 port Patch Panel Fixing & labelling with laser print Label (without Termination of Information Outlets)	item118	1	Nos
121	Face Plate Fixing (Single) including Information outlet Termination & labelling with laser print Label	item119	25	Nos
122	Face Plate Fixing (Dual) including Information outlet Termination & labelling with laser print Label	item120	50	Nos
123	Fixing of Cat6 patch cord 4ft/7ft Patch & Labelling inside the Rack for Switch /Router/Firewall/ISP connectivity.	item121	77	Nos
124	Fixing of PVC/Metal Mounting Box	item122	10	Nos
125	Fixing of Wire Manager	item123	1	Nos

126	Fixing and integration of 42U 800/800 Rack With 4Nos vertical cable organizer Power Strip, FAN and other accessories.	item124	1	Nos
127	Laying of 6Core multimode Optical Fiber Cable	item125	100	Mtr
128	Splicing of LC Pigtail	item126	18	Nos
129	Fixing of Slotted rail/Sloted Angles and Fixing of 8mm threaded Rod with all accessories including M08 Anchor Fastners, M08 Nut & Washer etc.	item127	2	Mtr
130	Laying of PVC Pipe, Flexibles, Casing & Capping, Cable Trays & reinforced pipes on wall/slotted rail with all accessories.	item128	250	Mtr
131	Concealed laying of PVC Pipe, Flexibles,& reinforced pipes on wall/floor with all accessories including concrete/wall cutting and refinishing.	item129	75	Mtr
132	Supply and Laying of HDPE Pipe with all accessories	item130	100	Mtr
133	Testing and documentation of UTP Nodes with fuke DTX cable Analyzer and labeling at both ends, patch cord labeling includes providing all labels ferules etc.	item131	100	Nodes
134	Testing and documentation of Fiber Core with fuke DTX cable Analyzer/OTDR and labeling at both ends, patch cord labeling includes providing all labels ferules etc.	item132	18	Core
135	Site Certification Charges for (Copper) Twenty Five Years Performance Warranty from Cabling Plant Manufacturer with full documentation including as built drawings.	item133	1	LOT
136	Physical installation of Routers/Switches (24/48 Ports) & patching of connectivity.	item134	5	Nos
137	BILL OF QUANTITIES FOR AUDIO -VIDEO WORKS	item135		
138	65" Display: Supply, Installation, Testing & Commissioning of 65" Display with backlight: Direct or Edge LED, Supports 16/7 hours operation, Resolution of 3840 x 2160 pixels, Brightness is 350 nit or better, Contrast Ratio of 4000:1 or better, Viewing angle: Horizontal 178 degree & Vertical 178 degree, Display Colors of 16.7 Million or better, Connectivity: 1xDVI-D In, 2xHDMI 2.0 In, 1xAudio In, 2xUSB2.0, 1xAudio Out, Controls: IR, RS232, Ethernet, Built-In Speaker: 2 nos. of 10W speakers or better	item136	1	Nos
139	Bracket: Supply, Installation, Testing & Commissioning of Universal Wall mount Bracket for 65" Display or better	item137	1	Nos

140	HDMI Input Port Transmitter Supply, Installation, Testing & Commissioning of 1 HDMI input port, 1 HD Base-T output port & 1 HDMI output port Transmitter with HDMI, HDCP and DVI Compliant, HD Base-T Compatible, RS-232 and multiple TCP/IP connections, Extends HDMI, ETHERNET, RS-232, IR over a single CAT cable upto 170m on long reach mode, Resolution upto 4096x2048@30Hz Color sampling rate: 4:4:4 or 60Hz/4:2:0 or better & 3D Formats, Extension distance up to 100 meters, HDCP Compliant, CEC, EDID Transparent, No Signal Latency, Zero Frame Delay, Support Dual output with built-in distribution amplifier, Twist-and-lock DC power connector or better	item138	24	Nos
141	HDMI Input Port Transmitter: Supply, Installation, Testing & Commissioning of 1 HDMI Input Port Transmitter with HDMI, HDCP and DVI Compliant, HD Base-T Compatible, 1x HDMI input port, 1x HD Base-T output port. Extends HDMI, Ethernet, RS-232, IR over a single CAT cable upto 170m on long reach mode, Supports resolution upto 4096x2048@30Hz Color sampling rate: 4:4:4 or 60Hz/4:2:0 or better & 3D Formats, HDCP Compliant, CEC, EDID Transparent, No Signal Latency, Zero Frame Delay, Transparent EDID Passthrough, Remote powering Compatible, Ethernet extension 100mbps, Twist-and-lock DC power connector or better	item139	4	Nos
142	Transmitter: Supply, Installation, Testing & Commissioning of 1 HDMI, 1 VGA, 1 Display Port & 1 DVII Input Ports Transmitter with HDMI, HDCP and DVI Compliant HDCP Enable/Disable Function, HD Base-T Compatible, 1 Balanced Audio input port, 3.5mm audio jack input, Output port 1 HDBase-T, Resolution upto 4096x2048@30Hz Color sampling rate: 4:4:4 or 60Hz/4:2:0 or better & 3D signal formats, Extends HDMI, VGA, DISPLAY PORT, DVI, AUDIO, ETHERNET, RS-232, IR over a single CAT cable upto 170m on long reach mode, Built-in Control System, GPIO Control port, Twist-and-lock DC power connector, supports EDID Management on individual inputs, Bi-directional RS-232 and IR, Breakaway audio & video Switching, Ethernet LAN & RS-232 Control, Twist-and-lock DC power connector or better	item140	2	Nos
143	Mounting kit: Supply, Installation, Testing & Commissioning of Under desk mounting kit for Transmitter	item141	1	Nos

144	HD Base-T Input Port Receiver: Supply, Installation, Testing & Commissioning of 1 HD Base-T Input Port Receiver with HDMI, HDCP And DVI Compliant, HD Base-T Compatible, 1 HDMI output port, 1 HD Base-T input port, Extends HDMI, ETHERNET, RS-232, IR over a single CAT cable upto 170m on long reach mode, Supports resolution upto 4096x2048@30Hz Color sampling rate: 4:4:4 or 60Hz/4:2:0 or better & 3D Formats, HDCP Compliant, CEC, EDID Transparent, No Signal Latency, Zero Frame Delay, Transparent EDID Pass-through, Remote powering Compatible, Ethernet extension 100mbps, Twist-and-lock DC power connector or better	item142	28	Nos
145	55" Video Wall LED Display: Supply, Installation, Testing & Commissioning of 55" LED Video wall with 2 x 4 Configuration, 3.5mm Bezel -to -Bezel depth, Pixel Pitch: 0.63mm(H) x 0.63mm(V), Anti-glare panel, 24/7 Operation, Resolution (Pixels): FHD 1920 x 1080, Brightness: 500 nits, Contrast Ratio: 1200:1, Viewing Angle: Horizontal 178 degree, Vertical 178 degree, Input Connectivity: 1x VGA, 1x DVI-D, 1x DP, 2x HDMI, 1x USB, 1x Audio, Output Connectivity: 1x DP, 1x Audio, Control: RS232, IR, RJ45 or better	item143	8	Nos
146	Video Wall Bracket: Supply, Installation, Testing & Commissioning of Universal Video Wall Bracket for 55" LED Videowall	item144	8	Nos
147	Ceiling Speaker: Supply, Installation, Testing & Commissioning of 2-way dual 5" ceiling speakers with RMS Power: 60 Watts, Frequency Range: 65 Hz to 20 kHz, Nominal coverage: 90°, Nominal Impedance: 6/8 ohm, Sensitivity: 85 dB, Transformer tapping: 70/100 V or better	item145	4	Nos
148	Amplifier: Supply, Installation, Testing & Commissioning of Class-D amplifier, with 2 or 4 channels, RMS Power: 4 channel x 60 watts or 2 Channel x 120 watts at 8 ohms or better, Impedance: 4 ohm/8 ohm or better, Frequency response: 20 Hz to 20 KHz, Fan less unit, Half rack size, Auto Standby mode supported and Efficient power consumption, Plug and Play mode, Control and protection options with LED indicator, Signal present indicator, Standby indicator	item146	1	Nos

149	Ceiling tile beam forming microphone: Supply, Installation, Testing & Commissioning of Ceiling tile beam forming microphone with size of 600 mm x 600 mm or better with LED status indication, features Acoustic echo cancellation, Noise reduction, Mixing, Gain control, Beam pattern: 5 or better, Connectivity: 1xRJ45, Frequency Response: 180Hz – 17 KHz, THD + Noise: < 0.2%, Dynamic Range: 82 or better	item147	1	Nos
150	55" Display: Supply, Installation, Testing & Commissioning of 55" Display with backlight: DIrect or Edge LED, Supports 16/7 hours operation, Resolution of 3840 x 2160 pixels, Brightness is 350 nit or better, Contrast Ratio of 4000:1 or better, Viewing angle: Horizontal 178 degree & Vertical 178 degree, Display Colors of 16.7 Million or better, Connectivity: 1xDVI-D In, 2xHDMI 2.0 In, 1xAudio In, 2xUSB2.0, 1xAudio Out, Controls: IR, RS232, Ethernet, built-In Speaker: 2x10W or better	item148	2	Nos
151	Bracket: Supply, Installation, Testing & Commissioning of Universal Wall mount Bracket for 55" Display	item149	2	Nos
152	Control System: Supply, Installation, Testing & Commissioning of Control System with 12 Mic/Line Inputs with AEC, 8 Line outputs, Bidirectional USB audio, Telephone interface via RJ-11 connector, features Mix Minus, Flexibility to Change Each Output channel line levels signal to mic level or vice-versa, Controls: RS232, Ethernet, 4 nos. of GPIO, Hardware controlling: Windows, iOS, App to provide PSTN telephone dialing, Frequency Response: 20Hz – 20kHz, Dynamic range: >105dB, Input Impedance: Balanced 2 K Ω to 8 K Ω or better, Output Impedance: Balanced 95 Ω to 300 Ω or better	item150	1	Nos

153	24x24 Matrix Switcher: Supply, Installation, Testing & Commissioning of 24x24 or better HDMI 2.0 digital crosspoint Matrix Switcher with Control over RS-232 and Ethernet, Supports full 4K @ 60 Hz resolution with 4:4:4 colour sampling, HDMI resolutions Supports HDCP 2.2 encryption capability, Front panel USB for the device configuration, Support CEC control, Support audio embedding & de-embedding, Support pixel clock upto 600 MHz, Support Dolby Vision HDR Formats, Ethernet ruggedized LAN connector, Built in website for device configuration, Front panel LCD menu for configuration & Crosspoint control, Cross point configuration can be recalled as preset, Supports Redundant Power supply with Connectors, Supports Uncompressed video data rate up to 18 Gbps, supports EDID Management on individual inputs, Supports PCM, Dolby Digital and DTS audio formats, No Signal latency – Zero frame Delay or better	item151	1	Nos
154	Wireless Presenter: Supply, Installation, Testing & Commissioning of Wireless Presentation device with Max. Output Resolution: 1080p@60Hz or better, Operating Systems: Windows 7&8, Mac OS X, Apple iOS, Android, Video Outputs: 1xHDMI, Number of sources simultaneous on-screen: 1, Number of simultaneous connections: Atleast 8, Frame Rate: 30fps or better, Ethernet: 1 LAN, Communication & Control: 2xUSB or better	item152	1	Nos
155	Video Streaming Server: Supply, Installation, Testing & Commissioning of Video Streaming Server with Simultaneous Live Streaming & Recording, Encoding protocol: H.264, Streaming Protocol: TS over UDP unicast & multicast, supports input resolution upto 1080p60, Video Bitrate: 24Mbps or better, Modes: Quad View, Full Screen, PIP, PBP, POP mode for monitoring, Input: 1xHDMI/SDI, Output: 1xHDMI/SDI, Recording Formats: MOV, MP4 or better	item153	1	Nos
156	Hard Disk Drive: Supply, Installation, Testing & Commissioning of 512 GB External Hard Disk Drive for storage or better	item154	1	Nos
157	AV Control Processor: Supply, Installation, Testing & Commissioning of Control Processor including built-in control card expansion slots with 1 GBRAM & 4GB Flash memory, Expandable storage up to 1TB, iPhone, iPad, and Android control app support, Connectors: 8xRelay port, 6xRS232, 8xIR, 1xLAN, 1xUSB, & Three built-in RS232 card expansion slots or better	item155	1	Nos

158	Touch Panel: Supply, Installation, Testing & Commissioning of 10.2 inch, LED -Backlit with Multi Touch 2160x1620 Resolutions,32 GB, Wifi Model, 500 nits brightness or better	item156	1	Nos
159	Docking Station: Supply, Installation, Testing & Commissioning of Docking Station for above Touch Panel	item157	1	Nos
160	28 port Network Switch: Supply, Installation, Testing & Commissioning of 28-Port Gigabit Managed Switch with following Specification Spanning Tree Protocol, Port grouping Up to 8 groups, VLAN Support for up to 4096 VLANs simultaneously ,Port-based and 802.1Q tag-based VLANs, MAC-based VLAN, Management VLAN, Private VLAN Edge (PVE), also known as protected ports, with multiple uplinks, DHCP snooping Filters out DHCP messages with unregistered IP addresses and/or from unexpected or untrusted interfaces. This prevents rogue devices from behaving as DHCP Servers or better	item158	1	Nos
161	Router: Supply, Installation, Testing & Commissioning of Wireless Router using the DIR-825/AC device, high-speed wireless network, Simultaneous activity of 2.4GHz band and 5GHz band allows performing a wide range of tasks, 300+700 Mbps Speed, Frequency: 2.4 GHz, 5 GHz External Antenna or better	item159	1	Nos
162	Video Conferencing Codec with PTZ Camera & Speakerphone: Supply Installation Testing & Commissioning of Video Conference codec with Protocols of SIP/H.323 Multi-site collaboration with traditional video conferencing and cloud video collaboration, Transmission speed is between 64Kbps - 6Mbps, supports HD Data Sharing at 1080p resolution using H.239 ITU standard, Features echo cancellation, Automatic Noise suppression (ANS), Automatic gain control (AGC), Voice Activity Detention (VAD), Recording facility: built - in storage or ability to connect external hard drive, Inputs of 2x HDMI, 2xUSB, 1xAudio In, Outputs: 1x HDMI, 1x Display port/VGA, 1xAudio Out, It should able to connect up 1+7 sites or better in H.264 Protocol with content sharing features, Camera: PTZ camera supports 1080p 60fps resolution with 12xOptical zoom, Field of view: 70-degree, Auto Focus/Automatic Gain Control, Pan Angles: ±100°, Tilt: -30° to +90°, Speakerphone: Support microphone array each consisting of three mic elements, guaranteeing 360-degree coverage	item160	1	Nos

163	Cable cubby: Supply, Installation, Testing & Commissioning of Cable cubby with flip-open cover and multi-format cables, Connectivity: 2 x Universal Power, 2 x RJ45 Network, 1 x VGA, 1 x 3.5mm Audio, 1 x HDMI, 1 x USB, 1 x USB Charger or better	item161	2	Nos
164	HDMI to USB Converter: Supply, Installation, Testing & Commissioning of HDMI to USB for the soft VC integrations, Input HDMI, Input Resolution support 2048*2160, Support 3.0 USB or better	item162	1	Nos
165	PoE power supply: Supply, Installation, Testing & Commissioning of PoE power supply kit for BFM2 or better	item163	1	Nos
166	Floor Box: Supply, Installation, Testing & Commissioning of Floor Box for Raised floor with back box	item164	9	Nos
167	HDMI Cable: Supply, Installation, Testing & Commissioning of 1.8 Meter HDMI Male To Male Cable	item165	58	Nos
168	HDMI Cable: Supply, Installation, Testing & Commissioning of 3 Meter HDMI Male To Male Cable	item166	7	Nos
169	VGA+A Cable: Supply, Installation, Testing & Commissioning of 1.8 Meter VGA+A Male To Male Cable	item167	2	Nos
170	DP Cable: Supply, Installation, Testing & Commissioning of 1.8 Meter DP Male To Male Cable	item168	2	Nos
171	Trunking: Supply, Installation, Testing & Commissioning of 100mm x 100mm Metal Trunking	item169	25	Mtr
172	VC Camera Shelf: Supply, Installation, Testing & Commissioning of Camera Shelf for VC Device	item170	1	Nos
173	Rack: Supply, Installation, Testing & Commissioning of 42U Rack with 1xPDU, 1xCooling fan & other accessories	item171	1	Nos
174	DP to HDMI Converter: Supply, Installation, Testing & Commissioning of 0.3 Meter DP Male To HDMI Female Cable	item172	1	Nos
175	Mic Cable: Supply, Installation, Testing & Commissioning of Mic Cable	item173	20	Mtr
176	SDI Cable: Supply, Installation, Testing & Commissioning of SDI Cable	item174	80	Mtr
177	Catx Cable: Supply, Installation, Testing & Commissioning of Catx Cable	item175	900	Mtr
178	USB Cable: Supply, Installation, Testing & Commissioning of 1.8 Meter USB Male To Male Cable	item176	1	Nos
179	USB 3.0 cable: Supply, Installation, Testing & Commissioning of 10 meter long, mixed fiber optic + copper wire cable	item177	1	Nos
180	USB Cable: Supply, Installation, Testing & Commissioning of 3 Mtr USB Cable	item178	1	Nos

181	Speaker Cable: Supply, Installation, Testing & Commissioning of 1.5 Sq.mm Speaker Cable	item179	200	Mtr
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Annexure-I

Undertaking to be furnished online by the bidder

I do hereby undertake

1. That all the information being submitted by me/us is genuine, authentic, true and valid on the date of submission of tender and if any information is found to be false at any stage of tendering or contract period I/We will be liable to the following penal actions apart from other penal actions prescribed elsewhere in the tender document.
 - a. Cancellation of my/our bid/contract(as the case maybe)
 - b. Forfeiture of EMD
 - c. Punitive action as per tender document
2. That I/we accept all terms and condition of NIT, including General Terms and Condition and Special/Additional Terms and Condition as stated there in the tender document as available on the website.
3. That I/we accept the Integrity Pact as given in the tender document (if applicable).
4. That I/we am/are giving my/our consent for e-payment and submitting/shall submit the mandate form for e- payment in the format as prescribed in the document in case, the work is awarded to us.
5. That I/we do authorize C-DAC for seeking information/clarification from my Bankers having reference in this bid.
6. That I/we will upload original/certified photo/scanned of all the relevant documents as prescribed in the tender document in support of the information and data furnished by me/us online.
7. I/We confirm that I/We have not been banned or de-listed by any Govt. or Quasi Govt. agencies or PSUs. In case We are banned or delisted this information shall be specifically informed to the tender issuing authority.
8. That I/We accept all the undertakings as specified elsewhere in the tender document.
9. That this online agreement will be a part of my bid and if the work is awarded to me/us, this will be a part of our agreement with C-DAC, Thiruvananthapuram.

Annexure-II**Bid Security Declaration**

< In Bidders letter head > Date : [Insert: date of bid]
e-Tender No:

From

(Registered name and address of the bidder)

To:

THE DEPARTMENT HEAD, ADMINISTRATION
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
VELLAYAMBALAM
THIRUVANANTHAPURAM – 695033

Bid securing undertaking declaration

We, the undersigned on behalf of and under the authority of M/s (Herein after referred to as bidder) hereby undertakes to declare:

1. That we, the bidder understand that, vide clause 1.1(f) in Preamble of the RFP cited above, bids can be supported with a Bid Securing Declaration, in lieu of submitting Earnest Money Deposit specified in the said clause as attached as Annexure-II of the said RFP and
2. That we, the bidder understand that, we shall be automatically be suspended from being eligible for bidding in any contract with the Centre for Development of Advanced Computing(C-DAC) (herein after referred to as Purchaser) for a period of 3 years/or for a period as decided by the competent authority, commencing from the closing date of bid submission, on breach, by the bidder, of any of the following obligation(s) under the bid conditions:-
 - i. On withdrawal from the proposal or on enhancement of the quoted price subsequent to the bid opening and/or during the Bid validity period or of its extended period, if any.
 - ii. On failing to accept and/or execute the contract after being the successful bidder in accordance with the terms and conditions (including timelines for execution of the Agreement) of the said RFP/Purchase Order issued thereof or on failure to furnish the performance security in accordance with the terms and conditions (including timelines for furnishing performance security) of the said RFP/purchase order issued thereof.
 - iii. On indulging in any act that would jeopardize or unnecessarily delay the process of bid evaluation/finalization/execution of the proposed contract in accordance with timelines as specified by the purchaser.
3. That we, the Bidder understand that this declaration shall expire on our not being a successful Bidder and on notice of the award of the said contract to another Bidder or thirty days after the validity of the Bid; whichever matures earlier.

(Signature)

Authorized Signatory

Name : _____

Designation : _____

Office Seal : _____

Place : _____

Date : _____