ODISHA COMPUTER APPLICATION CENTRE

REQUEST FOR PROPOSAL
Enq.No.:- OCAC-TE-14/2023-24028

Odisha Computer Application Centre (OCAC) invites Request for Proposal (RFP) for Selection of System Integrator for Setting up of Digital Library, Seminar Hall and Smart Classrooms in Odia University, Satyabadi, Puri under Higher Education Department, Government of Odisha. For details please visit websites www.ocac.in & www.odisha.gov.in. **The bid shall be submitted in electronic mode only in the portal https://enivida.odisha.gov.in latest by 28.03.2024, 2.00 P.M.** OCAC reserves the right to accept/ reject any / all bids without assigning any reason thereof.

General Manager(Admin), OCAC, Plot No.-N-1/7-D, Acharya Vihar, P.O.-RRL, Bhubaneswar-751013, Ph.-2567280/ 2567064/ 2567295

Request for Proposal (RFP)

For Selection of Agency for Supply and Installation of Smart Classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Satyabadi, Puri under Higher Education Department, Government of Odisha.

RFP No.: OCAC-TE-14/2023/ENQ/24028, 27-02-2024

Odisha Computer Application Centre

(Technical Directorate of E&IT Department, Government of Odisha),

N-1/7-D, Acharya Vihar, PO- RRL, Bhubaneswar – 751013,

EPBX: 0674-2567280 / 2567064 / 2567295 /2567283

1 Disclaimer

The information contained in this Request for Proposal (hereinafter referred to as "RFP") document provided to the Bidders, by the Odisha Computer Application Centre (OCAC) Odisha , or any of it's employees, is provided to the Bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

The purpose of this RFP document is to provide the Bidder(s) with information to assist in the formulation of Proposals. This RFP document does not aim to hold all the information each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for the Odisha Computer Application Centre (OCAC) Odisha and it's employees to consider the business/investment objectives, financial situation and particular needs of each Bidder who reads or uses this RFP document. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and where necessary obtain independent advice from appropriate sources. Odisha Computer Application Centre (OCAC) Odisha and it's employees make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document. Client Department also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in the Bidding Documents.

Information provided in the RFP Document to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. OCAC/Client Department accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The issue of this RFP Documents does not imply that the OCAC/Client Department is bound to select a Bidder or to appoint the Selected Bidder or Service Provider for the Project and the OCAC/Client Department reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, uploading, expenses associated with any demonstrations or presentations which may be required by OCAC/Client Department or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and the OCAC/Client Department shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Selection process. OCAC may, in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP document.

2 Table of Contents

3 Instruction to Bidders for Online Bid Submission

e-Nivida is the complete process of e-tendering, from publishing of tenders online, inviting online bids, evaluation and award of contract using the system. You may keep a watch of the tenders floated under https://enivida.odisha.gov.in Bidder Enrollment can be done using "Bidder Enrollment".

The instructions given below are meant to assist the bidders in registering on the e-Nivida Portal, and submitting their bid online on the portal as per uploaded bid. More information useful for submitting online bids on the envied Portal may be obtained at:
https://enivida.odisha.gov.in

3.1 Guidelines for registration:

1. Bidders are required to enroll themselves on the e-Nivida Portal https://enivida.odisha.gov.in or click on the link "Bidder Enrollment" available on the home page of e-tender Portal by paying the Registration fee of Rs.2,500/- + Applicable GST

2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

3. 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 with the bidders.

4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sift / TCS / node / euchre etc.), with their profile.

5. Only valid 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.

6. 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.

7. The scanned copies of all original documents should be uploaded in pdf format on e-tender portal.

8. After completion of registration payment, bidders need to send their acknowledgement copy on our help desk mail id odishaenivida@gmail.com, for activation of the account.

3.2 Searching for tender documents

1. There are various search options built in the e-tender Portal, to facilitate bidders to search active tenders by several parameters.

2. Once the bidders have selected the tenders they are interested in, then they can pay the Tender fee and processing fee (NOT REFUNDABLE) by net-banking / Debit / Credit card then you may download the required documents / tender schedules, Bid documents etc. Once you pay both fee tenders will be moved to the respective 'requested' Tab. This would enable the e- tender Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3.3 Preparation of bids

1. Bidder should consider any corrigendum published on the tender document before submitting their bids.

2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.

3. 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 formats. Bid Original documents may be scanned with 100 dpi with Color option which helps in reducing size of the scanned document.

4. 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, GST, Annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Documents" available to them to upload such documents.

5. These documents may be directly submitted from the "My Documents" 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. Already uploaded documents in this section will be displayed. Click "New" to upload new documents.

3.4 Submission of bids

1. Bidder should log into the website well in advance for the submission of the bid so that it gets uploaded well in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document as a token of acceptance of the terms and conditions laid down by Department.

3. Bidder has to select the payment option as per the tender document to pay the tender fee / Tender Processing fee & EMD declaration as applicable and enter details of the instrument.

4. In case of BG bidder should prepare the BG as per the instructions specified in the tender document. The BG in original should be posted/couriered/given in person to the concerned official before the Online Opening of Financial Bid. In case of non-receipt of BG amount in original by the said time, the uploaded bid will be summarily rejected.

5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the yellow Colored (unprotected) cells with their respective financial 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.

6. 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.

7. The uploaded bid documents become readable only after the tender opening by the authorized bid openers.

8. Upon the successful and timely submission of bid click "Complete" (i.e. after Clicking "Submit" in the portal), the portal will give a successful Tender submission acknowledgement & a bid summary will be displayed with the unique id and date & time of submission of the bid with all other relevant details.

9. The tender summary has to be printed and kept as an acknowledgement of the submission of the tender. This acknowledgement may be used as an entry pass for any bid opening meetings.

For any clarification in using e-Nivida Portal:

1. 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.

2. Any queries relating to the process of online bid submission or queries relating to e-tender Portal in general may be directed to the Helpdesk Support.

3. Please feel free to contact e-Nivida Helpdesk (as given below) for any query related to e- tendering.

Phone No. 011-49606060
Mail id: - odishaenivida@gmail.com

4 Important Dates & Information

Information	Details
Bid Inviting Authority	Odisha Computer Application Center (OCAC) (Technical Directorate of E& IT Dept, Govt. of Odisha)
Correspondence Address	The General Manager (Admin) Odisha Computer Application Centre (OCAC) (Technical Directorate of E & I T Dept, Govt. of Odisha) N-1/7-D, Acharya Vihar, P.O.- RRL, Bhubaneswar -751013
RFP Name	Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart ClassRoom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.
Bid Reference No. and Date	OCAC-TE-14/2023/ENQ/24028, Dated 27-02-2024
Non-Refundable RFP Document Fee	**₹ 11,200/-** (inclusive of 12% GST) Eleven Thousand Two Hundred Only in the form of Demand Draft drawn on any Nationalized Bank or Scheduled Commercial Bank in favor of "Odisha Computer Application Centre", payable at Bhubaneswar.
EMD	The bidder must have submitted the EMD of **₹ 20 Lakh** in the shape of Bank Guarantee/Account Payee Demand Draft from any Nationalized / Scheduled Commercial Bank in favor of Odisha Computer Application Centre (OCAC) payable at Bhubaneswar. The EMD should be valid for a minimum period of 90 days from the last date of submission of the Bid.
Availability of Bid Document in the website (www.ocac.in www.odisha.gov.in)	27-02-2024 To 28-03-2024 at 12:30 PM
Last date for receiving queries	04-03-2024 by 05:00 PM
Date and Time of Pre-bid Conference	07-03-2024 at 12:30 PM
Issue of Corrigendum (if Required)	14-03-2024 , 05:00 PM
Last Date and Time for Submission of Bid document https://enivida.odisha.gov.in	**28-03-2024 by 02:00 PM**
Date and Time of opening of Pre-Qualification Bids (PQ)	28-03-2024 at 04:00 PM
Date and Time of opening of Technical Bids (TB)/Financial Bid	To be informed later

5 Notice Inviting RFP

OCAC invites proposals from reputed System Integrator for Selection of Agency for Supply and Installation of Smart Class Room, Digital Library, and Data & Networking at Odia University, Dept. of Higher Education as detailed in the Scope of Work in this RFP.

The RFP document can be downloaded from the OCAC websites https://ocac.in, https://enivida.odisha.gov.in and https://www.odisha.gov.in Response to this Request for Proposal (RFP) shall be deemed to have been done after careful study and examination of this document with full understanding of its implications. This and subsequent sections provide general information about the Issuer, important dates for RFP processing, addresses for communication and correspondence, and the overall eligibility, Technical evaluation criteria and related terms for the interested bidders.

OCAC reserve the right to cancel any or all the bids without assigning any reason thereof.

Issuer

The General Manager (Admn.)
Odisha Computer Application Centre
(OCAC) OCAC Building, Plot No.-N-1/7-D,
Acharya Vihar Square RRL Post Office, Bhubaneswar -751013 (Odisha)

6 Fact Sheet

This Fact Sheet comprising important factual data of the tender is for quick reference of the Bidder.

Clause Reference	Topic
The Proposal	OCAC invites proposals for Selection of Agency for Supply and Installation of Smart ClassRoom, Digital Library, Seminar Hall and Data Networking at Odia University, Satyabadi under Department of Higher Education.
Method of Selection	The bids shall be evaluated using **Quality-cum-Cost-Based (QCBS) selection method**. The bidder is required to submit the bids General (Pre-qualification), Technical & Financial bid in eNivida portal (https://enivida.odisha.gov.in). Technical Evaluation will be given 70% weightage and Financial Evaluation 30% weightage **(QCBS: 70:30).** Technical bid of those bidders who qualify in General Bid shall be opened. Financial bid of those bidders who qualify in Technical Bid by scoring 70% mark or above shall be opened.
RFP Document Fee	The RFP document can be downloaded from the website www.odisha.gov.in or www.ocac.in or https://enivida.odisha.gov.in/. The bidders are required to submit the RFP document fee of **Rs 11,200/-** (inclusive of 12% GST) Eleven Thousand Two Hundred Rupees Only in shape of Bank Draft in favour of Odisha Computer Application Centre and payable at Bhubaneswar from any of the scheduled commercial banks along with the proposal (General Bid) documents.
Earnest Money Deposit (EMD)	The bidder must have submitted the EMD **₹ 20 Lakh** in the shape of Bank Guarantee/Account Payee Demand Draft from any Nationalized/ Scheduled Commercial Bank in favor of Odisha Computer Application Centre (OCAC) payable at Bhubaneswar. The EMD should be valid for a minimum period of 90 days from the last date of submission of the Bid.
Performance Bank Guarantee (PBG)	Performance Bank Guarantee **(PBG) @ 10%** of the cost of the project from any Nationalized/Scheduled Commercial Bank in the prescribed format in favour of the Odisha Computer Application Centre shall be submitted by the successful bidder within **30 days** of issue of work order.
Scope of Work	Selected Bidder is expected to deliver the equipment and services listed in Scope of Work as mentioned in this RFP.
Currency	The bidder should quote in Indian Rupees only. The total price inclusive of taxes, levies and duties will be considered for evaluation. So, the bidder must mention the base price and the tax component separately.
Validity Period	Proposals/bid must remain valid for minimum 180 days from the last date of bid submission.
Bid to be submitted on or before last date of submission	The proposal must be submitted through enivida portal only, no hard copy is required.

7 Invitation for Bids

Odisha Computer Application Centre (OCAC) invites bids from eligible bidders who have the necessary qualifications for Supply and Installation of Smart class Room, Digital Library, Seminar Hall and Data Networking at Odia University, Satyabadi, Puri under Higher Education Department as per the "Scope of Work" described in this RFP.

The Bid document has been published in the official website of OCAC www.ocac.in, https://enivida.odisha.gov.in and http://www.odisha.gov.in.The tender advertisement has also been published in leading newspapers for wide circulation. Bidders are requested to go through the Bid document carefully and participate in the bidding process with all necessary details as required.

This RFP is issued by OCAC, which is the sole point of contact during the selection process. The Nodal Officer responsible for the entire process is General Manager (Admin).

8 Project Background Information

Odisha is the first state in the country created on the basis of language. Odia language is ancient and has received classical status. Many great literary works have been created in the language and now steps should be initiated to spread it all over the world,"

The university take the lead in encouraging the creation of quality literature based on Odia culture, lifestyle and tradition. Odia race is passing through a glorious time. The university offers three courses – Odia Language and Literature, Linguistics and Natural Language Processing and Regional, Tribal Language and Heritage Studies.

9 Brief scope of work

Bidder has to supply the followings for Setting up of Digital Library, Seminar Hall and Smart Classrooms & Networking in Odia University, Satyabadi, Puri under Higher Education Department, Government of Odisha.

9.1 Requirement, Scope of Work, Deliveries & Timelines

The scope of work primarily focuses on Implementation of Digital Library, Seminar Hall, Smart Classrooms & Networking in Odia University, Government of Odisha. which includes Procurement, Supply, Installation, Commission, Operation & Maintenance support of Digital Library, Seminar Hall, Smart Classrooms & Networking for a period of Three (03) Years Warranty Support Period from the date of Final Acceptance Test (FAT).

9.2 Detailed Requirement under this Project

a) Procurement, Supply, Installation, Commission and Maintenance of Digital Library, Seminar Hall, Smart Classrooms & Networking.

b) All the software and hardware required to meet the required functionalities should be supplied by the selected bidder.

c) The product specifications are mentioned in detail in **Annexure-12** under minimum technical specification. Please refer to the same for required sizing. Bidder should propose products in order to comply the requirement.

9.3 Detailed Scope under this Project

The major components factored for the project are listed below: -

a) Site survey & feasibility is to be undertaken for identification of the classrooms at university for the establishment of Digital Library, Seminar Hall and Smart Classrooms.

b) Handing/taking over the site for physical possession.

c) Procurement, Supply and installation of hardware, application software etc. in the University.

d) Configuration & Set up of IT devices including hardware and software.

e) The bidder while designing and implementing the IT Equipment, needs to take into consideration that of entire Architecture of University and design accordingly with proper dressing and tagging of network.

f) The Bidder shall ensure the safe delivery of the equipment up to the designated place of installation. Any transit insurance, labor, road permits etc., if required for the same, shall be arranged by the Bidder at no extra cost to OCAC/Client Department.

g) Testing of the equipment commissioned and ensuring proper functioning at all levels.

h) Training of teachers for the operation of Digital Library & Smart Classroom will be conducted at the University only.

i) The bidder needs to submit the successful completion of training along with the attendance sheet and acknowledgment of the teachers.

j) The proposed solution should have latest technology features and standards.

k) Overall operation and management of the entire project for a period of 3 years which includes Three (03) Year Warranty Support Period.

l) Deployment of requisite manpower with requisite qualification & experience for the operation support of Network and Maintenance of entire project.

m) The Bidder will be required to operate and maintain the entire IT Equipment with its associated software and is responsible for entire Operation & Management Support of the project during the contract period for 3 years. However, the University premises upkeep, safety and the electrical maintenance will be the responsibility of the University authorities.

n) The Bidder must ensure that the IT equipment and accessories supplied and delivered by them to university are in good condition. Each IT equipment and accessories shall be packed in a non-hazardous packaging of appropriate size. If any defect is found pursuant to the post-supply test in respect of the supplied quantity of the IT equipment and accessories, the Bidder shall replace the rejected equipment and accessories with new ones as per the instructions of OCAC Management.

o) The bidder is responsible to maintain documentation on the progress of the Project and will have to update the same on regular basis to OCAC Management Team.

p) At least 2 fire extinguishers must be placed at strategic locations inside the Digital Library.

q) Training for teachers on how to use the Digital Library and Smart Classrooms.

r) Bidder has to supply content for how to use the Digital Library and Smart Classrooms.

s) Helpdesk and onsite support for repair and maintenance of Digital Library and Smart Classrooms hardware and software.

9.4 Warranty & Support

a) The bidder has to provide **Three (03) Year Warranty Support Period** from the date of Final Acceptance Test (FAT) of the Project. The bidder should cover the warranty for 3 years from the date of Go-Live.

b) The bidder should ensure the smooth functioning of all the equipment supplied for Digital Library, Smart Classrooms and Network Infrastructure during the warranty & support period and to achieve the highest uptime on the offered solution.

c) The bidder shall ensure that the equipment supplied shall not be declared as End of Support / End of Service for a period of five years and the software upgrades if any shall be available for at least Three years from the date of commissioning of the device.

d) Advanced replacement/repair of hardware. If the equipment requires repairing, then the bidder should provide a replacement till the time the equipment is fully repaired.

e) Software updates and upgrades at no cost to OCAC/Client Department.

f) On-site warranty support from the Bidder.

g) The bidder needs to develop the supply chain in district wise to supply the required consumable of the quoted equipment.

h) Bidder shall provide preventive maintenance services on quarterly/half-yearly basis or as and when required to ensure that all the equipment's are functioning properly till the completion of the project.

i) Warranty shall not be applicable in following cases:

   1. Defects or malfunction caused intentionally

   2. Defects or malfunction caused due to Power or Voltage Fluctuation in university or equipment.

   3. Defects or malfunction caused by misuse, abuse or improper maintenance, failure to follow operating instructions, or use with equipment with which it is not intended to be used.

   4. It doesn't cover cosmetic or incidental damages.

   5. Also the warranty will not apply to damage caused by unauthorized alteration, modification or repair of the product at the University.

9.5 Training & Hand holding

Key training requirements of the Bidder are listed below: -

a) Conduct training need assessment and prepare a detailed training strategy. Such strategy shall provide training set-up details, training approach and methodology, training plan etc.

b) Training Materials, Applications, User Manual and Completion Reports.

c) Bear the expenses towards training, quoted as part of the Financial Proposal submitted.

d) Provide hands-on training on the hardware, software application such that users are conversant with the functionalities, features and processes built in the solution.

e) Submit Attendance Record of the attendees (in Hard copy) along with the session plan for the day.

f) Deploy adequate training resources.

g) Deployed trainers should be fluent in speaking Hindi, English & Odia.

h) The Bidder shall responsible for training and hand holding of the teachers so they can further train the other teachers accordingly.

i) The Bidder has to develop a training manual for Digital Library and Smart Classrooms activity for the teachers which should act as a ready reckoner for reference by the teachers .

9.6 Helpdesk and Onsite Support

The Bidder shall be required to set up a Centralized Helpdesk Support at Bidder Office for logging issues and complaints from various stakeholders and resolving them in time bound manner.

The Bidder shall deploy adequate manpower including IT Coordinators / Operators and IT Managers who would provide day to day operation & management support.

9.7 Helpdesk

The Helpdesk service will serve as a single point of contact for all the support related to the project. The Helpdesk shall undertake the following activities: -

1. Log issues /Complaints/Grievances related to Smartclass & Digital Library components including Hardware, Software & Application etc. at each location identified by the department,

2. Track each issue/complaint/Grievance to resolution.

3. Escalate the issue/complaints/Grievances to OCAC/Department Authorities if necessary, as per the escalation matrix defined in discussion with the department

4. Provide feedback and resolution to the callers.

5. Helpdesk Phone Numbers to be provided by the department and Specific e-mail account for day-to-day support to be set up by the Department/OCAC.

9.8 Onsite Support

Bidder will provide **Three (03) Year Warranty Support Period** from the date of Final Acceptance Test (FAT) of the Project. In addition, the Bidder shall ensure the following:

a. Set up Service Centers one in the state which would be responsible for any kind or repair, configuration, installation, replacement of parts or whole, etc. to all components.

b. Any kind of handholding, orientation, training support, as needed by the intended users. It is planned that all such sessions shall be conducted at the University level/ Online Mode.

Bidder shall also arrange to repair / replace the defective device as per defined Response and Resolution times of placing a call. At least 5% of critical hot spares should be maintained till the completion of the warranty contract period.

10 Pre-Qualification/Eligibility Criteria

The following table describe the pre-qualification criteria. A bidder participating in the bidding process shall possess the following minimum pre-qualification/ eligibility criteria. Any bidder failing to meet the stated criteria shall be summarily rejected and will not be considered for Technical Evaluation.

		Pre-Qualification Evaluation Criteria	
Sl.	PQ Criteria	Description of the Criteria	Documents to be Submitted
1	RFP fee	The bidder must have made a payment of **₹11,200.00** (Eleven Thousand Two Hundred Only) towards RFP document fee.	The RFP document fee must be in favor of Odisha Computer Application Centre from any Nationalized / Scheduled Commercial Bank payable at Bhubaneswar.
2	EMD	The bidder must have submitted the EMD of **₹20 Lakh** in the shape of Bank Guarantee/Account Payee Demand Draft from any Nationalized / Scheduled Commercial Bank in favor of Odisha Computer Application Centre (OCAC) payable at Bhubaneswar. The EMD should be valid for a minimum period of 90 days from the last date of submission of the Bid.	Bank Guarantee/Account Payee Demand Draft from any Nationalized / Scheduled Commercial Bank in favor of Odisha Computer Application Centre (OCAC) payable at Bhubaneswar
3	Legal Entity	The bidder must be a company registered in India under Indian Companies Act 1956/2013, since last 5 years as on 31st March 2023. The bidder must have GST registration & up- to-date Income Tax Return, PAN Number as on 31st March, 2023.	a. Valid copy of certificate of incorporation and registration certificates. b. Copy of GST registration. c. Copies of relevant Certificates of registration Income Tax / PAN Number from the respective Government Department.
4	Turnover	The Bidder/Agency should have average annual financial turnover of Rs. 50 crores in IT/ITES related activities during last three consecutive balance sheet (i.e. FY20-21, 21-22 & 22-23) duly audited by competent authority. Relevant supporting documents i.e. CA Certificate must be furnished.	- Audited Balance Sheets - CA Certificate

5	**Net Worth**	The net worth of the company must be positive in last three financial years ending at 31st March 2023.	- Certificate from CA

6	**Technical Capability**	The bidder must have successfully undertaken at least the following numbers of similar assignments of value specified herein: -
		
		One (1) project of similar nature in system integration, not less than the amount ₹ 10,00,00,000/- (Ten Crores Only)
		    OR
		Two (2) projects of similar nature in system integration) not less than the amount ₹7,50,00,000/- (Seven Crores Fifty Lakh Only)
		    OR
		Three (3) projects of similar nature in system integration, not less than the amount ₹ 5,00,00,000/- (Five Crores Only)
		
		"Similar Nature" is defined as: Supply, Installation & Commissioning of IT & Non-IT Equipments in Government/ Semi Government Schools / Colleges/ Universities/ Institutes or E-Governance Projects in the last five years. Purchase Order (PO) should be in the name of the bidder only. Consortium Purchase orders will not be considered.
			Satisfactory Work completion certificates from the client + Copy of the Work order/ Agreement.
			
			OR
			
			Copy of Work Order/Agreement + Phase Completion Certificate from the client for ongoing projects.

7	**Bidder Quality Certification**	The bidder must have valid ISO 9001, ISO 20001 & ISO 27001 Certificate as on date of submission of this RFP.	Copies of the valid Certificates.
8	**Blacklisting**	The bidder should not be under a declaration of Ineligibility for corrupt and fraudulent practices issued by any Government or PSU in India.	Self- declaration **Annexure- 3**

9	OEM Authorization	The bidder must attach Manufactures Authorization Certificate specific to this tender & Back-to- back support letter from OEMs for providing Comprehensive on-site support and services covered under this RFP.	OEM MAF **Annexure- 5**
10	Local Presence	Bidder must have office in the State of Odisha, and must have their office along with support engineer in Bhubaneswar. However, if the presence is not there in the state, the bidder should give an undertaking for establishment of a project office, within one month of award of the contract.	Relevant Documents supporting office addresses/ Undertaking.

Purchase Order (PO) provided for Pre-qualification and Technical Evaluation should be in the name of bidder only. Consortium Purchase orders will not be considered.

11 Technical Evaluation Criteria

In order to facilitate the technical proposal evaluation, the technical criteria laid down along with the assigned weights have been presented in subsequent section. The marking scheme presented here is an indication of the relative importance of the evaluation criteria. Bidders securing a minimum of 70% marks in the technical evaluation will only be considered for further financial bid evaluation. Bids or Tenders which do not secure the minimum specified technical score will be considered technically non-responsive and hence debarred from being considered for financial evaluation.

Sl. No.	Description of the Criteria Eligibility		Max Marks
1	The bidder must have Average **Annual Turnover in last 3 financial years**		**15**
	• More than 100 Cr.	15 Marks	
	• >= 70 Cr. & <= 100 Cr.	12 Marks	
	• >= 50 Cr. <= 70 Cr.	8 Marks	
2	The bidder must have successfully undertaken at least the following numbers of similar assignments of value specified herein: - "Similar Assignment" is defined as: Supply, Installation & Commissioning of IT & Non-IT Equipments in Government or Government aided Schools / Colleges / Universities / Institutes or E-Governance Projects in the last five years. Purchase Order (PO) should be in the name of the bidder only. Consortium Purchase orders will not be considered. Projects with minimum value of Rs. 5 Crores each shall only be considered		**15**
	• Total value of all projects of minimum value 5 Crore each > Rs. 20 Crores	15 Marks	
	• Total value of all projects of minimum value 5 Crore each > Rs. 15 Crores and <= Rs. 20 Crores	10 Marks	
	• Total value of all projects of minimum value 5 Crore each > Rs. 10 Crores and <= Rs. 15 Crores	7 Marks	
3	Bidder must have earlier experience of IT/ ITeS where end customer is education institution/ Department (Work Order must attached)		**10**
	• Each project will carry 2 marks subject to maximum 10 marks	10 Marks	
4	Bidders having experience in execution of similar projects in Odisha		**10**
5	The bidder must have below certificates:		**5**
	• ISO 9001	1 Mark	
	• ISO 20001	2 Marks	
	• ISO 27001	2 Marks	
6	The bidder has to provide demonstration of Interactive Display and Software features for digital Library and smart classroom and their features		**15**

7	- Presentation on the proposed solution capturing the major features:
	  a. Understanding of the project
	  b. Detailed work-plan and methodology
	  c. Proposed Mechanism of Project Monitoring
	  d. Operation & Maintenance Support plan
	- Demonstration of previously executed projects i.e., 'Monitoring/Ticketing tool, incident tracking system, incident closure mechanism, for evaluation of the Bidder's capability on Operations & Management.
			30

TOTAL			**100**

Note: - *All the bidders who secure a Technical Score of 70 marks out of total 100 marks i.e. 70% of total marks or more will be declared as technically qualified and are eligible for financial bid opening.*

12 Project Deliverables, Milestones & Time Schedule

The milestones, deliverables and time schedule for the implementation of project shall be as follows: -

1. The time specified for delivery and other activities as mentioned in the table below shall be deemed to be the essence of the contract and the successful bidder shall arrange supplies and provide the required services within the specified period.

2. It should be noted that any delay in the project timelines shall attract Liquidated Damages to the Agency.

Sl. No	Milestone	Deliverables	Timeline (in weeks)
1	Delivery of IT Equipments and Other equipment at University	▪ Delivery of IT Equipments and Other equipment location ▪ Sign-off for delivery	8 Weeks
2	Commissioning and Installation of Equipment	▪ Commissioning and Installation of Equipment ▪ Sign-Off from in-charge	4 Weeks
3	Training to the teachers/ Capacity Building	▪ Training to the teachers at University. ▪ Attendance record, training material	2 Days
4	Go-Live and Sign Off	▪ Sign-off from the University.	1 Week (G is Go-Live)

Note: Total time for completion of the contract / project is 13 weeks 2 days.

13 Service Levels and Penalty Terms

13.1 During Project Deployment

The bidder must be careful in maintaining the quality of work as well as adhering to the prescribed time schedule for the activity. If at any time during performance of the Contract, the party fails to maintain the prescribed time schedule then they should promptly notify in writing of the fact of the delay, it's likely duration and its cause(s). Within a reasonable time after receipt of the notice, Education Department, Government of Odisha will evaluate the situation and may, at its discretion, extend the time for performance in which case the extension shall be ratified by the parties in writing.

Project Delivery Service levels		
Service Category	Target	Penalty
Milestone completion as per the plan	8 Weeks from the date of award	Slippage of any milestone by 30% of the allocated timelines as per mutually agreed project plan submitted as a part of the contract draws a penalty of 0.25% of that milestone payment. However, this shall be waived off, if there is no slippage in overall delivery / Go-Live. *For the Project Deployment Phase total penalty is capped at 5% of the Hardware Cost*

13.2 During Warranty & Support Duration

Sl. No	Service Description	Measurement parameter	Target	Penalty
1	Repair / Replacement of Failure hardware device by System Integrator	Downtime of an equipment	<= 3 Working Days	NA
			> 3 - 10 Working days	Penalty of Rs. 50 per day from 4th Working day onwards till the problem is resolved.
			> 10 Working days	Penalty of Rs. 100 per day from 11th Working day onwards till the problem is resolved. ▪ Bidder must ensure that resolution time should not be more than 30 days. All the lodged complaints should be resolved within 30 days. ▪ During Warranty phase, total penalty is capped at 3% of Hardware Cost.

14 Payment Terms

1. The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, Delivered, Installed, and Operationally Report, training period and material by documents submitted to fulfillment of obligations stipulated in the Contract.

2. All payments shall be made in Indian Rupees.

3. Payment shall be released as per report of supply and operational of the activity.

Sl.	Milestone	Deliverables	Timeline (in weeks)	Payment Terms
1	Delivery of IT Equipment and Other equipment at the University	• Delivery of IT Equipment and Other equipment location • Sign-off for delivery	T1 = T + 8	70 % of Hardware Cost
2	Commissioning and Installation of Equipment	• Commissioning and Installation of Equipment • Sign-Off from in-charge	T2 = T1+ 4	20 % of Hardware Cost
4	Go-Live and Sign Off	• Sign-off from the University.	T2 + 1 (G is Go-Live)	10% of Hardware Cost

* T : date of receipt of Purchase Order

14.1 Payment of Goods & Services Tax

GST shall be shown extra by the bidder in their invoices for the items applicable. The same shall be paid by OCAC as per actual after verification If there are any tax savings, the same shall be reduced from the payable amount. In case of any new incidence of tax or increase in existing tax rates taking place during the Project Period, that shall be borne and payable by the OCAC over and above the agreed price for each item as may be applicable as per the Invoice raised by the agency on the OCAC. Similarly, any reduction in taxes shall be to the benefit of OCAC.

14.2 Penalty

Penalty will be charged @ 0.5% of the Project value per week or part thereof subject to maximum of 5% of total order value, in case of delayed in supply of stipulated time period.

14.3 Submission of Bids

a) The bidders should submit their responses as per the format given in this RFP in the following manner.

- **Pre-qualification Proposal**   - in first File
- **Technical Proposal**   - in second File
- **Commercial/ Financial Proposal**   - in third File

b) The Response to Pre-Qualification criteria, Technical Proposal and Commercial Proposal (as mentioned in previous paragraph) should be submitted through online mode only in e-Nivida Portal.

c) Please Note that Prices should not be indicated in the Pre-Qualification Proposal or Technical Proposal but should only be indicated in the Commercial Proposal.

d) The three envelopes containing Pre-Qualification Proposal, Technical Proposal and Commercial Proposal should be marked as **"Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart Classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Satyabadi, Puri under Dept. of Higher Education, RFP No.-OCAC-TE-14/2023/ENQ/24028, Dated:27-02-2024"**

e) All the pages of the proposal must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bid.

f) All pages of the bid shall be signed and stamped by the authorized person or persons who sign the bid.

14.4 Deadline Submission of Bids

a) Bidder must ensure to submit their response on or before the deadline date as mentioned in "Important Dates & Information" section of this RFP.

b) Normally, the date of submission and opening of Bids will not be extended. In exceptional circumstances or when the bidding documents are required to be substantially modified as a result of discussions in pre-bid meeting/ conference or otherwise and the time with the prospective bidders for preparation of Bids appears insufficient, the date may be extended by the procuring entity. In such case the publicity of extended time and date shall be given in the manner, as was given at the time of issuing the original Bidding Document.

c) It shall be ensured that after issue of corrigendum, reasonable time is available to the bidders for preparation and submission of their Bids. Department shall also publish such modifications in the bidding document in the same manner as the publication of initial bidding document. If the last date of submission or opening of Bids is a non- working day, the Bids shall be received or opened on the next working day.

14.5 Venue for Submission of Bids

The Tender is in online mode.

14.6 Mode of Submission of Bids

The bid documents as asked in this RFP shall be submitted only through online mode in e-Nivida Portal.

14.7 Withdrawal, Substitution, and Modification of Bids

a) If permitted by the Department, a Bidder may withdraw its Bid or re-submit its Bid as per the instructions/ procedure prescribed by the Department.

b) Bids withdrawn shall not be opened and processed further.

14.8 Opening of Bids

a) The Bids shall be opened by the Evaluation Committee in the presence of the bidders or their authorized representatives who choose to be present.

b) The committee may co-opt experienced persons in the committee to conduct the process of Bid opening.

c) The committee shall prepare a list of the bidders, or their representatives attending the opening of Bids and obtain their signatures on the same. The list shall also contain the representative's name and telephone number and corresponding bidders" names and addresses. The authority letters, if any, brought by the representatives shall be attached to the list. The list shall be signed by all the members of the Bid opening committee with date and time of opening of the Bids.

d) The committee shall conduct a preliminary scrutiny of the opened technical Bids

e) To assess the prima-facie responsiveness and ensure that the: -

- Bid is accompanied by bidding document fee, bid security or bid securing declaration, and processing fee (if applicable).
- Bid is valid for the period, specified in the bidding document.
- Bid is unconditional and the bidder has agreed to give the required performance security and other conditions, as specified in the bidding document are fulfilled.
- Any other information which the committee may consider appropriate.

f) No Bid shall be rejected at the time of Bid opening except the Bids not accompanied with the proof of payment or instrument of the required price of bidding document, processing fee and bid security.

g) The Financial Bid cover shall be kept unopened and shall be opened later on the date and time intimated to the bidders who qualify in the evaluation of technical Bids.

15 RFP Evaluation

15.1 Evaluation & Tabulation of Pre-qualification Bid

a) Determination of Responsiveness: The designated committee of the Department shall determine the responsiveness of a Bid on the basis of bidding document and the provisions of pre-qualification/ eligibility criteria of the bidding document.

b) A responsive Bid is one that meets the requirements of the bidding document without any material deviation, reservation, or omission where: -
   - "Deviation" is a departure from the requirements specified in the bidding document.
   - "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
   - "Omission" is the failure to submit part, or all of the information or documentation required in the bidding document.

c) A material deviation, reservation, or omission is one that, if accepted, shall:-
   - Affect in any substantial way the scope, quality, or performance of the subject matter of procurement specified in the bidding documents; or
   - Limits in any substantial way, inconsistent with the bidding documents, the procuring entity's rights or the bidder's obligations under the proposed contract; OR
   - If rectified, shall unfairly affect the competitive position of other bidders presenting responsive Bids.

d) The designated committee of the department shall examine the technical aspects of the Bid in particular, to confirm that all requirements of bidding document have been met without any material deviation, reservation or omission.

15.2 Evaluation & Tabulation of Technical Bid

The Technical evaluation committee will evaluate the technical response submitted by the Bidder. The Technical bid response includes the below details:-

a) The Technical Bid response will be initiated with the Technical Bid Cover letter in specified format as mentioned in the RFP

b) Detailed Compliance Sheet of the Technical Specification asked in the RFP dully signed in Company Letter Head.

c) In case of deviation while evaluating the Technical Bid response based upon the criteria, the bid will be subjected for rejection.

d) All supporting documents as mentioned in the RFP document.

e) All the bidders who secure a Technical Score of 70 marks out of total 100 marks i.e., 70 % of total marks or more will be declared as technically qualified.

f) Bidder who scores less than 70 marks would be disqualified and considered as non-responsive.

g) The bidder with highest technical bid (H1) will be awarded 100% score.

h) Technical Scores for other than H1 bidders will be evaluated using the following formula:

Technical Score of a Bidder (Tn) =

{(Technical Bid score of the Bidder/ Highest technical evaluation marks * 100} % (Adjusted to two decimal places)

i) The commercial bids of only technically qualified bidders will be opened for further processing.

j) Bidders those who are responsive in the Demonstration shall be considered as Technically responsive and eligible for financial bid opening and Financial evaluation of the qualified bidders shall be done as per Evaluation Criteria mentioned in this RFP.

k) Final evaluation shall be done in QCBS Mode where 70% Weightage to Technical Score and 30% Weightage to Financial Score.

l) The Bidders who qualify for the technical demonstration process shall have to sign a declaration of acceptance for providing the same equipment and all other training materials during the implementation of Labs, if selected. No deviation shall be accepted.

15.3 Evaluation & Tabulation of Financial Bids

a) The Commercial Bids of technically qualified bidders (i.e. Bidders with more than 70 marks in Technical Evaluation) will be opened on the prescribed date in the presence of bidder representatives.

b) Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.

c) The bid price will be inclusive of all taxes and levies and shall be in Indian Rupees.

d) Any conditional bid would be rejected.

e) Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the bidder does not accept the correction of error, its bid will be rejected".

f) If there is no price quoted for certain material or service, the bid shall be declared as disqualified.

g) If there are 2 or more bidders having the same value in commercial bid, the bidder securing highest technical score will be adjudicated as "Best responsive bid" for award of the Project.

h) The bidder with the lowest qualifying financial bid (L1) will be awarded 100% score. Financial score for other bidders will be evaluated using the following formula:

Financial Score of a Bidder (Fn) =

$\{$(Financial Bid of L1 / Financial Bid of the Bidder) * 100$\}$ %

(Adjusted to two decimal places).

15.4 Final Evaluation of Bids

a) The technical and financial evaluation scores secured by each bidder will be added using weightages of 70% and 30% respectively to compute composite score. The composite score will be computed as under:

Bn = 70%*Tn + 30%*Fn

b) The bidder securing the highest Composite Score will be adjudicated as the most responsive bidder for the award of project.

16 Acceptance of the successful Bid and award of the Project

16.1 Award Criteria

Department will award the Project to the successful bidder whose proposal has been determined to be substantially responsive and has been determined as the most responsive bids as per the process outlined above.

16.2 Right to Accept Any Proposal and To Reject Any or All Proposal(s)

Department reserves the right to accept or reject any proposal, and to annul the tendering process / Public procurement process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for such action.

16.3 Purchaser's Procurement Rights

Without incurring any liability, whatsoever to the affected bidder or bidders, the Purchaser reserves the right to:-
▪ Amend, modify, or cancel this tender and to reject any or all proposals without assigning any reason.
▪ Change any of the scheduled dates stated in this tender.

- Reject proposals that fail to meet the tender requirements.
- Increase or decrease the quantity of the hardware items
- Remove any of the items at the time of placement of order.
- Increase or decrease no. of resources supplied under this project.
- Should the Purchaser be unsuccessful in negotiating a contract with the Agency, the Purchaser will begin contract negotiations with the next best value bidder in order to serve the best interest.
- Make typographical correction or correct computational errors to proposals
- Request bidders to clarify their proposal.

16.4   Notification of Award

Prior to the expiry of the validity period, OCAC will notify the successful bidder in writing or by fax or email, that its proposal has been accepted. In case the tendering process / public procurement process has not been completed within the stipulated period, OCAC may like to request the bidders to extend the validity period of the bid. The notification of award will constitute the formation of the contract. Upon the successful bidder's furnishing of Performance Bank Guarantee, OCAC will notify each unsuccessful bidder.

16.5   Issuance of Purchase Order

The department shall reserve the right to negotiate with the bidder(s) whose proposal has been ranked best value bid on the basis of Technical and Commercial Evaluation to the proposed Project. On this basis the Purchase order would be issued.

16.6   Performance Guarantee

The department will require the Agency to provide a Performance Bank Guarantee, within 30 days from the Notification of award, for a value equivalent to 10% of the total cost of ownership i.e. total order value excluding taxes. The Performance Guarantee should be valid for a period **of 3 Years and 3 months**. The Performance Guarantee shall be kept valid till completion of the project and Warranty period. The Agency shall be responsible for extending the validity date and claim period of the Performance Guarantee as and when it is due on account of non-completion of the project and Warranty period. In case the Agency fails to submit the performance guarantee within the time stipulated, the department at its discretion may cancel the order placed on the Agency after giving prior written notice to rectify the same. department shall invoke the performance guarantee in case the selected Service Provider fails to discharge their contractual obligations during the period or department incurs any damages due to Service Provider's negligence in carrying out the project implementation as per the agreed terms & conditions.

16.7 Issuance of Purchase Order

After the department notifies the successful bidder that its proposal has been accepted, department shall issue a Purchase Order to the successful bidder taking into account the relevant clauses of RFP, pre-bid clarifications, Corrigenda, the proposal of the bidder in addition to other agreed clauses.

16.8 Failure to Agree with the Terms and Conditions of the RFP

Failure of the successful bidder to agree with the Terms & Conditions of the RFP and the Proposal submitted by the successful bidder, despite the deviations submitted by the Bidder are adequately considered and mutually agreed, shall constitute sufficient grounds for the annulment of the award, in which event department may award the Project to the next best value bidder or call for new proposals from the interested bidders.

16.9 Confidentiality

a) Not with standing anything contained in this bidding document but subject to the provisions of any other law for the time being in force providing for disclosure of information, a procuring entity shall not disclose any information if such disclosure, in its opinion, is likely to: -

- Impede enforcement of any law;

- Affect the security or strategic interests of India;

- Affect the intellectual property rights or legitimate commercial interests of bidders;

- Affect the legitimate commercial interests of the procuring entity in situations that may include when the procurement relates to a project in which the procuring entity is to make a competitive bid, or the intellectual property rights of the procuring entity.

b) The procuring entity shall treat all communications with bidders related to the procurement process in such manner as to avoid their disclosure to competing bidders or to any other person not authorized to have access to such information.

c) The procuring entity may impose on bidders and sub-contractors, if there are any for fulfilling the terms of the procurement contract, conditions aimed at protecting information, the disclosure of which violates (a) above.

d) In addition to the restrictions specified above, the procuring entity, while procuring a subject matter of such nature which requires the procuring entity to maintain confidentiality, may impose condition for protecting confidentiality of such information.

17 General Terms and Conditions of RFP

Bidders should read these conditions carefully and comply strictly while submitting their bids.

17.1 Definitions

For the purpose of clarity, the following words and expressions shall have the meanings hereby assigned to them: -

a) "Request for Proposal (RFP)", means this detailed notification seeking a set of solution(s), services(s), materials and/or any combination of them.

b) "OCAC", shall mean the Odisha Computer Application Centre, the Designated Technical Directorate of Information Technology Department, Government of Odisha.

c) "GM" shall mean the General Manager of Odisha Computer Application Centre or any authorized officer to act on his behalf for a specified work.

d) "Authorized Representative" shall mean any person authorized by either of the parties.

e) "Agency/Vendor/Bidder" means any firm offering the solution(s), service(s) and /or materials required in the RFP. The word Vendor/Bidder when used in the pre-award period shall be synonymous with Bidder, and when used after award of the Work shall mean the successful Bidder or Agency to whom OCAC issues the Purchase Order for rendering of sales & services.

f) "Service" means provision of Contracted service as per this RFP.

g) "Site" shall mean the location(s) for which the Order has been issued and where the service shall be provided as per Scope mentioned in the RFP.

h) "Termination Notice" means the written notice of termination of the Purchase Order issued by one Party to the other in terms hereof.

17.2 Language

a) The Proposal should be filled by the bidders/Agency in English language only. For purposes of interpretation of the documents, the English translation shall govern. All Proposals and accompanying documentation will become the property of OCAC and will not be returned.

b) The Purchase Order as well as all correspondence and documents relating to the Project exchanged by the successful/ Agency and the Purchaser, shall be written in English language only. Supporting documents and printed literature that are part of the Project may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the special conditions of the contract, in which case, for purposes of interpretation of the Project, this translation shall govern.

c) The successful Bidder/Agency shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.

17.3 Notices

a) Any notice given by one party to the other pursuant to the Project shall be in writing to the address specified in the Purchase Order. The term "in writing" means communicated in written form with proof of dispatch and receipt.

b) A Notice shall be effective when delivered or on the Notice"s effective date, whichever is later.

17.4 Governing Law

The Project shall be governed by and interpreted in accordance with the laws of the Govt. of Odisha/Govt. of India unless otherwise specified in the Purchase Order.

17.5 Scope of Supply

a) Subject to the provisions in the bidding document and Purchase Order, the Goods/Equipment and related services to be supplied shall be as specified in the bidding document (RFP).

b) Unless otherwise stipulated in this document, the quantity and specifications are for minimum quantity and configuration respectively. The bidder may supply higher configuration.

c) Unless otherwise stipulated in the Purchase Order, the scope of supply shall include all such items not specifically mentioned in the Purchase order but that can be reasonably inferred from the Contract as being required for attaining delivery and completion of the goods and related services as if such items were expressly mentioned in the Contract.

d) The bidder shall not quote and supply hardware/ software that is likely to be declared as End of Sale and End of Service/ Support for the period as mentioned in BoM **(Annexure -11)** from the last date of bid submission. OEMs are required to mention this in the MAF for all the quoted hardware/ software. If any of the hardware/ software is found to be declared as End of Sale/Service/ Support, then the bidder shall replace all such hardware/ software with the latest ones having equivalent or higher specifications without any financial obligation to the purchaser.

17.6 Project Value

a) The Project value (PO Amount) shall be paid as specified in the Purchase Order subject to any additions and adjustments thereto, or deductions there from, as may be made pursuant to the Project.

b) Prices charged by the Supplier/ Agency for the Goods delivered and the Related Services performed under the Project shall not vary from the prices quoted by the Supplier/ Agency in its bid, with the exception of any price adjustments authorized in the special conditions of the Project.

17.7 Recoveries from Supplier/ Agency

a) Recovery of liquidated damages, short supply, breakage, rejected articles shall be made ordinarily from bills.

b) OCAC shall withhold amount to the extent of short supply, broken/ damaged or for rejected articles unless these are replaced satisfactorily. In case of failure to withhold the amount, it shall be recovered from performance security deposit of AGENCY available with OCAC.

c) The balance, if any, shall be demanded from the Supplier/ Agency and when recovery is not possible, OCAC shall take recourse to law in force.

17.8 Taxes & Duties

a) The GST if applicable shall be deducted at source.

b) For goods/Equipment supplied from outside India, the successful/ Agency shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the country.

c) For goods/Equipment supplied from within India, the successful Agency shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

d) If any tax exemptions, reductions, allowances or privileges may be available to the successful Agency in India, OCAC shall use its best efforts to enable the successful Agency to benefit from any such tax savings to the maximum allowable extent.

17.9 Packing and Documents

a) The Agency shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Purchase Order. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme atmospheric temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination of the Goods and the absence of heavy handling facilities at all points in transit.

b) The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Project, including additional requirements, if any, specified in the Purchase Order, and in any other instructions ordered by OCAC.

17.10 Insurance

The Agency should be responsible for undertaking comprehensive insurance including liability insurance, system and facility insurance and any other insurance for the personnel, Assets, data, software, etc relating to this assignment.

17.11 Transportation

The Agency shall be responsible for transport by sea, rail and road or air and delivery of the material in the good condition to the consignee at project locations. In the event of any loss, damage, breakage or leakage or any shortage the bidder shall be liable to make good such loss and shortage found at the checking/ inspection of the material by the consignee. No extra cost on such account shall be admissible.

17.12 Extension in Delivery Period and Liquidated Damages (LD)

a) Except as provided under clause "Force Majeure", if the supplier/ selected bidder fails to deliver the related Services within the period specified in the Purchase Order, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Purchase Order Price, as liquidated damages, a sum equivalent to the percentage specified in Section "Service Level Standards" for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in the bidding document and/ or Purchase Order. Once the maximum is reached, the Purchaser may cancel the Purchase Order pursuant to clause "Termination".

b) The time specified for delivery in the bidding document shall be deemed to be the essence of the Project and the supplier/ selected bidder shall arrange goods supply and related services within the specified period.

c) Delivery period may be extended with or without liquidated damages, if the delay in the supply of goods or service is on account of hindrances beyond the control of the selected bidder:

i. The selected bidder/Agency shall request in writing to the Purchaser giving reasons for extending the delivery period of service, if he/she finds himself/ herself unable to complete the supply of goods or service within the stipulated delivery period or is unable to maintain prorate progress in the supply of goods or service delivery. This request shall be submitted as soon as a hindrance in delivery of goods and service occurs or within 15 days from such occurrence but before expiry of stipulated period of completion of delivery of goods and service after which such request shall not be entertained.

ii. The Purchaser shall examine the justification of causes of hindrance in the delivery of goods and service and the period of delay occurred due to that and recommend the competent authority on the period of extension which should be granted with or without liquidated damages.

Normally, extension in delivery period of service in following circumstances may be considered without liquidated damages:

- When delay has occurred due to delay in approval by OCAC.
- When the delay has occurred in providing space or any other infrastructure, if OCAC was required to provide the same as per the terms of the Bid.

iii. If the competent authority agrees to extend the delivery period/ schedule, an amendment to the Purchase Order with suitable denial clauses and with or without liquidated damages, as the case may be, shall be issued. The amendment letter shall mention that no extra price or additional cost for any reason, whatsoever beyond the contracted cost shall be paid for the delayed supply of goods and service.

17.13   Warranty

a) The bidder must execute back-to-back support contract with OEM for the period of **Three (3) years from the date of UAT**.

b) The bidder shall either repair or replace the defective goods or parts thereof with brand new genuine/ authentic ones having similar or higher specifications from the respective OEM as per the time period specified.

17.14   Termination

OCAC may at any time terminate the Purchase Order by giving written notice to the Bidder if the Bidder becomes bankrupt or otherwise insolvent. In this event, termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to OCAC. OCAC reserves the right to cancel the Purchase Order in the event of happening one or more of the following Conditions:-

a) Failure of the successful bidder to accept the contract.

b) Delay in delivery beyond the specified period.

c) In addition to the cancellation of the contract, OCAC reserves the right to appropriate the damages through encashment of Bid Security / Performance Guarantee given by the Bidder.

d) OCAC would not be liable to pay any damages to the Agency in cases comprising termination for default.

17.15   Settlement of Disputes

a) General: If any dispute arises between the supplier/ Agency and OCAC during the execution of a Project that should be amicably settled by mutual discussions. However, if the dispute is not settled by mutual discussions, a written representation will be obtained from the supplier/ Agency on the points of dispute. The representation so received shall be examined by the concerned Committee which sanctioned the tender. The Procurement Committee may take legal advice of a counsel and then examine the representation. The supplier/ Agency will also be given an opportunity of being heard. The Committee will take a decision on the representation and convey it in writing to the supplier/ Agency.

b) Standing Committee for Settlement of Disputes: If a question, difference, or objection arises in connection with or out of the   Order   issued   or   the meaning of operation of any part, thereof or the rights, duties or liabilities of either party have not been settled by mutual discussions or the decision of tender sanctioning Procurement Committee, it shall be referred to the empowered standing committee for decision.

18 Annexure

18.1　Annexure 1: Pre-Qualification Bid Cover Letter

To,
　The General Manager (Admn.)
　Odisha Computer Application Centre (OCAC)
　OCAC Building, Plot No.-N-1/7-D,
　Acharya Vihar Square, RRL Post
　Office, Bhubaneswar-751013 (INDIA)

Subject: Pre-Qualification Bid for Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart Classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.

　Dear Sir,

　We, the undersigned, offer to provide our services against your RFP enquiry no. <Insert RFP no> dated <insert date>. We are hereby submitting our Proposal, which includes this Pre-Qualification Bid sealed in the envelope.

　We hereby declare that all the information and statements made in this bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

　We agree to abide by all the terms and conditions of the tender document. We would hold the terms of our bid valid for 180 days as stipulated in the RFP document.

　We also agree that you reserve the right in absolute sense to reject all or any of the products / services specified in the bid response without assigning any reason whatsoever.

　It is hereby confirmed that I/We are entitled to act on behalf of our corporation/company /firm/organization and empowered to sign this document as well as such other documents which may be required in this connection.

　Thanking you,
　Name of the Bidder: ....
　Authorized Signatory: ....
　Signature:
　Seal:
　Date:
　Place:

18.2 Annexure 2: Particulars of the Bidders

Sl.	Information Sought	Details to be Furnished
1	Name of the bidding Company	
2	Address of the Company	
3	Incorporation status of the firm (Public limited / Private limited, etc.)	
4	Year of Establishment	
5	Date of registration	
6	RoC Reference No.	
7	Details of company registration	
8	Details of registration with appropriate authorities for GST	
9	Name, Address, e-mail ID, Phone nos. and Mobile Number of Contact Person	
10	Roles & Responsibilities	

18.3 Annexure 3: Self-Declaration

(Non-blacklisted in company Letter Head)

To,
The General Manager (Admn.)
Odisha Computer Application Centre (OCAC)
OCAC Building, Plot No.-N-1/7-D,
Acharya Vihar Square, RRL Post
Office, Bhubaneswar-751013 (INDIA)

Dear Sir,

In response to the RFP Ref. No: **OCAC-TE-14/2023/ENQ/24028,** dated: **27-02-2024,** for RFP titled "**Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart ClassRoom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.**", as an owner/ partner/ Director of (organization name) I/ We hereby declare that presently our Company/ firm is not under declaration of ineligible for corrupt & fraudulent practices, blacklisted either indefinitely or for a particular period of time, or had work withdrawn, by any State/ Central government/ PSU.

I/We further declare that there is no past / ongoing legal trial in name of any of the Owner / Partner / Director of the bidding company as on the tender submission date.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Thanking you,
Name of the Bidder: ....
Authorized Signatory: ....
Signature:
Seal:
Date:
Place:

18.4 Annexure 4: Project Citation Format

(To be filled by the Bidder)

Relevant Project Experience	
General Information	
Name of the project	
Client for which the project was executed	
Name and contact details of the client	
Project Details	
Description of the project	
Scope of services	
Other Details	
Total cost of the project	
Duration of the project (no. of months, start date, completion date, current status)	

18.5 Annexure 5: Manufacturer's Authorization Form (MAF)

To,
The General Manager (Admn.)
Odisha Computer Application Centre (OCAC)
OCAC Building, Plot No.-N-1/7-D,
Acharya Vihar Square, RRL Post
Office, Bhubaneswar-751013 (INDIA)

Sub: OEM Authorization Letter for Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart Class Room, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.

Dear Sir,

We, who are established and reputable _____having factories / development facilities at (address of factory / facility) do hereby authorize M/s (Name and address of Bidder) to submit a Bid, and accept the Purchase Order against the above Bid Invitation.

We hereby extend our full guarantee and warranty for the Solution, Products and services offered by the above firm against this Bid Invitation. We further undertake that we will support the supplier will all related spares and maintenance during the entire contract period.

We duly authorize the said firm to act on our behalf in fulfilling all installations, Technical support and maintenance obligations required by the Project.

Yours faithfully,

(Name)

Seal

Note: This letter of authority should be on the letterhead of the OEM and should be signed by a person competent and having the power of attorney to bind the manufacturer.

18.6 Annexure 6: Technical Bid Cover Letter

To,
The General Manager (Admn.)
Odisha Computer Application Centre (OCAC)
OCAC Building, Plot No.-N-1/7-D,
Acharya Vihar Square, RRL Post
Office, Bhubaneswar-751013 (INDIA)

Subject: Technical Proposal for Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.

Dear Sir,

We, the undersigned, offer to provide our services against your RFP enquiry no. <Insert RFP no> dated <insert date>. We are hereby submitting our Proposal, which includes this Technical Bid sealed in the envelope.

We hereby declare that all the information and statements made in this Technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We agree to abide by all the terms and conditions of the tender document. We would hold the terms of our bid valid for 180 days as stipulated in the RFP document.

We also agree that you reserve the right in absolute sense to reject all or any of the products / services specified in the bid response without assigning any reason whatsoever.

It is hereby confirmed that I/We are entitled to act on behalf of our corporation/company /firm/organization and empowered to sign this document as well as such other documents which may be required in this connection.

Thanking you,

Name of the Bidder: ....

Authorized Signatory: ....

Signature:

Seal:

Date:

Place:

18.7 Annexure 7: Financial Bid Cover Letter
(To be filled by the bidder and signed in Company Letter Head)

To,

The General Manager (Admn.)
Odisha Computer Application Centre (OCAC)
OCAC Building, Plot No.-N-1/7-D,
Acharya Vihar Square, RRL Post
Office, Bhubaneswar-751013 (INDIA)

Subject: Financial Proposal for Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education.

Dear Sir/Madam,

We, the undersigned, offer to submit our financial proposal for Request for Proposal (RFP) for Selection of Agency for Supply and Installation of Smart classroom, Digital Library, Seminar Hall and Data Networking at Odia University, Dept. of Higher Education. Our attached Financial Proposal is for the sum of <<Amount in words and figures>>inclusive of all duties.

1. **Price and Validity**

   All the prices mentioned in our RFP are in accordance with the terms as specified in the RFP documents. We declare that our Bid Price is for the entire scope of the work as specified in the appropriate section in the RFP. All the prices and other terms and conditions of this Bid are valid minimum for a period 180 days from the date of opening of the Bid. Subject to further extended period as mutually agreed upon.

   We understand that the actual payment would be made as per the existing tax rates during the time of payment.

2. **Unit Rates**

   We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

3. **Qualifying Data**

   We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in the department this regard before evaluation of our bid, we agree to furnish the same in time to your satisfaction.

4. Bid Price

We declare that our Bid Price is for the entire scope of the work as specified in the RFP. These prices are indicated at Price Bid attached with our bid as part of the Bid. We understand you are not bound to accept any tender you receive.

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.
We understand that our bid is binding on us and that you are not bound to accept a bid you receive.

Thanking you,
Yours sincerely,
Authorized Signature:
Name and Title of Signatory:
Name of Firm:
Address:

18.8 Annexure 8: Financial Bid

**Financial Bid**

A. Smartclass (Phase- 1)

Sl. N0	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	85" 4K LED Interactive Display , Must support Multilingual text including Odia	4	Nos				
2	All in one Digital Wireless Handheld Microfone Set audio Frequency response 20 Hz to 20 Khz or better	8	Nos				
3	All in one digital wireless lavalier set Audio frequency response 20 Hz -20KHZ or better	4	Nos				
4	DSP Core with 64X64 Dante on a dual NIC	4	Nos				
5	50 W 2 way Cabinet Loudspeaker	16	Nos				
6	Quad Channel class -D Amplifier	4	Nos				
7	Core i5, 16 GB RAM , 512 SSD , inbuilt Wireless , 18.5 " Monitor	4	Nos				
8	8 - Port POE Managed Switch	4	Nos				
9	HDMI cable 10 Mtr	4	Nos				
10	Cat 6 Cable	4	Lot				
11	Speaker Cable	4	Nos				
12	XLR Connector	24	Nos				
13	9 U AV Rack	4	Nos				
14	Supply & Installation	1	Nos				
15	2KVA online UPS 30 Min Backup	4	Nos				
**Total Cost for Smartclass (Phase-1) (A)**	

B. Smartclass (Phase-2)

Sl. No	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	85" 4K LED Interactive Display , Must support Multilingual text including Odia	4	Nos				
2	All in one Digital Wireless Handheld Microfone Set audio Frequency response 20 Hz to 20 Khz or better	8	Nos				
3	All in one digital wireless lavalier set Audio frequency response 20 Hz -20KHZ or better	4	Nos				
4	DSP Core with 64X64 Dante on a dual NIC	4	Nos				
5	50 W 2 way Cabinet Loudspeaker	16	Nos				
6	Quad Channel class -D Amplifier	4	Nos				
7	Core i5, 16 GB RAM , 512 SSD , inbuilt Wireless , 18.5 " Monitor	4	Nos				
8	8 - Port POE Managed Switch	4	Nos				
9	HDMI cable 10 Mtr	4	Nos				
10	Cat 6 Cable	4	Lot				
11	Speaker Cable	4	Nos				
12	XLR Connector	24	Nos				
13	9 U AV Rack	4	Nos				
14	Supply & Installation	1	Nos				
15	2KVA online UPS 30 Min Backup	4	Nos				
	Total Cost for Smartclass (Phase-2) (B)						

C. Seminar Hall

Sl. No	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	98" 4K LED Display	4	Nos				
2	12X PTZ Camera with all accessories	4	Nos				
3	Switcher	1	Nos				
4	Ceiling Mounted Microphone	8	Nos				
5	Wired Gooseneck Microphone	4	Nos				
6	All in one Digital wireless Lavalier Set Audio frequency response 20 Hz -20KHZ or better	4	Nos				
7	DSP Core with 64X64 Dante on a dual NIC	4	Nos				
8	50 W 2 way Cabinet Loudspeaker	24	Nos				
9	Quad Channel class -D Amplifier	4	Nos				
10	Document camera for Podium	4	Nos				
11	Core i5, 16 GB RAM , 512 SSD , inbuilt Wireless , 18.5 " Monitor desktop	4	Nos				
12	8 - Port POE Managed switch	4	Nos				
13	HDMI cable 10 Mtr	4	Nos				
14	Speaker Cable	4	Nos				
15	XLR Connector	56	Nos				
16	9 U AV Rack	4	Nos				
17	Supply & Installation	1	Nos				
18	2 KVA online UPS 30 Min Backup	4	Nos				
	Total Cost for Seminar Hall (C)						

D. Digital Library

Sl. No	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	Core i5, 16 GB RAM , 512 SSD , inbuilt Wireless , 18.5 " Monitor desktop	32	Nos				
2	RACK Server , Max 2 U , Intel Xeon Latest Gen 16C/3.2 Ghz CPU , Min 64 GB DDR5 RAM	2	Nos				
3	15 TB Usable capacity using SAS drives	1	Nos				
4	Firewall for 100 user	1	Nos				
5	L3 Switch	2	Nos				
6	L2 switch	3	Nos				
7	Information Outlet I/O	37	Nos				
8	Patch panel	2	Nos				
9	1 Mtr Patch Cord	37	Nos				
10	2 Mtr Patch Cord	40	Nos				
11	LC LC Patch Cord	2	Nos				
12	Cat 6 Cable	6	Lot				
13	42 U Rack with Accessories 600 X 1000	1	Nos				
14	Professional Book Scanner	1	Nos				
15	Printer with scanner	1	Nos				
16	10 KVA UPS with 60 Min Backup	1	Nos				
17	Implementation and Operation of Digital Library Management Software	1	Nos				
18	Steel Raceway	10	Nos				
19	Supply & Installation	1	Nos				
Total Cost for Digital Library (D)							

E. Data Networking

	(i) For Buildings						
Sl. No	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	Indoor AP (Wi-Fi-6) with all wiring and accessories having inbuilt controller capability	45	Nos				
2	1Gbe RJ45 port 24 nos, 10 GbE SFP + port 4 nos, PoE/PoE+ cabable with 370W minimum,lPv4/6 ACL support, 802.1q,loaded with SFP module, dedicated management interface, VLAN tagging Warranty minimum 3 years.	14	Nos				
3	LIU with all the termination accessories	14	Nos				
4	8 -port PoE switch, with loaded SFP modules as required	2	Nos				
5	24 Port patch panel loaded with acessories	16	Nos				
6	CAT 6A RJ45 patch chords.	400	Nos				
7	12U Wall mounting rack with Accessories	14	Nos				
	(ii) FOR EXTERIOR						
1	Outdoor AP (Wi-Fi-6) with all wiring and accessories - Poles, Wire, Fixture and other components may required	8	Nos				
2	Gigabit Media converter	8	Nos				

3	CAT 6A U/FTP Patch Cord - 1 Meter. Cable conductor Size: 24- 26AWG Stranded bare copper with Pre-Terminated with RJ45 Plug.	8	Nos				
4	LC-LC - Single-mode, Fiber Patch Cord in LSOH jacket	8	Nos				
5	OFC splicing Box	8	Nos				
6	6-Core SM OFC , taped, corrugated steel tape armoured (STA) polyethylene (HDPE) outer sheathed embedded with two steel wirés on the periphery. The cables are with UV Stabilized PE Jacket and protected from Rodent attacks. Shall be manufactured LNG Vapor Axial Deposition technology.	700	Mtrs				
7	Power cables supply,Installation,Testing & Commissioning of 3 Core Power Cable 1.5 sqmm . Power Cable 3 core (1.5 sq mm) Copper Cable with all accessories, Switch5/15 Amp, Sakets-5/15 amp, Cable Ties, Marking Cable, Insulation Tape, Screw 40x8 GITI 40x8 etc	700	Mtrs				
8	Small waterproof housing box for storage of network equipments	8	Nos				
9	10M GI Pole	8	Nos				

	(iii)	FOR SERVER ROOM						
1	42U Networking racks with Accessories	1	Nos					
2	Rack Server, Max 2U, Intel XEON latest Gen 16C/3.2GHz CPU, min 64GB DDR5 RAM, 2 x 480GB SSD , 2 x 25G-SR, RPS, with manufactures warranty for min 3 yrs.	1	Nos					
3	Firewall for 500 User Device	1	Nos					
4	Layer 3 fiber switch - 24 x 10 T Ports, 4x10G SFP+ uplink port ,loaded with SFP modules, Switch and SFP should be from same OEM only	3	Nos					
5	LIU with all the termination accessories,12/24 port	2	Nos					
6	5KVA UPS with battery.	1	Nos					
7	Supply & Installation	1	Nos					
	Total Cost for Data Networking (E)							

F. Additional Items for Digital Library, Smart Class & Seminar Hall

Sl. No	Items/Activities	Qty	UoM	Unit Cost (in ₹.)	Taxes (in ₹.)	Total Unit Cost (in ₹.)	Total Amount (in ₹.)
		(a)		(b)	(c)	(d = b + c)	(e = a x d)
1	Digital Kiosk Machine 36" for Smart Classroom and Digital Library	3	Nos				
2	Standee - 55" Seminar Hall & Digital Library	2	Nos				
3	Device Cart For keeping Devices for Digital Library and Smart Classroom	3	Nos				
4	Digital Locker - (50 Locker)	3	Nos				
Total Cost for Additional Items (F)							
Grand Total Cost i.e. [A] + [B] + [C] +[D] + [E] + [F] including GST							

NOTE: –

- All the above price would be in INR only with applicable item wise GST.
- The above price would include Compressive OEM Warranty Support for a period of 3 years from the date of FAT.
- The bidder has to compulsorily quote for all items mentioned in the Commercial-bid Tables. In case bidder fails to quote for any of this stage, the bid would be summarily rejected.
- No Component of Financial bid should have "ZERO" value.
- Above is indicative, however the quantity may increase or decrease at the time of placing the purchase order as per actual.
- The Tax rates will be mentioned as per standards.

18.9 Annexure 9: Pre-Bid Queries Format

Name of the Company/Firm:

_____

Bidding document Fee Receipt No. _____

Person(s) Representing the Company/ Firm:

Name of the Person	Designation	Email-ID(s)	Tel. Nos. & Fax Nos.

Company/Firm Contacts:

Contact Person(s)	Address for Correspondence	Email-ID(s)	Tel. Nos. & Fax Nos.

Query/Clarification Sought: (MS-Excel Sheet Format)

Sl.No.	Bidder Name	RFP Chapter No.	RFP Clause No.	RFP Page No.	Clause Details as per RFP	Query/ Clarification/ Suggestion

Note: *Queries must be strictly submitted only in the prescribed format (.XLS/ .XLSX/.PDF). Queries not submitted in the prescribed format will not be considered/ responded at all by the tendering authority. Also, kindly attach the coloured scanned copy of the receipt towards the submission of the bid document fee. Also, the bidders having purchased the tender/ RFP document will only be responded to i.e. their pre-bid queries will be entertained and responded. Also, the softcopy of the queries (only in MS-Excel Sheet format) should also be submitted through e-mail at gm_ocac@ocac.in, umesh.mishra@ocac.in, sudha.mohanty@ocac.in & sourav.dash@odisha.gov.in*

18.10 Annexure 10: Details of documents to be submitted by the Bidder

Sl.	Documents to be submitted		
	Pre-qualification bid	**Technical Bid**	**Financial Bid**
1	Pre-Qualification Bid Covering Letter	Technical Bid Covering Letter	Financial Bid Cover letter and Format
2	Particulars of the Bidder	All the supporting document as per Technical Evaluation Criteria	Financial Bid
3	Valid copy of Certificate of incorporation and Registration Certificates Copy of GST registration. Copies of relevant Certificates of Registration, Income Tax/ PAN Number from the respective Government Department.	Technical Specification Compliance Documents with all supporting details	
4	Audited Balance Sheets		
5	CA Certificate with CA"s Registration Number & Seal		
6	Valid Copy of ISO Certificates		
7	RFP Forms and Format		
8	Self-Declaration for Non-Blacklisted		
9	Project Citation Format		
10	Project References		
11	RFP document fee as mentioned		
12	EMD declaration as mentioned in the Eligibility/Pre-qualification Criteria of the RFP.		
13	All the supporting documents as per Pre-Qualification Criteria		

18.11 Annexure 11 : BOQ (Bill of Quantity)

	BOQ		
Sl.	Items/Activities	Quantity	UoM
	A. Smartclass (Phase-1)		
1	85" 4K LED Interactive Display, Must support Multilingual text including Odia	4	Nos
2	All in one Digital Wireless Handheld Microphone Set audio Frequency response 20 Hz to 20 Khz or better	8	Nos
3	All in one digital wireless lavalier set Audio frequency response 20 Hz -20KHZ or better	4	Nos
4	DSP Core with 64X64 Dante on a dual NIC	4	Nos
5	50 W 2 way Cabinet Loudspeaker	16	Nos
6	Quad Channel class -D Amplifier	4	Nos
7	Core i5, 8 GB RAM , 512 SSD , inbuilt Wireless , 21.5 " Monitor	4	Nos
8	8 - Port POE Managed Switch	4	Nos
9	HDMI cable 10 Mtr	4	Nos
10	Cat 6 Cable	4	Lot
11	Speaker Cable	4	Nos
12	XLR Connector	24	Nos
13	9 U AV Rack	4	Nos
14	2KVA online UPS 30 Min Backup	4	Nos
	B. Smartclass (Phase-2)		
1	85" 4K LED Interactive Display , Must support Multilingual text including Odia	4	Nos
2	All in one Digital Wireless Handheld Microphone Set audio Frequency response 20 Hz to 20 Khz or better	8	Nos
3	All in one digital wireless lavalier set Audio frequency response 20 Hz -20KHZ or better	4	Nos
4	DSP Core with 64X64 Dante on a dual NIC	4	Nos
5	50 W 2 way Cabinet Loudspeaker	16	Nos
6	Quad Channel class -D Amplifier	4	Nos
7	Core i5, 8 GB RAM , 512 SSD , inbuilt Wireless , 21.5 " Monitor	4	Nos
8	8 - Port POE Managed Switch	4	Nos
9	HDMI cable 10 Mtr	4	Nos
10	Cat 6 Cable	4	Lot
11	Speaker Cable	4	Nos
12	XLR Connector	24	Nos
13	9 U AV Rack	4	Nos
14	2KVA online UPS 30 Min Backup	4	Nos

C. Seminar Hall

1	98" 4K LED Display	4	Nos
2	12X PTZ Camera with all accessories	4	Nos
3	Switcher	1	Nos
4	Ceiling Mounted Microphone	8	Nos
5	Wired Gooseneck Microphone	4	Nos
6	All in one Digital wireless Lavalier Set Audio frequency response 20 Hz -20KHZ or better	4	Nos
7	DSP Core with 64X64 Dante on a dual NIC	4	Nos
8	50 W 2 way Cabinet Loudspeaker	24	Nos
9	Quad Channel class -D Amplifier	4	Nos
10	Document camera for Podium	4	Nos
11	Core i5, 8 GB RAM , 512 SSD , inbuilt Wireless , 21.5 " Monitor	4	Nos
12	8 - Port POE Managed switch	4	Nos
13	HDMI cable 10 Mtr	4	Nos
14	Speaker Cable	4	Nos
15	XLR Connector	56	Nos
16	9 U AV Rack	4	Nos
17	2 KVA online UPS 30 Min Backup	4	Nos

D. Digital Library

1	Core i5, 8 GB RAM , 512 SSD , inbuilt Wireless , 21.5 " Monitor	32	Nos
2	RACK Server , Max 2 U , Intel Xeon Latest Gen 16C/3.2 Ghz CPU , Min 64 GB DDR5 RAM	2	Nos
3	15 TB Usable capacity using SAS drives	1	Nos
4	Firewall for 100 user	1	Nos
5	L3 Switch	2	Nos
6	L2 switch	3	Nos
7	Information Outlet I/O	37	Nos
8	Patch panel	2	Nos
9	1 Mtr Patch Cord	37	Nos
10	2 Mtr Patch Cord	40	Nos
11	LC LC Patch Cord	2	Nos
12	Cat 6 Cable	6	Lot
13	42 U Rack with Accessories 600 X 1000	1	Nos
14	Professional Book Scanner	1	Nos
15	Printer with scanner	1	Nos
16	10 KVA UPS with 60 Min Backup	1	Nos

17	Implementation and Operation of Digital Library Management Software	1	Nos
18	Steel Raceway	10	Nos
19	Operation and Maintenance	1	Nos
E. Data Networking For Buildings			
1	Indoor AP (Wi-Fi-6) with all wiring and accessories having inbuilt controller capability	45	Nos
2	1Gbe RJ45 port 24 nos, 10 GbE SFP + port 4 nos, PoE/PoE+ capable with 370W minimum,IPv4/6 ACL support, 802.1q,loaded with SFP module, dedicated management interface, VLAN tagging Warranty minimum 3 years.	14	Nos
3	LIU with all the termination accessories	14	Nos
4	8 -port PoE switch, with loaded SFP modules as required	2	Nos
5	SITC of 24 Port patch panel loaded with accessories	16	Nos
6	SITC of CAT 6A RJ45 patch chords.	400	Nos
7	SITC of 12U Wall mounting rack with Accessories	14	Nos
FOR EXTERIOR			
1	Outdoor AP (Wi-Fi-6) with all wiring and accessories - Poles, Wire, Fixture and other components may required	8	Nos
2	Gigabit Media converter	8	Nos
3	CAT 6A U/FTP Patch Cord - 1 Meter. Cable `conductor` Size: 24-26AWG Stranded bare copper with Pre-Terminated with RJ45 `Plug`.	8	Nos
4	LC-LC - Single-mode, Fiber Patch Cord in LSOH jacket	8	Nos
5	SITC of OFC splicing Box	8	Nos
6	SITC of 6-Core SM OFC , taped, corrugated steel tape armoured (STA) polyethylene (HDPE) outer sheathed embedded with two steel wires on the periphery. The cables are with UV Stabilized PE Jacket and protected from Rodent attacks. Shall be manufactured LNG Vapor Axial Deposition technology.	700	Mtrs
7	Power cables supply, Installation, Testing & Commissioning of 3 Core Power Cable 1.5 sqmm . Power Cable 3 core (1.5 sq mm) Copper Cable with all accessories, Switch 5/15 Amp, Socket- 5/15 amp, Cable Ties, Marking Cable, Insulation Tape, Screw 40x8 GITI 40x8 etc.	700	Mtrs
8	Small waterproof housing box for storage of network equipments	8	Nos
9	SITC of 10M GI Pole	8	Nos

FOR SERVER ROOM			
1	SITC of 42U Networking racks with Accessories	1	Nos
2	SITC of Rack Server, Max 2U, Intel XEON latest Gen 16C/3.2GHz CPU, min 64GB DDR5 RAM, 2 x 480GB SSD , 2 x 25G-SR, RPS, with manufactures warranty for min 3 yrs.	1	Nos
3	Firewall for 500 User Device Should be 1RU ; 19 Inch Rack mountable The appliance should have minimum 8 x 10/100/1000 Base T Ethernet Port The appliance should have Dual Redundant External Power Supply from Day1 The appliance should have minimum internal storage of 1TB SSD for Logs & Report or better, The appliance Should have Minimum 4Gb Memory or better	1	Nos
4	SITC of - Layer 3 fiber switch - 24 x 10 T Ports, 4x10G SFP+ uplink port ,loaded with SFP modules, Switch and SFP should be from same OEM only	3	Nos
5	SITC of LIU with all the termination accessories,12/24 port	2	Nos
6	5KVA UPS with battery.	1	Nos
F. Additional Items for Digital Library, Smart Class & Seminar Hall			
1	Digital Kiosk Machine 36" for Smart Classroom and Digital Library	3	Nos
2	Standee - 55" Seminar Hall & Digital Library	2	Nos
3	Device Cart For keeping Devices for Digital Library and Smart Classroom	3	Nos
4	Digital Locker - (50 Lockers)	3	Nos

18.12 Annexure 12 : Specifications of Smart Classroom, Digital Library, Seminar Hall & Networking Equipment

18.12.1   Specifications of Smart Classrooms

1. Specifications of 86" Interactive Digital Board

Sl.No	Features	Specifications Required
1	Screen Size	86" or Higher
2	Native Resolution	3840 x 2160 (UHD)
3	Brightness	Minimum 440cd/m2
4	Contrast Ratio	1,100:1 or Higher
5	Viewing Angle(H x V)	178 x 178
6	Surface Treatment	Anti-glare treatment or similar
7	Min Input ports	HDMI x3(with HDCP 2.2),VGA x 1, USB 3.0 x 4, USB 2.0 x1, USB(Type C x1 with power delivery and DP Alt Mode), OPS Slot x 1
8	Min Output Ports	Audio-1(Audio out to connect additional Speakers if required), Optical SPDIF x1, HDMI-1, Touch Out USB x 2
9	External Control	RS232C, RJ45 input and output both
10	Built in Touch type	IR spread /P Cap/Incell/In glass
11	Touch Accuracy	±1mm or less
12	Air Gap Between LCD Module & Glass	Minimum 1 mm or less
13	Protection Glass Thickness	3T (Anti-Glare) or Higher
14	Operating System Support	Windows 7/8/10/Windows XP/ Linux/ Mac/ Android (Windows XP/ Linux/ Mac Support one point touch)
15	Multi touch point	Min 40 Points or Higher
16	Google CTS	Compatible/Approved to smooth interface
18	Interactive Features	· White Board & Standard Interactive features · Writing, Pen, · Palm Eraser , · Screen Capture, · Storage, · Tool Bar, · Air Class for Online test/Quiz, · USB Block feature for safety · Dual Pen support · Bluetooth connectivity

18	Built in Standard OS	Android 11 or better
19	Key Harrdware Features	Minimum Internal Memory (32GB), Quad core A55 , GPU-Mali G52MP2, RAM DDR 4GB or higher, USB Block, Anti Glare Coating on glass surface, 7 Mohs and 9H Hardness, Haze 28%
20	Key Software Features	Screen Share/Mira cast to Connect TAB/Mobile, Web Browser ,Wi-Fi, Apple Airplay inbuilt, Booting Logo Image Change Option, Able to connect and show upto 9 devices wirelessly on screen, DMS software option from same OEM of display, PIP, PBP, Wake on LAN, Able to open and work on minimum 4 applications side by side on one screen at a time.
22	PCB Protective Coating	Conformal Coating on PCB to prevent from Humidity , Dust & Iron Particles
23	Power Supply	100-240V~, 50/60Hz
24	Power Consumption (Typ.)	385W or less
24	Built in Audio Power	30W(15W x 2) or higher
25	Product Quality Certifications	BIS,ISO9001,ISO14001,ISO45001
26	Accessory	Remote Controller(include battery 2ea), Power Cord, QSG, Regulation Book, Touch Pen(2)
27	Warranty	3 years
28	Bracket	Wall mount

2. Digital wireless handheld Microphone

- Digital wireless handheld Microphone with UHF transmission greatly enhances range.

- Reliability and scalability of 56 MHz Bandwidth will allow for up to 90 channels Up to 2,200 or more selectable frequencies with Mobile App integration setup 134 dB or more transmitter dynamic range

- Lithium Ion battery pack delivers up to 10 hours of operation (up to 6 hours of operation with AA batteries)
  Transducer principle dynamic with Pick-up pattern cardioid, Sound pressure level 154 dB SPL, Transmit power : 10 mW

3. Digital wireless lavalier

- Digital wireless lavalier Microphone with UHF transmission greatly enhances range.

- Reliability and scalability of 56 MHz Bandwidth will allow for up to 90 channels Up to 2,200 or more Selectable frequencies with Mobile App integration setup 134 dB or more transmitter dynamic range

- Lithium Ion battery pack delivers up to 10 hours of operation (up to 6 hours of operation with AA batteries)
- Transducer principle dynamic with Pick-up pattern omnidirectional, Sound pressure level 130 dB SPL, Transmit power : 10 mW.

4. Digital Signal Processors (DSP)

- Digital Signal Processors (DSP) core with 64x64 Dante on a dual NIC, scripting engine 6XI/O card (or inbuilt equivalent) with dual-channel microphone or line level input, switchable 48V Phantom power, software-controlled functionality.

- 6XI/O card (or inbuilt equivalent) with dual-channel line level output, software-controlled functionality.

- I/O card with 2x2 USB 2.0 input/output, HID command-capable for UC status sync.

- Software-licensed Acoustic Echo Cancellation (AEC) (for all microphones quoted)

- Eight channel at 250ms, 16 channel at 100ms delay.

5. Loudspeaker

- Cabinet Loudspeaker: 2-way

- LF Driver 5.25" & HF Driver 1"

- Max Power Handling 100W @ 8 Ohms ;

- Multiple 100V Taps : 40W/20W/10W;

- Frequency range 55Hz – 20Khz or better ;

- Sensitivity 87 dB or better and Max SPL 104 dB or better;

- Coverage of 100° x 100° (H X V) or better;

- IP40 Rated; ABS Plastic Housing with steel grill.

- Mounting Bracket Included.

6. Amplifier

- Energy Star Rated Class D Amplifier ,

- Quad Channel

- 4 X 250W @ 4Ω or better,

- Frequency Response (± 3 dB) 20 Hz - 20 kHz Signal / Noise > 90 dB or better,

- Active Crossover,

- Protection Circuit : DC,

- Overheating, Overload,

- Signal limiting,

- XLR Line Inputs ,

- 2-Pin Terminal Outputs

- 1U 19" Rack mountable.

7. Desktop

Optical Drive	N/A
Internal Speaker in the CPU	Yes
Audio-in	Yes or through Universal Audio Port
Audio-out	
Headphone out	
Microphone in	
Additional Information	
Manageability	Tool less chassis with chassis intrusion switch / sensor (MT/SFF)
Type of connector cable with Monitor	VGA/HDMI/DP
Certification	
ROHS Compliance	Yes
BEE / Energy Star for the given Model	Yes
FCC,UL,CE for the given Model	Yes
BIS Certification (Monitor)	Yes
TCO Certification for Monitor and Desktop	Yes
Connectivity	
Wireless Connectivity	Yes
If Yes, Connectivity	802.11 AX (2x2) Wi-Fi
Number of Ethernet Ports	1
Type of Ethernet Ports	10/100/1000 on board Integrated Gigabit
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	5.1 or higher
Graphics	
Graphics Type	Integrated or better
Graphic Card Description	Intel Integrated UHD Graphics
Input Devices (Same Desktop OEM Make)	
Mouse Connectivity	Wired
Type of Mouse	Optical Scroll
Keyboard Connectivity	Wired
Type of Keyboard	Standard with Rupee Symbol
Memory	
Type of RAM	DDR4
RAM Size (GB)	8 or better
RAM Speed (MHz)	3200 or better
Total Numbers of DIMM Slots Available	2 or more
Number of DIMM Slots populated	1 or more
RAM Expandability up to(using spare DIMM Slots in GB)	64

Monitor (Same Desktop OEM Make)	
Number of Monitors supplied with Desktop	1
Monitor Technology	VA/TN/IPS
LED Backlit Monitor Size (INCHES)	21.5 inch or
Monitor Resolution(PIXELS)	1920 x 1080 or better
Number of VGA Ports in the Monitor	1 or better
Number of HDMI Ports in the Monitor	1 or better
Number of Display Ports in the Monitor	1 or better
Speaker Intergrated with Monitor	Yes
Monitor Stand features	Height Adjustable
Operating System	
Operating System(Factory Pre- Loaded)	Windows 11 Pro
Recovery Image Media	N/a
OS Certification	Windows
Ports	
Number of USB Version 2.0	4 or better
Number of USB Version 3. 0	4 or better
Number of VGA Ports	0 or better
Number of HDMI Ports	1 or better
Number of DP Ports	1 or better
Power	
Power Supply Capacity(Watt)	Minimum 300 or better
Minimum Power Efficiency Range (%)	90-95
Processor	
Processor Make	Intel
Processor Generation	12th Generation or higher
Number of Cores per Processor	6
Processor Base Frequency (GHz)	2.1 or more
Processor Description	Intel Core i5
Out of Band Management	NA
Cache(MB)	18 or better
Motherboard	
Chipset Number	Intel Q660/Q670
Expansion Slots (PCIe x1) (Number)	1 or better
Expansion Slots (PCIe x4) (Number)	0 or better
Expansion Slots (Gen4 PCIe x16) (Number)	1 or better
Expansion Slots (M Dot 2)	2 or better
Storage	
Type of Drives used to populate the Internal Bays	HDD

Number of Bays populated	1
Number of Internal Bays populated with PCIe M.2 NVMe SSD	1
Capacity of each SSD (GB)	512 or Higher
Warranty	
On Site OEM Warranty (Year)	3
SECURITY - The quoted model should have HARDWARE TPM version 2.0 or better	
Certification : The quoted Desktop model should have Ubuntu/Redhat /Suse certification and Microsoft Windows 11 certification and EPEAT Gold certification (INDIA), TCO certification , MIL 810 Certification	
Pre-loaded Operating System Windows 11 Pro. factory preloaded Need confirmation from OEM on their letterhead.	

8. Manage PoE Switch

Sl.	Technical Specifications
1	**Physical Characteristics and Architecture Requirements**
	The switch should be 1U 19" Rack Mountable, mounting kit should be included
	The switch should have minimum 12 Port Gigabit (10/100/1000 Mbps) POE+ Switch and 2 x 1G SFP Uplink ports and 2x1G RJ45 port with 139W POE power budget
	The switch should have dedicated console port
	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source
2	**Performance Requirements**
	The switch should have minimum 4GB DRAM, 8GB eMMC/Flash Memory
	The proposed switch should have minimum 32 Gbps switching capacity
	The switch should have minimum 8,000 MAC Address Table size
	The switch should support minimum 500 IPv4/v6 routes and 256 IPv4 ACLs and 128 IPv6 ACLs
3	**Layer-2, QoS and Security Features**
	The switch should support Spanning Tree Protocol (STP/RSTP/MSTP),LACP,Voice VLAN
	The switch should support IEEE 802.1Q VLANs (500 active VLANs) and MVRP or equivalent for automatic learning and dynamic assignment of VLANs
	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification,Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic.IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications
	The switch should support Control Plane Policing, STP BPDU port protection,DHCP (snooping) protection, dynamic ARP protection and port security.

4	Layer-3 Routing and Services Features from day-1
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent

9. 9 U Rack

- WALL MOUNT RACK
- 9U Rack (600MMD),Top cover -1no. Bottom cover -1no
- 1 SECN with front glass door cam lock,
- Power Strip 6 Pts.(5 AMP)
- Cable Manager with Loops 1U 19"
- FAN 203 V90CFM
- H/w squre panel (packet of 10).

10. Cat 6 Cable

1	Cat 6	Should meet minimum Category 6 requirements
2	Type of Conductors and Grade	4 Pair 23 AWG Solid Copper Conductors with FR Grade
3	Frequency	Characterised to 600Mhz
4	Standards in Compliance with Third Party Certification	ETL Certified ANSI/TIA-568-C.2, ISO/IEC 11801 and EN50173-1 Category 6
5	Performance Testing Compliance	Zero Bit Error Performance Testing by ETL
6	Jacket	FR PVC/LSZH
7	Separator	Incorporates central X-shaped polymer spine maintaining 4 pairs separation.

8	Mechanical Characteristics	Conductor: Solid Bare Copper
		AWG: 23
		Conductor Dia Norm: 0.574
		Insulation: PE
		Average Thickness (±0.03mm): 0.23
		Min. Point Thickness (mm): 0.18
		Insulation Dia. (±0.05mm): 1.04
		Twisting Lay Length (mm): 30underneath
		Cabling Lay Length (±10mm): 140
		Filler: PE
		Average Thickness (±0.05mm): 0.50
		Min. Point Thickness (mm): 0.46
		Outer Dia. (±0.15mm): 6.20
		Temperature: Max 75°C
9	Certification	UL Listed and ROHS Compliant
10	Rating	CM - For Horizontal Cabling
11	Color	Blue

11. Cable and accessories

- HDMI Cable – 10 MTR
- Speaker Cable
- XLR Connector
- Other accessories

12. KVA Online UPS

UPS -2 KVA Online	
Characteristic	**Specification**
Capacity	2KVA, 1600 Watt
Topology	True Online Double Conversion UPS Standalone UPS with single battery bank
Technology	IGBT (Rectifier & Inverter both)
INPUT	
Input Facility	10, 2-wire & Ground, (Phase & Nuetral + Ground)
Input Voltage Range	1Ph,L-N+PE (175 to 280 Vac on full load & shall support 120VAC-290VAC at 50% load).
Input Frequency Range	45 ~55Hz
Input Power Factor	≥0.99
OUTPUT	
Power Factor	0.9
Nominal Output Voltage	220/230/240Vac shall be available with +/-1% regulation in battery mode
Voltage regulation	± 1% static, ± 5% for Dynamic Load

Nominal Frequency	50Hz±2% (Synrchonized to Mains)
Waveform	Sine wave
Crest factor	3:1
Total harmonic distortion (THDv)	< 3% (linear load); <5% (nonlinear load)
Output Short Circuit Protection	Electronic, trip
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: < 4ms
Maintenance Bypass	Automatic & Manual
Output Connection	Terminal at bottom
DC Ripple factor	≤1%
Efficiency	Overall (AC to AC) : > 90%
Overload Protection	>100% ~ 110%: for 5 mins;
	>110% ~ 125%: for 1 min;
Surge Protection Device(SPD):	Type 2 , Single Phase Two pole , AC - SPD
	Suitable for TNS System (1Ph+N) ,
	Un - 230 VAC
	Uc - 320V
	Imax - 40kA
	In - 20kA
	Up - <= 1.5kV
	1. Should have Reversible installation facility : reversible chassis to allow cable entry from above or below
	2. Should have clear display of protection end of life of cartridge.
	3. Two types of terminal : for rigid or flexible cable and for fork type comb bus bar.
	4. Should have thermal disconnection system.
	5. Should have Cartridge security System : vibration proof insertion 'click' effect .
	6. Should have individual Mechanical cartridge Coding for safety system to avoid possible cartridge replacement error.
BATTERY & BATTERY BANK CHARGER	
DC BUS voltage	72-96VDC
VAH Require	3024VAH for 30 Min Backup
Batteries Type	SMF BATTERY
Battery re-charge time (After complete discharge) to 90% capacity	8-10 Hours

Battery Housing	Should be compact and space saving MS Steel Open Racks complete with interconnectors
Interfaces	Should support WINDOWS OS, RS 232 Connector should be available
Cold Start	should be provided
Self Diagnosis	UPS should be capable to carry out self test of Rectifier/Charger & Inverter Module during start up
Environmental	
Operating Temperature	0-50 deg C with full load
Type of Cooling	Forced Air
Noise Level	<55 dBA at 1 meter distance
Auto Start, Cold Start & EPO	Shall be available
Humidity	0%-95% non-condensing
INGRESS PROTECTION	IP 20 As per IEC60529 , Certificate must be submit at the time of bidding
MEASUREMENTS (ON LCD)	Input & Output Voltage, Input & Output Frequency, Bypass: Voltage & Frequency, Battery Level Indicator, Load Level indicator, Fault codes, , Overload, Short circuit, Low Battery.
CERTIFICATIONS	
ISO Certification	BIS Certificate, ISO 9001:2015, ISO14001:2015, ISO45001:2018, ISO 20000-1:2011, ISO 27001:2013, ISO 50001:2018, ISO14025:2006
CE Certification (Safety)	CE Certified
Test Certificates	Test Report of UPS should be enclosed conducted from reputed NABL accredited Laboratory for the quoted model complying all technical parameters conducted within last 5 years from the date of opening of Bid.
SUPPORT	
Web/Window base Support	It is mandatory to provide online centralized call tracking system Like OVSD (Open view Service Desk) for monitoring of logged calls viewing through web / windows based access for at least 2 officials.

18.12.2   Technical Specification for Seminar Hall Setup

1. 98" LED Display

Specification Professional Display Panel		
Sl.	Features	Specifications
1	Screen Size	98" or Higher LED Back Lit Panel
2	Panel Technology	IPS
3	Native Resolution	3840 x 2160 (UHD)
4	Brightness	500cd/m2
5	Contrast Ratio	1200 : 1 or more
6	Dynamic CR	500,000 : 1 or higher
7	Operating System	WebOS
8	Orientation	Portrait & Landscape
9	Viewing Angle(H x V)	178 x 178
10	Response Time	8 ms or better
11	Operation Hours	24 Hrs support
12	**Connectivity**	
13	**Input Ports**	
14	Digital	HDMI(3), DVI-D(1), Display Port(1)
15	External Control	RS232C(1), RJ45(1), IR(1, Internal)
16	USB	USB -1
17	Audio In	Audio In-1
18	**Output Ports**	
19	Digital	HDMI Out Port -1
20	Audio Out	Audio Out-1
21	External Control	Main : RS232C(1),
22	Bezel Width	Even bezel : 15 mm or lower even from all side
23	**AUDIO**	
24	Audio Power	20W(10W x 2)
25	Additional feature	Inbuilt : Internal Memory 16 GB, Wi-Fi, Screen Sharing feature, Web Link, Media Player, Picture in Picture & Picture by Picture feature(4 Simultaneously), SNMP Support
26	**Environment Conditions**	
27	Operation Temperature	0 °C to 40 °C or lower
28	Operation Humidity	10 % to 80 % or better
29	**POWER**	
30	Power Supply	100-240V~, 50/60Hz
31	Power Type	Built-In Power
32	**Power Consumption**	
33	Typ.	420 W or Less
34	Speakers	20W(10W x 2)
35	Power Supply	100 – 240 V, 50/60 Hz
36	Certifications(Safety/EMC/ER)	UL, FCC,BIS, RoHS
37	Warranty	3 years
38	Wall mount	Required

2. PTZ Camera

Camera	Camera should be plug and play and should comply to UVC 1.1 standards for processing of video.
	Output : YUY2,MJPEG.
	Optical Resolution : 8 MP (4K(3840×2160)30fps , 1080P60fps).
	Sensor size : 1/2.5'' CMOS
	Port : USB 3.0 for end device connectivity.
	SNR >= 38dB
	FOV : Diagonal 90°, Horizontal 82°and vertical 52°or above.
	Aperature : F2.0 ~ 3.1
	Focal length Wide: 3.725mm, Tele : 17.88mm
	Should support autofocus.
	Smooth Motorized pan, tilt and zoom from remote control
	It should also be possible for user to control camera via simple software application in PC & Mac.
	Should support FECC : Far End camera control.
	Zoom:15x or better
	Camera Control: Standard VISCA / Mini din 6 pin or equivalent.
	＋/-90° Pan range , ＋50°/-90° tilt range
	Minimum illumination : 80 lux
	Preset : 3 or above
	Should have Kensington Security Slot to ensure physical security of camera in conference room.
	Camera should have option to mount on Tripod stand if required.
	To be supplied with required power adaptor, regional plugs, cables minimum 3mts and mounting bracket.
Cable Management and ambience	System should be supplied with 3mts of minimum length cable to connected end device (laptop, Mac, Codec , desktop and thin client)
	All necessary cables for all the components , power adaptors , regional plugs, quick start guide along with the mounting bracket should be supplied by the OEM.
Remote Control	Type : RF / Bluetooth with removable / replaceable batteries to ensure it don't require line of sight in conference room.
	System should be supplied with all-in-one remote control to manage Camera (Pan,Tilt, Zoom, Preset, block/ mute video).
	Range 8.5 mts or more
OEM Qualification	• Complete camera , wall mount kit , remote control should be an integrated single OEM solution for ease of use and seamless experience. • System must have all required certification FCC , CE , RoHS and comply to India E-waste management rules • OEM for the system should be ISO 9001:2008 certified.

	• All required components of the system should have Government of India - Ministry of Communication & IT approval (WPC - Wireless and planning coordination certified) • OEM for the system should have option to provide SDK free of cost for the integration of the system in any workflow / Application.

3. Ceiling Mounted Microphone

- Ceiling mounted microphone array with automatic dynamic beamforming, voice lift facilities,
- 4 or more exclusion zones,
- minimum 1 priority zone for fitting into 600 mm (2 ft.) ceiling panel / mountable / flush within ceiling,
- having 28 or more pre-polarized condenser microphone capsules within the same unit or can be mounted separately,
- with Dante interface with two RJ 45 sockets, will support PoE / sensitivity shall be 0 dBV/ Pa (988 mV/Pa) or better and maximum SPL
- shall be 104 dB SPL or better,
- dynamic range shall be 93 dB(A) or better,
- shall be tested according to UL 2043 rating or better.

4. Wired Gooseneck Microphone

- Wired Gooseneck Microphone for Podium
- pre-polarized condenser gooseneck microphone with overall length of 450mm or better, with XLR3M-type connector,
- shall offer radio frequency interference (RFI) shielding against intermodulation from wireless equipment or devices,
- cardioid microphone capsule with uniform 120° angle of acceptance (-3dB) or better, frequency response of 50 Hz to 20,000 Hz or better and sound input levels handling capability of minimum 130 dBspl or better,
- nominal equivalent noise level of 26 Dba or better and output shall be low impedance balanced (<100 ohms) with current consumption shall be 3 mA or better.
- Table stand with Microphone modes Toggle on / off, Push to mute, Push to talk,
- permanent on for connecting and operating XLR gooseneck microphones with XLR-3F microphone input and an XLR-3M microphone output operating on 48 V phantom power and current consumption of 3.7 mA or better.

5. Digital wireless Lavalier

- Digital wireless lavalier Microphone with UHF transmission greatly enhances range.
- Reliability and scalability of 56 MHz Bandwidth will allow for up to 90 channels Up to 2,200 or more
  Selectable frequencies with Mobile App integration setup 134 dB or more transmitter dynamic range

- Lithium Ion battery pack delivers up to 10 hours of operation (up to 6 hours of operation with AA batteries)
- Transducer principle dynamic with Pick-up pattern omnidirectional, Sound pressure level 130 dB SPL, Transmit power : 10 mW.

6. Digital Signal Processing (DSP)

- DSP core with 64x64 Dante on a dual NIC, scripting engine
- 6XI/O card (or inbuilt equivalent) with dual-channel microphone or line level input, switchable 48V Phantom power, software-controlled functionality.
- 8XI/O card (or inbuilt equivalent) with dual-channel line level output, software-controlled functionality.
- I/O card with 2x2 USB 2.0 input/output, HID command-capable for UC status sync.
- Software-licensed Acoustic Echo Cancellation (AEC) (for all microphones quoted) Eight channel at 250ms, 16 channel at 100ms delay.

7. Loudspeaker

- Cabinet Loudspeaker: 2-way
- LF Driver 5.25" & HF Driver 1"
- Max Power Handling 100W @ 8 Ohms ;
- Multiple 100V Taps : 40W/20W/10W;
- Frequency range 55Hz – 20Khz or better ;
- Sensitivity 87 dB or better and Max SPL 104 dB or better;
- Coverage of 100° x 100° (H X V) or better;
- IP40 Rated; ABS Plastic Housing with steel grill.
- Mounting Bracket Included.

8. Amplifier

- Energy Star Rated Class D Amplifier ,
- Quad Channel
- 4 X 250W @ 4Ω or better,
- Frequency Response (± 3 dB) 20 Hz - 20 kHz Signal / Noise > 90 dB or better,
- Active Crossover,
- Protection Circuit : DC,
- Overheating, Overload,
- Signal limiting,
- XLR Line Inputs ,
- 2-Pin Terminal Outputs ,
- 1U 19" Rack mountable.

9. Document Camera for Podium

Image sensor	3 Mega pixels
Resolution	2048x1536
Frame Rate	30
Dpi（Dots per inch）	280
Scan size	A4
Speed	1s
Image color	24 Bit
Zoom	15x
Sensor	CMOS
LED light	Natural + LED Supplement light
Document format	PDF, WORD, TXT
Image format	JPG / TIF / PDF / BMP / TGA / PCX / PNG / RAS
Video format	AVI / WMV
Interface	USB2.0
OCR	More than 180 kinds of languages
System Requirements (MIN)	CPU P4, Windows XP, MS Direct 9.0, Vista, Win7
Image Processing	Brightness, Contrast, Sharpness, Saturation, Gamma, Rotation, Mirroring, etc
Package Contents	Document scanner, CD-ROM, Presentation Pad, USB- cable, Users Manual
Certificate	CE、RoHs、FCC

10. Desktop

Optical Drive	N/A
Internal Speaker in the CPU	Yes
Audio-in	Yes or through Universal Audio Port
Audio-out	
Headphone out	
Microphone in	
Additional Information	
Manageability	Tool less chassis with chassis intrusion switch / sensor (MT/SFF)
Type of connector cable with Monitor	VGA/HDMI/DP
Certification	
ROHS Compliance	Yes
BEE / Energy Star for the given Model	Yes
FCC,UL,CE for the given Model	Yes
BIS Certification (Monitor)	Yes

TCO Certification for Monitor and Desktop	Yes
Connectivity	
Wireless Connectivity	Yes
If Yes, Connectivity	802.11 AX (2x2) Wi-Fi
Number of Ethernet Ports	1
Type of Ethernet Ports	10/100/1000 on board Integrated Gigabit
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	5.1 or higher
Graphics	
Graphics Type	Integrated or better
Graphic Card Description	Intel Integrated UHD Graphics
Input Devices (Same Desktop OEM Make)	
Mouse Connectivity	Wired
Type of Mouse	Optical Scroll
Keyboard Connectivity	Wired
Type of Keyboard	Standard with Rupee Symbol
Memory	
Type of RAM	DDR4
RAM Size (GB)	8 or better
RAM Speed (MHz)	3200 or better
Total Numbers of DIMM Slots Available	2 or more
Number of DIMM Slots populated	1 or more
RAM Expandability up to(using spare DIMM Slots in GB)	64
Monitor (Same Desktop OEM Make)	
Number of Monitors supplied with Desktop	1
Monitor Technology	VA/TN/IPS
LED Backlit Monitor Size (INCHES)	21.5 inch or
Monitor Resolution(PIXELS)	1920 x 1080 or better
Number of VGA Ports in the Monitor	1 or better
Number of HDMI Ports in the Monitor	1 or better
Number of Display Ports in the Monitor	1 or better
Speaker Integrated with Monitor	Yes
Monitor Stand features	Height Adjustable
Operating System	
Operating System(Factory Pre-Loaded)	Windows 11 Pro
Recovery Image Media	N/a
OS Certification	Windows

Ports	
Number of USB Version 2.0	4 or better
Number of USB Version 3. 0	4 or better
Number of VGA Ports	0 or better
Number of HDMI Ports	1 or better
Number of DP Ports	1 or better
Power	
Power Supply Capacity(Watt)	Minimum 300 or better
Minimum Power Efficiency Range (%)	90-95
Processor	
Processor Make	Intel
Processor Generation	12th Generation or higher
Number of Cores per Processor	6
Processor Base Frequency (GHz)	2.1 or more
Processor Description	Intel Core i5
Out of Band Management	NA
Cache(MB)	18 or better
Motherboard	
Chipset Number	Intel Q660/670
Expansion Slots (PCIe x1) (Number)	1 or better
Expansion Slots (PCIe x4) (Number)	0 or better
Expansion Slots (Gen4 PCIe x16) (Number)	1 or better
Expansion Slots (M Dot 2)	2 or better
Storage	
Type of Drives used to populate the Internal Bays	HDD
Number of Bays populated	1
Number of Internal Bays populated with PCIe M.2 NVMe SSD	1
Capacity of each SSD (GB)	512 or Higher
Warranty	
On Site OEM Warranty (Year)	3
SECURITY - The quoted model should have HARDWARE TPM version 2.0 or better	
Certification : The quoted Desktop model should have Ubuntu/Redhat /Suse certification and Microsoft Windows 11 certification and EPEAT Gold certification (INDIA), TCO certification , MIL 810 Certification	
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	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification, Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic.IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications
	The switch should support Control Plane Policing, STP BPDU port protection, DHCP (snooping) protection, dynamic ARP protection and port security.
4	**Layer-3 Routing and Services Features from day-1**
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent

12. 9 U rack

- WALL MOUNT RACK
- 9U Rack (600MMD),Top cover -1no. Bottom cover -1no
- 1 SECN with front glass door cam lock,
- Power Strip 6 Pts.(5 AMP)
- Cable Manager with Loops 1U 19"
- FAN 203 V90CFM
- H/w square panel (packet of 10).

13. Cable and accessories

- HDMI Cable – 10 MTR
- Speaker Cable
- XLR Connector
- Other accessories

14. 2 KVA Online UPS

UPS -2 KVA Online	
Characteristic	**Specification**
Capacity	2KVA, 1600 Watt
Topology	True Online Double Conversion UPS Standalone UPS with single battery bank
Technology	IGBT (Rectifier & Inverter both)
INPUT	
Input Facility	10, 2-wire & Ground, (Phase & Nuetral + Ground)
Input Voltage Range	1Ph,L-N+PE (175 to 280 Vac on full load & shall support 120VAC-290VAC at 50% load).
Input Frequency Range	45 ~55Hz
Input Power Factor	≥0.99
OUTPUT	
Power Factor	0.9
Nominal Output Voltage	220/230/240Vac shall be available with +/-1% regulation in battery mode
Voltage regulation	± 1% static, ± 5% for Dynamic Load
Nominal Frequency	50Hz±2% (Synrchonized to Mains)
Waveform	Sine wave
Crest factor	3:1
Total harmonic distortion (THDv)	< 3% (linear load); <5% (nonlinear load)

Output Short Circuit Protection	Electronic, trip
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: < 4ms
Maintenance Bypass	Automatic & Manual
Output Connection	Terminal at bottom
DC Ripple factor	≤1%
Efficiency	Overall (AC to AC) : > 90%
Overload Protection	>100% ~ 110%: for 5 mins;
	>110% ~ 125%: for 1 min;
Surge Protection Device (SPD):	Type 2 , Single Phase Two pole , AC - SPD
	Suitable for TNS System (1Ph+N) ,
	Un - 230 VAC
	Uc - 320V
	Imax - 40kA
	In - 20kA
	Up - <= 1.5kV
	1. Should have Reversible installation facility : reversible chassis to allow cable entry from above or below
	2. Should have clear display of protection end of life of cartridge.
	3. Two types of terminal : for rigid or flexible cable and for fork type comb bus bar.
	4. Should have thermal disconnection system.
	5. Should have Cartridge security System : vibration proof insertion 'click' effect .
	6. Should have individual Mechanical cartridge Coding for safety system to avoid possible cartridge replacement error.
BATTERY & BATTERY BANK CHARGER	
DC BUS voltage	72-96VDC
VAH Require	3024VAH for 30 Min Backup
Batteries Type	SMF BATTERY
Battery re-charge time (After complete discharge) to 90% capacity	8-10 Hours
Battery Housing	Should be compact and space saving MS Steel Open Racks complete with interconnectors
Interfaces	Should support WINDOWS OS, RS 232 Connector should be available
Cold Start	should be provided

Self Diagnosis	UPS should be capable to carry out self test of Rectifier/Charger & Inverter Module during start up
Environmental	
Operating Temperature	0-50 deg C with full load
Type of Cooling	Forced Air
Noise Level	<55 dBA at 1 meter distance
Auto Start, Cold Start & EPO	Shall be available
Humidity	0%-95% non-condensing
INGRESS PROTECTION	IP 20 As per IEC60529 , Certificate must be submit at the time of bidding
MEASUREMENTS (ON LCD)	Input & Output Voltage, Input & Output Frequency, Bypass: Voltage & Frequency, Battery Level Indicator, Load Level indicator, Fault codes, Overload, Short circuit, Low Battery.
CERTIFICATIONS	
ISO Certification	BIS Certificate, ISO 9001:2015, ISO14001:2015, ISO45001:2018, ISO 20000-1:2011, ISO 27001:2013, ISO 50001:2018, ISO14025:2006
CE Certification (Safety)	CE Certified
Test Certificates	Test Report of UPS should be enclosed conducted from reputed NABL accredited Laboratory for the quoted model complying all technical parameters conducted within last 5 years from the date of opening of Bid.
SUPPORT	
Web/Window base Support	It is mandatory to provide online centralized call tracking system Like OVSD (Open view Service Desk) for monitoring of logged calls viewing through web / windows based access for at least 2 officials.

15. Switcher

4X1 4K60 4:4:4 HDR AV Switcher, four HDMI® inputs and one HDMI output, support of HDR (High Dynamic Range) and Dolby Vision® video formats, automatic switching of HDMI inputs, advanced EDID management, Enterprise-Grade Security, HDCP 2.3 compliance, HDMI audio de-embedding.

18.12.3   Technical Specification for Digital Library Setup

1. Desktop

Optical Drive	N/A
Internal Speaker in the CPU	Yes
Audio-in	Yes or through Universal Audio Port
Audio-out	
Headphone out	
Microphone in	
Additional Information	
Manageability	Tool less chassis with chassis intrusion switch / sensor (MT/SFF)
Type of connector cable with Monitor	VGA/HDMI/DP
Certification	
ROHS Compliance	Yes
BEE / Energy Star for the given Model	Yes
FCC,UL,CE for the given Model	Yes
BIS Certification (Monitor)	Yes
TCO Certification for Monitor and Desktop	Yes
Connectivity	
Wireless Connectivity	Yes
If Yes, Connectivity	802.11 AX (2x2) Wi-Fi
Number of Ethernet Ports	1
Type of Ethernet Ports	10/100/1000 on board Integrated Gigabit
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	5.1 or higher
Graphics	
Graphics Type	Integrated or better
Graphic Card Description	Intel Integrated UHD Graphics
Input Devices (Same Desktop OEM Make)	
Mouse Connectivity	Wired
Type of Mouse	Optical Scroll
Keyboard Connectivity	Wired
Type of Keyboard	Standard with Rupee Symbol
Memory	
Type of RAM	DDR4
RAM Size (GB)	8 or better
RAM Speed (MHz)	3200 or better

Total Numbers of DIMM Slots Available	2 or more
Number of DIMM Slots populated	1 or more
RAM Expandability up to(using spare DIMM Slots in GB)	64
Monitor (Same Desktop OEM Make)	
Number of Monitors supplied with Desktop	1
Monitor Technology	VA/TN/IPS
LED Backlit Monitor Size (INCHES)	21.5 inch or
Monitor Resolution (PIXELS)	1920 x 1080 or better
Number of VGA Ports in the Monitor	1 or better
Number of HDMI Ports in the Monitor	1 or better
Number of Display Ports in the Monitor	1 or better
Speaker Integrated with Monitor	Yes
Monitor Stand features	Height Adjustable
Operating System	
Operating System (Factory Pre- Loaded)	Windows 11 Pro
Recovery Image Media	N/a
OS Certification	Windows
Ports	
Number of USB Version 2.0	4 or better
Number of USB Version 3. 0	4 or better
Number of VGA Ports	0 or better
Number of HDMI Ports	1 or better
Number of DP Ports	1 or better
Power	
Power Supply Capacity (Watt)	Minimum 300 or better
Minimum Power Efficiency Range (%)	90-95
Processor	
Processor Make	Intel
Processor Generation	12th Generation or higher
Number of Cores per Processor	6
Processor Base Frequency (GHz)	2.1 or more
Processor Description	Intel Core i5
Out of Band Management	NA
Cache(MB)	18 or better
Motherboard	
Chipset Number	Intel Q660/670
Expansion Slots (PCIe x1) (Number)	1 or better

Expansion Slots (PCIe x4) (Number)	0 or better
Expansion Slots (Gen4 PCIe x16) (Number)	1 or better
Expansion Slots (M Dot 2)	2 or better
Storage	
Type of Drives used to populate the Internal Bays	HDD
Number of Bays populated	1
Number of Internal Bays populated with PCIe M.2 NVMe SSD	1
Capacity of each SSD (GB)	512 or Higher
Warranty	
On Site OEM Warranty (Year)	3
SECURITY - The quoted model should have HARDWARE TPM version 2.0 or better	
Certification : The quoted Desktop model should have Ubuntu/Redhat /Suse certification and Microsoft Windows 11 certification and EPEAT Gold certification (INDIA), TCO certification , MIL 810 Certification	
Pre loaded operating system Windows 11 Pro. factory preloaded Need confirmation from OEM on their letterhead.	

2. Server

Sl.	Category	Minimum Requirement
1	Form Factor	Minimum of 1U or higher rack mount server with front locking bezel, cable manager, sliding rails & accessories
2	Processor Make	x86 architecture
3	CPU	Minimum 1 x Latest generation from the offered CPU OEM
4	CPU configuration	1no X86 processor with minimum 8 core @2.6GHz or more , processor should support hyperthreading
5	Memory	64GB DDR4 with ECC Memory can be upgraded up to128GB
6	Hard Disk	Minimum 8 HDD slots. 15 TB usable SAS HDD@ minimum 7200 RPM with RAID 1 from day1.Server should support for NVMe and SSD drive.12 GBPS PCIe Storage Controller with Raid controller cache 8Gb supporting RAID 1,5,6,10
7	Expansion Slots	Minimum 3 PCIe Gen4 slots
8	USB ports	Minimum 3 USB ports
9	Certifications & Compliance	Latest Version of Windows, Linux and Ubuntu OS including all industry standard virtualization software
10	Networking	4 x 1G BaseT or higher

11	Management	Dedicated 1Gb management port with advanced IPMI interface from server OEM. Security dashboard must be available. Group management of firmware/ power/ configuration/ power-capping. RESTful API.
12	Power Supply	Redundant hot-plug power supplies
13	MII local content	MII Local Content declaration (For class1/class2) signed by authorized signatory of OEM has to be submitted
14	Security	Publicly available links, verifiable evidence must be submitted against each of the feature below
		Silicon-based Hardware Root of Trust
		Automatic BIOS recovery
		Firmware drift detection & alerting
		Cryptographically signed firmware updates
		Cryptographically verified trusted booting standards meeting NIST SP 800-147B, NIST SP 800-155, protection standards meeting NIST SP 800-193 standards & secure media sanitization standards meeting NIST SP 800-88
		System lockdown support to lock down configuration and firmware, protecting the server from inadvertent or malicious changes
		Secure default passwords during transit
		Persistent event logging including user activity
		Drive security, including secure system erase for HDD, SSD & NVMe
		Dynamically enabled / disable USB ports to protect from USB-based attacks
		Protection against compromised firmware execution
		UEFI secure boot with custom certificates
		Intrusion alert in case chassis being opened
15	Bid Documentation	Product datasheets, certification, benchmark or reference documents verifiable from publicly available data sources and bill of material must be submitted along with web links wherever applicable
16	OEM Criteria	OEM should be one of the top three brands in atleast one quarter of IDC Server ranking in last 4 Quarters.
17	Country of Origin	The OEM/Product manufactured in a country sharing a land border with India cannot participate in this bid
19	IPv6	IPv6 ready certified
20	Warranty	3 years on site
21	MII Declaration	MII Local Content declaration signed by authorized signatory of OEM has to be submitted for Class- 1/Class-2 supplier.

3. Firewall

Hardware Architecture & Performance
The appliance based security platform should be capable of providing firewall, application visibility, Web Protection and IPS functionality in a single appliance
The appliance hardware should be a multicore CPU architecture with a hardened 64 bit operating system to support minimum 8GB memory. Should have dedicated network processor with additional RAM for hardware acceleration.
Should support minimum 120 GB SSD for logs & reports
The appliance should support atleast 8 * 1G ports 2 * 1G SFP ports from day 1 . The appliance should have option to support additional 4 * 10G ports in future.
Should support atleast 24 Gbps Firewall throughput & 5 Gbps of NGFW throughput
Proposed appliance should support atleast 5 million concurrent sessions or more
Firewall should support atleast 125K connections per second or more
Solution should have 11 Gbps of IPSec VPN throughput
Firewall Should support atleast 1Gbps of Threat Protection Throught (Measured with Firewall, IPS, Application Control, and Malware prevention enabled)
Solution should have 1.4Gbps SSL/TLS inspection throughput & 2500 SSL VPN concurrent tunnel
Industry Certification
Solution should have FIPS & TEC certified
Solution should provide make in india certificate with minimum 60% local content
Solution should have common criteria EAL4+ certified
General Management
Purpose-built, streamlined user interface and firewall rule management for large rule sets with grouping with at-a-glance rule feature and enforcement indicators
Two-factor authentication (One-time-password) support for administrator access, user portal, IPSec and SSL VPN
Firewall should support TLS 1.3 inspection of encrypted traffic
Firewall should support Xstream FastPath technology for application acceleration
Firewall should be ready for Xtender Detection & Response and Synchronized SDWAN
High Availability (HA) support clustering two devices in active-active or active-passive mode.
Full command-line-interface (CLI) accessible from GUI
Automated firmware update notification with easy automated update process and roll-back features
Reusable system object definitions for networks, services, hosts, time periods, users and groups, clients and servers
Jumbo Frame Support , Self-service user portal
SNMPv3 and Netflow support , API for 3rd party integration
Backup and restore configurations: locally, via FTP or email; on-demand, daily, weekly or monthly

Firewall, Networking & Routing
Stateful deep packet inspection firewall
Network Flow FastPath acceleration for trusted traffic
User, group, time, or network based policies
Access time polices per user/group
Enforce policy across zones, networks, or by service type
Zone isolation and zone-based policy support
Default zones for LAN, WAN, DMZ, LOCAL, VPN and WiFi
Custom zones on LAN or DMZ
Customizable NAT policies with IP masquerading and full object support to redirect or forward multiple services in a single rule
Flood protection: DoS, DDoS and portscan blocking Country blocking by geo-IP
Routing: static, multicast (PIM-SM), and dynamic (RIP, BGP, OSPF)
Protocol independent multicast routing with IGMP snooping
Bridging with STP support and ARP broadcast forwarding
VLAN DHCP support and tagging,VLAN bridge support
WAN link balancing: multiple Internet connections, auto-link health check, automatic failover, automatic and weighted balancing, and granular multipath rules
Full configuration of DNS, DHCP and NTP, 802.3ad interface link aggregation
IPv6 tunnelling support including 6in4, 6to4, 4in6, and IPv6 rapid deployment through IPSec
Flexible network or user based traffic shaping (QoS) (enhanced Web and App traffic shaping options included with the Web Protection subscription)
Set user-based traffic quotas on upload/download or total traffic and cyclical or non-cyclical
Authentication
Synchronized User ID utilizes Synchronized Security to share currently logged in Active Directory user ID between Sophos endpoints and the firewall without an agent on the AD server or client
Authentication via: Active Directory, eDirectory, RADIUS, LDAP and TACACS+
Server authentication agents for Active Directory SSO, STAS, SATC
Single sign-on: Active directory, eDirectory, RADIUS Accounting
Client authentication agents for Windows, Mac OS X, Linux 32/64
Browser SSO authentication: Transparent, proxy authentication (NTLM) and Kerberos
Browser Captive Portal
Authentication certificates for iOS and Android
Authentication services for IPSec, SSL, L2TP, PPTP
Google Chromebook authentication support for environments with Active Directory and Google G Suite
Next Gen VPN Support

Site-to-site VPN: SSL, IPSec, 256- bit AES/3DES, PFS, RSA, X.509 certificates, pre-shared key
L2TP and PPTP, Route-based VPN
Remote access: SSL, IPsec, iPhone/iPad/ Cisco/Android VPN client support, IKEv2 Support
SSL client for Windows and configuration download via user portal
Encrypted HTML5 self-service portal with support for RDP, HTTP, HTTPS, SSH, Telnet, and VNC
Authentication: Pre-Shared Key (PSK), PKI (X.509), Token and XAUTH
Enables Synchronized Security and Security Heartbeat for remote connected users
Unlimited IPSec & SSL client with unlimited 2factor mobile (android & IOS) authenticator license
Single client support for IPSec & SSL remote VPN
Mac and Windows Support
Wireless Protection
Wireless controller with 50 access point management license from day1
Multiple SSID support per radio including hidden SSIDs
Bridge APs to LAN, VLAN, or a separate zone with client isolation options
Support for IEEE 802.1X (RADIUS authentication) with primary and secondary server support
Support for 802.11r (fast transition)
Hotspot support for (custom) vouchers, password of the day, or T&C acceptance
Wireless guest Internet access with walled garden options
Time-based wireless network access
Wireless repeating and bridging meshed network mode with supported Aps
Intrusion Prevention (IPS)
High-performance, next-gen IPS deep packet inspection engine with selective IPS patterns that can be applied on a firewall rule basis for maximum performance and protection
Minimum 5000 of signatures, Support for custom IPS signatures
Advanced Threat Protection (detect and block network traffic attempting to contact command and control servers using multi-layered DNS, AFC, and firewall)
Security Heartbeat instantly identifies compromised endpoints including the host, user, process, incident count, and time of compromise
Security Heartbeat policies can limit access to network resources or completely isolate compromised systems until they are cleaned
Lateral Movement Protection further isolates compromised systems by having healthy -managed endpoints reject all traffic from unhealthy endpoints preventing the movement of threats even on the same broadcast domain
Web Protection and Control
Fully transparent proxy for anti-malware and web-filtering
Enhanced Advanced Threat Protection
URL Filter database with millions of sites across 92 categories backed by OEMLabs
Surfing quota time policies per user/group ,Access time polices per user/group

Malware scanning: block all forms of viruses, web malware, trojans and spyware on HTTP/S, FTP and web-based email
Advanced web malware protection with JavaScript emulation
Live Protection real-time in-the-cloud lookups for the latest threat intelligence
Second independent malware detection engine for dual-scanning
HTTP and HTTPS scanning on a per user or network policy basis with customizable rules and exceptions
File type filtering by mime-type, extension and active content types (e.g. Activex, applets, cookies, etc.)
YouTube for Schools enforcement per policy (user/group)
SafeSearch enforcement (DNS-based) for major search engines per policy (user/group)
Web keyword monitoring and enforcement to log, report or block web content matching keyword lists with the option to upload customs lists
Block Potentially Unwanted Applications (PUAs)
Web policy override option for teachers or staff to temporarily allow access to blocked sites or categories that are fully customizable and manageable by select users
User/Group policy enforcement on Google Chromebooks
Control Center widget displays amount of data uploaded and downloaded to cloud applications categorized as new, sanctioned, unsanctioned or tolerated
Application Protection and Control
Synchronized App Control to automatically, identify, classify, and control all unknown Windows and Mac applications on the network by sharing information between Sophos-managed endpoints and the firewall
Signature-based application control with patterns for thousands of applications
Cloud Application Visibility and Control to discover Shadow IT
App Control Smart Filters that enable dynamic policies which automatically update as new patterns are added
Micro app discovery and control
Application control based on category, characteristics (e.g., bandwidth and productivity consuming), technology (e.g. P2P), and risk level
Per-user or network rule application control policy enforcement
Zero Day Protection
Inspects executables and documents containing executable content (including .exe, .com, and .dll, .doc, .docx, docm, and .rtf and PDF) and archives containing any of the file types listed above (including ZIP, BZIP, GZIP, RAR, TAR, LHA/LZH, 7Z, Microsoft Cabinet)
Aggressive behavioral, network, and memory analysis
Suspicious files subjected to threat intelligence analysis in parallel with full sandbox analysis

Machine Learning technology with Deep Learning scans all dropped executable files	
Includes exploit prevention and Cryptoguard Protection technology from endpoint security	
In-depth malicious file reports and dashboard file release capability	
Optional data center selection and flexible user and group policy options on file type, exclusions, and actions on analysis	
Sandboxing enginee should have powered by AI analysis engine	
License Includes :	
Network Protection Subscriptions (IPS,HTML5, ATP, Anti-malware),	
Web Protection Subscriptions (URL, AppCtrl, Web/App Traffic Shaping),	
Zero Day Protection	
24 X 7 hardware & warranty support from OEM	

4. L3 Switch

Sl.	Technical Specification
1	**Architecture**
	Shall be 19" Rack Mountable
	The switch should support two field-replaceable and hot- swappable power supply loaded from day one. The switch should have 1x Console Port,1x OOBM port 1x USB Type A Host port
	The switch should have minimum 8GB DRAM, 32GB eMMC/Flash Memory
	The Switch should support minimum 32000 MAC address
	The switch should have minimum 60K Ipv4 Unicast Routes ,60K Ipv6 Unicast Routes ,8K Ipv4/Ipv6 Multicast Routes
	The switch should have minimum 24x1/10G SFP+ ports and 2x 10G/25G SFP+ uplink ports.
	The switch should have minimum 680 Gbps of Switching Capacity and 500 Mpps Throughput Capacity
2	**IPv6 feature**
	IPv6 host enables switches to be managed in an IPv6 network
	Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols
	MLD snooping forwards IPv6 multicast traffic to the appropriate interface
	IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	IPv6 routing supports Static and OSPFv3 protocols
	RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping
3	**High Availability And Resiliency**
	The switch should support stacking functionalities with minimum 200 Gbps of stacking bandwidth using Uplink or Stacking ports. The switch should support minimum 8 switch in a stack.
	The Switch should support Bidirectional Forward Detection (BFD) to enable sub-second failure detection for rapid routing protocol re-balancing

	The Switch should support Virtual Router Redundancy Protocol (VRRP) to allow groups of two routers to dynamically create highly available routed environments in IPV4 and IPV6 networks
	The Switch should support Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni- directional traffic is detected, preventing loops in STP- based networks
	The Switch should support IEEE 802.3ad LACP supports up to 256 LAGs, each with up to 8 links per LAG and provide support for static or dynamic groups and a user-selectable hashing algorithm
4	**Management**
	The Switch should support Built-in programmable and easy to use REST API interface
	The Switch should support Industry-standard CLI with a hierarchical structure
	The Switch should support SNMP v2c/v3 provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions sFlow (RFC 3176)
	The Switch should support TFTP and SFTP support offers different mechanisms for configuration updates;
	The Switch should support Debug and sampler utility support ping and traceroute for IPv4 and IPv6
	The Switch should support Network Time Protocol (NTP) synchronizes timekeeping among distributed time servers and clients
	The Switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP) advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
	The Switch should support Multiple configuration files which can be stored to a flash image
	The Switch should support Ingress and egress port monitoring enable more efficient network problem solving
	The Switch should support IP SLA for Voice monitors quality of voice traffic using the UDP Jitter and UDP Jitter for VoIP tests
5	**Multicast**
	The Switch should support Protocol Independent Multicast (PIM) defines modes of IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information and support PIM Sparse Mode (SM) and Dense Mode (DM) for both IPv4 and IPv6
	The Switch should support Internet Group Management Protocol (IGMP) and Any-Source Multicast (ASM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
	The Switch should support Multicast Service Discovery Protocol (MSDP) to efficiently routes multicast traffic through core networks
6	**Layer 2 Switching**
	The Switch should support VLAN and tagging for IEEE 802.1Q (4094 VLAN IDs)
	The Switch should support Jumbo packet to improves the performance of large data transfers and support frame size of up to 9198 bytes

		The Switch should support Rapid Per-VLAN Spanning Tree (RPVST+) to allow each VLAN to build a separate spanning tree to improve link bandwidth usage.
		The Switch should support MVRP or equivalent to allow automatic learning and dynamic assignment of VLANs
		The Switch should support VXLAN encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment
		The Switch should support Bridge Protocol Data Unit (BPDU) tunnelling to Transmits STP BPDUs transparently
		The Switch should support STP supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
7	**Layer 3 Routing-From Day-1**	
		The Switch should support Border Gateway Protocol (BGP) provides IPv4 and IPv6 routing.
		The Switch should support Equal-Cost Multipath (ECMP) enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
		The Switch should support Open shortest path first (OSPF) delivers faster convergence.
		The Switch should support OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing
		The Switch should support Policy-based routing and uses a classifier to select traffic that can be forwarded based on policy set by the network administrator
		The Switch should support Static IPv4 and IPv6 routing to provide simple manually configured IPv4 and IPv6 routes
		The Switch should support EVPN,VRF
8	**Security**	
		The Switch should support integrated trusted platform module (TPM) or equivalent for platform integrity. This ensure the boot process started from a trusted combination of switches.
		The Switch should support ACLs filtering based on the IP field, source/ destination IP address/subnet, and source/ destination TCP/UDP port number on a per-VLAN or per-port basis
		The Switch should support Remote Authentication Dial-In User Service (RADIUS) and TACACS
		The Switch should support Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks
		The Switch should support Web-based authentication provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support IEEE 802.1X
		The Switch should support MAC-based client authentication
		The Switch should support Concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
		The Switch should support DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

	The Switch should support Switch CPU protection to provide automatic protection against malicious network traffic trying to shut down the switch
	The Switch should support Identity-driven ACL to enable implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
	The Switch should support STP BPDU port protection to block Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
	The Switch should support Dynamic IP lockdown with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
	The Switch should support Dynamic ARP protection to blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
	The Switch should support STP root guard to protects the root bridge from malicious attacks or configuration mistakes
	The Switch should support MAC address lockout to prevent particular configured MAC addresses from connecting to the network
	The Switch should support Secure Sockets Layer (SSL) to encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
	The Switch should support Secure FTP to allow secure file transfer to and from the switch and protect against unwanted file downloads or unauthorized copying of a switch configuration file
	The Switch should support Critical Authentication Role to ensure that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server
	The Switch should support Management Interface Wizard to help secure management interfaces such as SNMP, telnet/SSH, SSL, Web.
	The Switch should support Security banner displays a customized security policy when users log in to the switch
	The Switch should support Green initiative for RoHS (EN 50581:2012) and WEEE regulations
9	**Certification**
	EN /EC;FCC part 15 Class A;VCCI Class A, CISPR 22 Class A ,CISPR 32 Class A

5. L2 Switch (24-Port Non-PoE Switch)

Sl.	Technical Specifications
1	**Physical Characteristics and Architecture Requirements**
	The switch should be 1U 19" Rack Mountable, mounting kit should be included
	The switch should have 24 Port Gigabit (10/100/1000 Mbps) ports and 4 x 1/10G SFP+ Uplink ports.
	The switch should have dedicated console port
	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source
2	**Performance Requirements**

	The switch should have minimum 4GB DRAM, 16GB eMMC/Flash Memory
	The proposed switch should have minimum 128 Gbps switching capacity
	The switch should have minimum 8,000 MAC Address Table size
	The switch should support minimum 500 IPv4/v6 routes and 256 IPv4 ACLs and 128 IPv6 ACLs
3	**Layer-2, QoS and Security Features**
	The switch should support Spanning Tree Protocol (STP/RSTP/MSTP),LACP,Voice VLAN
	The switch should support IEEE 802.1Q VLANs (500 active VLANs) and MVRP or equivalent for automatic learning and dynamic assignment of VLANs
	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification, Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic.IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications
	The switch should support Control Plane Policing, STP BPDU port protection, DHCP (snooping) protection, dynamic ARP protection and port security, Security provides RA guard, dynamic IPv6 lockdown, and ND snooping
4	**Layer-3 Routing and Services Features from day-1**
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent
7	**Support and Warranty**
	The switch shall be offered with minimum 3 years hardware warranty with Technical support from OEM directly

6. Information Outlet (I/0)

1	Type	Cat 6 DataGate Plus jack is designed to maintain clean secure connections. The RJ-45 jack features 'spring-loaded shutter' which protects it from dust and contaminants as well as provides tactile feedback –the spring-loaded shutter pops out an improperly seated patch cord–all with single-handed plug-in and removal.
2	Wire terminal	200 termination cycles
3	Modular Jack	750 mating cycles
4	Plastic Housing	Polycarbonate, UL94V-0 rated or equivalent
5	IDC Contact Plating	Tin/Lead Plate
6	Dust Proof	Each port features the patented spring-loaded shutter in Jack: – prevents incomplete mating – protects from dust and contaminants
7	ROHS/ELV	ROHS Compliant
8	Commercial Standards:	TIA/EIA-568-C.2 Component Compliant FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant Verified for Category 6 Component Compliance & UL listed

7. Patch Panel

Cat6 24 Port Loaded UTP Patch Panel 1U Height		
1	Material	Rack mount 19" 1U, CRS - Cold Rollrd Steel (Thickness - 1.5mm) with ROHS Compliant
2	Rear Cable Manager	Flat type metal with Perforated Rear Cable Manager to hold CAT6 UTP Cable with velcro cable ties
3	Jack Connector	Plastic Housing: Polycarbonate, UL94V-0 rated Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 50µ" Gold/100µ" Nickel Contact Force: 100g minimum Plug Retention Force: 15 lb. IDC Contact Plating: Tin/Lead Plate Wire Accommodation: 22-24 AWG solid
4	RJ45 I/O Compatibility	Individual Compatiable RJ45 Jack
5		Pointed IDC Tower on RJ45 Jack for easy termination

6		Jack should have Half Plugged Patch Cord should be spitted out if not properly plugged in
7	Dust Proof	Each port features the patented spring-loaded shutter: – prevents incomplete mating – protects from dust and contaminants
8	Dimension	44mm H x 483mm W x 98mm D
9	Labels	Should include labels with transparent clear label covers at the front and Port number at the back. 4 x 6 ganged jack configuration
10	Commercial Standards:	TIA/EIA-568-B.2-1 Component Compliant FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant ETL Verified for Category 6 Component Compliance

8. Patch Cord – 1 Mtr

Cat 6 4-Pair UTP Patch Cords 1 Mtr		
1	Mechanical Characteristics – Cable	Conductor size: 24 AWG stranded copper wire Nom. O.D.: 5.9mm Sheath: LS0H Bend radius: 4X O.D. Operating temperature range: -20°C to 60°C
2	Mechanical Characteristics – Plug	MIN operating life: 750 insertion cycles RJ45 plug and boot material: Clear polycarbonate Contact material: 0.35mm thick copper alloy Contact plating: Selective gold RJ45 plug dimensions compliant with: ISO/IEC 60603-7-4 and FCC 47 Part 68
	Electrical Characteristics	Max voltage: 150 VAC (max) Max current: 1.5A @ 25°C
3	Boots	Transparent Plug with anti-snag slip on boots
5	Sheath Standards	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034
6	Separator	Cross / Star Spine to separate 4Pairs Patch Cords
7	Standards	ETL Certified with ANSI/TIA-568-C.2, ISO/IEC 11801 Category 6
8	Operating Temperature	-20 Degrees to +60 Degrees
9	Color	Minimum 7 color options

9. Patch Cord – 2 Mtr

Cat 6 4-Pair UTP Patch Cords 2Mtrs		
1	Mechanical Characteristics – Cable	Conductor size: 24 AWG stranded copper wire Nom. O.D.: 5.9mm Sheath: LS0H Bend radius: 4X O.D. Operating temperature range: -20°C to 60°C
2	Mechanical Characteristics – Plug	MIN operating life: 750 insertion cycles RJ45 plug and boot material: Clear polycarbonate Contact material: 0.35mm thick copper alloy Contact plating: Selective gold RJ45 plug dimensions compliant with: ISO/IEC 60603-7-4 and FCC 47 Part 68
	Electrical Characteristics	Max voltage: 150 VAC (max) Max current: 1.5A @ 25°C
3	Boots	Transparent Plug with anti-snag slip on boots
5	Sheath Standards	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034
6	Separator	Cross / Star Spine to separate 4Pairs Patch Cords
7	Standards	ETL Certified with ANSI/TIA-568-C.2, ISO/IEC 11801 Category 6
8	Operating Temperature	-20 Degrees to +60 Degrees
9	Color	Minimum 7 color options

10. LC-LC Patch Cord

Fiber Patch cord LC LC SM 3.0 Mtrs		
Sl.	Specifications	Requirement
1	Make and Type	LC to LC / SC to LC Duplex tuned Fiber Optic Patch Cord 3 Mtr, 9/125 Micron
2	Cable Sheath	LSZH
3	Cable Diameter	1.8 mm twin zip
4	Ferrule	Ceramic
5	Buffer	Tight buffered
6	Insertion Loss	MAX .3 db
7	Return Loss	> 45 db
8	Temperature Range	.-10 Degree C to +60 Degree C
9	ROHS	ROHS Compliant

11. Cat 6 Cable

	Cat 6 UTP 23 AWG UTP Cable	
1	Cat 6	Should meet minimum Category 6 requirements
2	Type of Conductors and Grade	4 Pair 23 AWG Solid Copper Conductors with FR Grade
3	Frequency	Characerised to 600Mhz
4	Standards in Compliance with Third Party Certification	ETL Certified ANSI/TIA-568-C.2, ISO/IEC 11801 and EN50173-1 Category 6
5	Performance Testing Compliance	Zero Bit Error Performance Testing by ETL
6	Jacket	FR PVC/LSZH
7	Separator	Incorporates central X-shaped polymer spine maintaining 4 pairs separation.
9	Mechanical Characteristics	Conductor: Solid Bare Copper AWG: 23 Conductor Dia Norm: 0.574 Insulation: PE Average Thickness (±0.03mm): 0.23 Min. Point Thickness (mm): 0.18 Insulation Dia. (±0.05mm): 1.04 Twisting Lay Length (mm): 30underneath Cabling Lay Length (±10mm): 140 Filler: PE Average Thickness (±0.05mm): 0.50 Min. Point Thickness (mm): 0.46 Outer Dia. (±0.15mm): 6.20 Temperature: Max 75°C
10	Certification	UL Listed and ROHS Compliant
11	Rating	CM - For Horizontal Cabling
12	Color	Blue

12. 42 U RACK

Floor Standing Networking/Server Enclosure
Rack 600mmW 42U/ 1000mmD (CRCA Steel Frame with Aluminum Profiles & 2 Nos. of Removable Side Panels with following item: - Top cover with cable entry -1no. - Bottom cover with cable entry -1no. - 19" Mounting Angles – 2 pairs, Finish : Powder coated to 80 microns;Matt finish. colour: BLACK)
Front Fully Perforated (HEXAGONAL) door 600mmW 42U with lock

Rear Fully Perforated (HEXAGONAL) door 600mmW 42U with lock.	
PDU Vertical Iindian Round 12 socket 5x15Amp with 32 Amp MCB	
Equipment Shelf 725MMD	
Fan 230 VAC 90CFM	
Vertical Cable Manager	
Hardware front panel (20 nos/pkt)- 1 pkt	
Castor (Set of 4)- 1 set	

13. MFP (Printer with Scanner)

Print technology	Laser
Cartridge type	Composite
Function	Print/Scan/Copy
print speed A4	35 ppm or higher, 31 ppm duplex
Processor	1200 MHz or higher
Memory	512 MB
Connectivity	Hi-Speed USB 2.0; Gigabit Ethernet 10/100/1000Base-TX; Dual-band (2.4/5.0GHz) Wireless 802.11b/g/n, Bluetooth® Low Energy
Scan speed	Up to 29 ppm (b&w), up to 20 ppm (color)
Scan file format	JPEG, TIF, PDF
Input tray	250-sheet input tray, 100-sheet multipurpose tray
Duplex printing	Automatic
ADF capacity	50 sheet or higher
Duty cycle	80,000 pages or higher
Starter toner	1500 pages or higher
Warranty	3 years onsite warranty

14. 10 KVA Online UPS

UPS -10 KVA Online	
Characteristic	**Specification**
Capacity	10KVA, 9000 Watt
Topology	True Online Double Conversion UPS Standalone UPS with single battery bank
Technology	IGBT (Rectifier & Inverter both)
INPUT	
Input Facility	1Ø, 2-wire & Ground, (Phase & Nuetral + Ground)
Input Voltage Range	1Ph,L-N+PE (175 to 280 Vac on full load & shall support 120VAC-290VAC at 50% load).

Input Frequency Range	45 ~55Hz
Input Power Factor	≥0.99
OUTPUT	
Power Factor	0.9
Nominal Output Voltage	220/230/240Vac shall be available with +/-1% regulation in battery mode
Voltage regulation	± 1% static, ± 5% for Dynamic Load
Nominal Frequency	50Hz±2% (Synchronized to Mains)
Waveform	Sine wave
Crest factor	3:1
Total harmonic distortion (THDv)	< 3% (linear load); <5% (nonlinear load)
Output Short Circuit Protection	Electronic, trip
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: < 4ms
Maintenance Bypass	Automatic & Manual
Output Connection	Terminal at bottom
DC Ripple factor	≤1%
Efficiency	Overall (AC to AC) : > 90%
Overload Protection	>100% ~ 110%: for 5 mins;
	>110% ~ 125%: for 1 min;
Surge Protection Device(SPD):	Type 2 , Single Phase Two pole , AC - SPD
	Suitable for TNS System (1Ph+N) ,
	Un - 230 VAC
	Uc - 320V
	Imax - 40kA
	In - 20kA
	Up - <= 1.5kV
	1. Should have Reversible installation facility : reversible chassis to allow cable entry from above or below
	2. Should have clear display of protection end of life of cartridge.
	3. Two types of terminal : for rigid or flexible cable and for fork type comb bus bar.
	4. Should have thermal disconnection system.
	5. Should have Cartridge security System : vibration proof insertion 'click' effect .
	6. Should have individual Mechanical cartridge Coding for safety system to avoid possible cartridge replacement error.

BATTERY & BATTERY BANK CHARGER	
DC BUS voltage	192-240VDC
VAH Require	8064VAH for 30 Min Backup
Batteries Type	SMF BATTERY
Battery re-charge time (After complete discharge) to 90% capacity	8-10 Hours
Battery Housing	Should be compact and space saving MS Steel Open Racks complete with interconnectors
Interfaces	Should support DOS/UNIX/WINDOWS OS, RS 232 Connector should be available
Cold Start	should be provided
Self Diagnosis	UPS should be capable to carry out self test of Rectifier/Charger & Inverter Module during start up
Environmental	
Operating Temperature	0-50 deg C with full load
Type of Cooling	Forced Air
Noise Level	<55 dBA at 1 meter distance
Auto Start, Cold Start & EPO	Shall be available
Humidity	0%-95% non-condensing
INGRESS PROTECTION	IP 20 As per IEC60529 , Certificate must be submit at the time of bidding
MEASUREMENTS (ON LCD)	Input & Output Voltage, Input & Output Frequency, Bypass: Voltage & Frequency, Battery Level Indicator, Load Level indicator, Fault codes, , Overload, Short circuit, Low Battery.
CERTIFICATIONS	
ISO Certification	BIS Certificate, ISO 9001:2015, ISO14001:2015, ISO45001:2018, ISO 20000-1:2011, ISO 27001:2013, ISO50001:2018, ISO14025:2006
CE Certification (Safety)	CE Certification
Test Certificates	Test Report of UPS should be enclosed conducted from reputed NABL accredited Laboratory for the quoted model complying all technical parameters conducted within last 5 years from the date of opening of Bid.
SUPPORT	
Web/Window base Support	It is mandatory to provide online centralized call tracking system Like OVSD (Open view Service Desk) for monitoring of logged calls viewing through web / windows based access for at least 2 officials.

15. Steel Raceway

16. Others cable and accessories.

17. Digital Library Software

1. **Digital Content Management:**

   - Centralized Repository: Store and organize digital books, journals, articles, and multimedia content in a centralized repository.

   - Metadata Management: Easily catalog and classify digital assets with comprehensive metadata, including titles, authors, subjects, and keywords.

   - Version Control: Maintain version control for digital assets to track revisions, updates, and historical changes.

2. **User Authentication and Access Control:**

   - User Authentication: Secure access to digital content with user authentication mechanisms, including username/password, single sign-on (SSO), or integration with existing authentication systems.

   - Role-Based Access Control (RBAC): Define user roles and permissions to control access to different categories of digital content based on user roles and privileges.

   - Guest Access: Provide limited access to non-registered users or guests for browsing and previewing digital content.

3. **Search and Discovery:**

   - Advanced Search: Enable users to perform advanced searches based on various criteria, including title, author, keyword, publication date, and content type.

   - Filters and Facets: Facilitate content discovery with filters and facets to refine search results by attributes such as subject, genre, language, and availability.

   - Recommendation Engine: Implement a recommendation engine that suggests relevant content based on user preferences, search history, and reading patterns.

4. **Reading and Viewing Experience:**

   - Online Reading: Provide an integrated online reading experience for digital books, journals, and articles with features such as page flipping, zooming, and bookmarking.

   - Multimedia Support: Support for multimedia content formats, including audio, video, and interactive media, enhancing the richness of the reading experience.

- Compatibility: Ensure compatibility with a wide range of devices, including desktops, laptops, tablets, and smartphones, for seamless access to digital content anytime, anywhere.

5. **Collaboration and Engagement:**

- Discussion Forums: Foster collaboration and knowledge sharing among users with discussion forums, comment sections, and social sharing features.

- Annotation and Highlighting: Enable users to annotate and highlight digital content, making it easier to capture insights, take notes, and share annotations with others.

- User Feedback: Collect feedback and ratings from users to improve content quality, relevance, and user experience over time.

6. **Analytics and Reporting:**

- Usage Analytics: Track and analyze user interactions, including page views, downloads, searches, and reading durations, to gain insights into user behavior and preferences.

- Reporting Tools: Generate customizable reports and dashboards to visualize analytics data and share insights with stakeholders, administrators, and content creators.

7. **Administration and Management:**

- Content Management: Manage digital content lifecycle, including acquisition, cataloging, indexing, and archiving, with intuitive administrative tools.

- User Management: Administer user accounts, roles, and permissions, including user registration, authentication, and account provisioning.

- System Configuration: Configure system settings, preferences, and customization options to align with organizational policies, branding, and user preferences.

18.12.4   Technical Specification for Data Networking Setup

1. Access Points

Sl.	Technical Specification for Indoor AP
1	Access Point radio should be minimum 4x4 MIMO with 4 spatial streams on 5ghz . The AP should have Dual Radio 802.11ax access point with OFDMA and Multi-User MIMO (MU-MIMO) functionalities.
2	Access Point should be 802.11ax ready from day one and support WPA3.
3	AP should have one SmartRate port (RJ-45, maximum negotiated speed 2.5Gbps) Auto-sensing link speed (100/1000/2500BASE-T) and one 10/100/1000 Mbps speed LAN port. Should support Link aggregation (LACP) support between both network ports for redundancy and increased capacity.
4	The access point should support technology that eliminates sticky client issues by steering a client to the AP where it receives the best radio signal also dynamically steers traffic to load balance APs to improve the user experience
5	Should have minimum aggregate data rate of 2.6 Gbps
6	Access Point can have internal antenna
7	Access point should have inbuilt Bluetooth 5 and Zigbee support from day-1
8	Access point should have Internal/External Bluetooth Low energy beacon to support advance location based services for Mobile engagement solutions and Applications.
9	Should support 16x BSSID per AP radio.
10	The access point should be capable of performing security scanning and serving clients on the same radio.
11	Should support BPSK, QPSK, 16-QAM, 64-QAM, 256 QAM and 1024 QAM modulation types
12	Access point should support 802.3af/at POE standard.
13	Access point should have option of external power adaptor as well.
14	Access point should have dedicated console port
15	The Access Point should have the technology to improve downlink performance to all mobile devices.
16	Access point must incorporate radio resource management for power, channel, coverage hole detection and performance optimization
17	AP should support standalone mode/ Inbuilt Virtual controller mode for specific requirements.
18	The AP should support Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing
19	The AP should support deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories

20	The Access point should support Transmit beam-forming (TxBF) for increased signal reliability and range
21	The Access point should support 802.11ax Target Wait Time (TWT) to support low-power client devices
22	Regulatory Compliance FCC/ISED CE Marked RED Directive 2014/53/EU EMC Directive 2014/30/EU Low Voltage Directive 2014/35/EU UL/IEC/EN 60950 EN 60601-1-1, EN60601-1-2
23	Certifications UL2043 plenum rating Wi-Fi Alliance: Wi-Fi CERTIFIED a, b, g, n, ac Wi-Fi CERTIFIED ax WPA, WPA2 and WPA3 - Enterprise, Personal,WMM Passpoint (release 2) Ethernet Alliance (POE, PD device, class 4)
24	Environmental The proposed Access Point should have Operating temperature of 0-50 degree.

2. Outdoor Access Point

Sl.	Technical Specification for Outdoor AP
1	Outdoor Access Point should be Weatherproof and temperature-hardened and Access Point radio should be minimum 4x4 MIMO with 4 spatial streams on 5ghz.Should have peak antenna gain of 3dBi in 2.4GHz and 5dBi in 5GHz.
2	Access Point should be 802.11ax ready from day one and support WPA3 and Enhanced Open security from day one and support Multi-User MIMO (MU-MIMO)
3	AP should have 1x1x100/1000 Base-T and 1x100/1000/2500 Base-T Ethernet ports(POE) port.
4	Access point should support AI power Built-in technology that resolves sticky client issues for Wi-Fi 6 and Wi-Fi 5 devices
5	Access point should support OFDMA and MU-MIMO for enhanced multi-user efficiency
6	Access point should support integrated Bluetooth 5 and 802.15.4 radio (for Zigbee support) support to simplify deploying and managing location services
7	Minimum aggregate data rate of 3 Gbps.
8	Access Point can have integrated internal antenna
9	Should support 16x BSSID per AP radio.
10	The access point should be capable of performing security scanning and serving clients on the same radio.

11	The access point should support AI-powered technology that eliminates sticky client issues by steering a client to the AP where it receives the best radio signal also dynamically steers traffic to load balance APs to improve the user experience
12	Should support BPSK, QPSK, 16-QAM, 64-QAM, 256 QAM and 1024 QAM modulation types
13	Access point should support 802.3af/at POE standard.
14	Access point should have console port.
16	Access point must incorporate radio resource management for power, channel, coverage hole detection and performance optimization
17	AP should support standalone mode/ Inbuilt Virtual controller mode for specific requirements.
18	The AP should support Supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing
19	The AP should support deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories
20	The Access point should support 802.11ax Target Wait Time (TWT) to support low-power client devices
21	The Access point should support Transmit beam-forming (TxBF) for increased signal reliability and range
22	Regulatory Compliance FCC/ISED • CE Marked • RED Directive 2014/53/EU • EMC Directive 2014/30/EU • Low Voltage Directive 2014/35/EU • UL/IEC/EN 60950 • EN 60601-1-1, EN60601-1-2
23	Certifications CB Scheme Safety, cTUVus • UL2043 plenum rating • Wi-Fi Alliance certified 802.11a/b/g/n/ • Wi-Fi Alliance certified Wi-Fi 6 (802.11ax) • Wi-Fi CERTIFIED ac (with wave 2 features) • Passpoint (Release 2) with HPE Aruba Networking Operating System and Instant
24	Environmental Operating Temperature: -40° C to +65° C (-40° F to +149° F) Humidity: 5% to 93% non-condensing internal to chassis. Water and dust: IP66/67 Salt tolerance: tested to ASTM B117-07A salt spray 200hrs Wind survival: up to 165 Mph

3. 5 KVA UPS

Characteristic	Specification
Capacity	5KVA, 4000 Watt (1Øinput/ 1Ø output)
Topology	True Online Double Conversion UPS Standalone UPS with single battery bank
Technology	IGBT (Rectifier & Inverter both)
INPUT	
Input Facility	1Ø, 2-wire & Ground, (Phase & Nuetral + Ground)
Input Voltage Range	1Ph,L-N+PE 175 to 280 Vac on full load .
Input Frequency Range	47 ~53Hz
Input Power Factor	≥0.9
OUTPUT	
Power Factor	0.8
Nominal Output Voltage	220/230/240Vac shall be available with +/-1% regulation in battery mode
Voltage regulation	± 1% static, ± 5% for Dynamic Load
Nominal Frequency	50Hz±2% (Synrchonized to Mains)
Waveform	Sine wave
Crest factor	3:1
Total harmonic distortion (THDv)	< 3% (linear load); <5% (nonlinear load)
Output Short Circuit Protection	Electronic, trip
Transfer time	Mains mode to battery mode: 0 ms; Inverter mode to bypass mode: < 4ms
Maintenance Bypass	Automatic & Manual
Output Connection	Terminal at bottom
DC Ripple factor	≤1%
Efficiency	Overall (AC to AC) : > 90%
Overload Protection	>100% ~ 110%: for 5 mins;
	>110% ~ 125%: for 1 min;
Surge Protection Device(SPD):	Type 2 , Single Phase Two pole , AC - SPD
	Suitable for TNS System (1Ph+N) ,
	Un - 230 VAC
	Uc - 320V
	Imax - 40kA
	In - 20kA
	Up - <= 1.5kV
	1. Should have Reversible installation facility : reversible chassis to allow cable entry from above or below
	2. Should have clear display of protection end of life of cartridge.

	3. Two types of terminal : for rigid or flexible cable and for fork type comb bus bar.
	4. Should have thermal disconnection system.
	5. Should have Cartridge security System : vibration proof insertion 'click' effect .
	6. Should have individual Mechanical cartridge Coding for safety system to avoid possible cartridge replacement error.
Monitoring through SNMP	Should be available ((The Product complies with the requirements of the security relevant Standards according to IEC62443-4-1 and IEC62443-4-2, relevant certificate to be enclosed)
BATTERY & BATTERY BANK CHARGER	
DC BUS voltage	240 VDC
Battery Configuration	240 V,26AH,20 Nos SMF Battery for 30 Min Backup
Batteries Type	SMF BATTERY
Battery re-charge time (After complete discharge) to 90% capacity	8-10 Hours
Battery Housing	Should be compact and space saving MS Steel Open Racks complete with interconnectors
Interfaces	Should support DOS/UNIX/WINDOWS OS, RS 232 Connector should be available
Cold Start	should be provided
Self Diagnosis	UPS should be capable to carry out self test of Rectifier/Charger & Inverter Module during start up
Environmental	
Operating Temperature	0-50 deg C with full load
Type of Cooling	Forced Air
Noise Level	<55 dBA at 1 meter distance
Auto Start, Cold Start & EPO	Shall be available
Humidity	0%-95% non condensing
INGRESS PROTECTION	IP 20 As per IEC60529
MEASUREMENTS (ON LCD)	Input & Output Voltage, Input & Output Frequency, Bypass: Voltage & Frequency, Battery Level Indicator, Load Level indicator, Fault codes, , Overload, Short circuit, Low Battery.
CERTIFICATIONS	
ISO Certification	BIS Certificate, ISO 9001:2015, ISO14001:2015, ISO45001:2018, ISO 27001:2013, ISO50001:2018, ISO14025:2006,

CE Certification (Safety)	IEC /EN 62040-1-1 Safety, IEC/EN-50091-1-1,IEC/EN 60950,IEC/EN-50091-2,IEC/EN 62040-2,IEC 62040-3,IEC 60146,IEC/EN 61000-4-1 level4,IEC/EN 61000-4-2 level4,IEC/EN 61000-4-3 level4,IEC/EN 61000-4-4 level4,IEC/EN 61000-4-5 level4,IEC/EN 61000-4-6 level4, IEC 62443-4-1,IEC62443-4-2
Test Certificates	Test Report of UPS should be enclosed conducted from reputed NABL accredited Laboratory for the quoted model complying all technical parameters conducted within last 5 years from the date of opening of Bid.
SUPPORT	
Web/Window base Support	It is mandatory to provide online centralized call tracking system Like OVSD (Open view Service Desk) for monitoring of logged calls viewing through web / windows based access for at least 2 officials.

4. L2 Switch (24-Port Non-PoE Switch)

Sl.	Technical Specifications
1	**Physical Characteristics and Architecture Requirements**
	The switch should be 1U 19" Rack Mountable, mounting kit should be included
	The switch should have 24 Port Gigabit (10/100/1000 Mbps) ports and 4 x 1/10G SFP+ Uplink ports.
	The switch should have dedicated console port
	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source
2	**Performance Requirements**
	The switch should have minimum 4GB DRAM, 16GB eMMC/Flash Memory
	The proposed switch should have minimum 128 Gbps switching capacity
	The switch should have minimum 8,000 MAC Address Table size
	The switch should support minimum 500 IPv4/v6 routes and 256 IPv4 ACLs and 128 IPv6 ACLs
3	**Layer-2, QoS and Security Features**
	The switch should support Spanning Tree Protocol (STP/RSTP/MSTP),LACP,Voice VLAN
	The switch should support IEEE 802.1Q VLANs (500 active VLANs) and MVRP or equivalent for automatic learning and dynamic assignment of VLANs
	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification, Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic.IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications

	The switch should support Control Plane Policing, STP BPDU port protection, DHCP (snooping) protection, dynamic ARP protection and port security, Security provides RA guard, dynamic IPv6 lockdown, and ND snooping
4	**Layer-3 Routing and Services Features from day-1**
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent
7	**Support and Warranty**
	The switch shall be offered with minimum 3 years hardware warranty with Technical support from OEM directly

5. 8-Port POE Switch with loaded SFP modules

Sl.	Technical Specifications
1	**Physical Characteristics and Architecture Requirements**
	The switch should be 1U 19" Rack Mountable, mounting kit should be included
	The switch should have minimum 12 Port Gigabit (10/100/1000 Mbps) POE+ Switch and 2 x 1G SFP Uplink ports and 2x1G RJ45 port with 139W POE power budget
	The switch should have dedicated console port
	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source
2	**Performance Requirements**
	The switch should have minimum 4GB DRAM, 8GB eMMC/Flash Memory
	The proposed switch should have minimum 32 Gbps switching capacity
	The switch should have minimum 8,000 MAC Address Table size
	The switch should support minimum 500 IPv4/v6 routes and 256 IPv4 ACLs and 128 IPv6 ACLs
3	**Layer-2, QoS and Security Features**
	The switch should support Spanning Tree Protocol (STP/RSTP/MSTP),LACP, Voice VLAN
	The switch should support IEEE 802.1Q VLANs (500 active VLANs) and MVRP or equivalent for automatic learning and dynamic assignment of VLANs
	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification, Class of Service (CoS) sets the IEEE 802.1p priority

	tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic. IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications
	The switch should support Control Plane Policing, STP BPDU port protection, DHCP (snooping) protection, dynamic ARP protection and port security.
4	**Layer-3 Routing and Services Features from day-1**
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent

6. 24 Port Patch Panel with accessories

Sl.	Technical Specifications
1	**Physical Characteristics and Architecture Requirements**
	The switch should be 1U 19" Rack Mountable, mounting kit should be included
	The switch should have minimum 20 Port Gigabit (10/100/1000 Mbps) POE+ Switch and 2 x 1G SFP Uplink ports and 2x1G RJ45 port with 139W POE power budget
	The switch should have dedicated console port
	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source
2	**Performance Requirements**
	The switch should have minimum 4GB DRAM, 8GB eMMC/Flash Memory
	The proposed switch should have minimum 32 Gbps switching capacity
	The switch should have minimum 8,000 MAC Address Table size
	The switch should support minimum 500 IPv4/v6 routes and 256 IPv4 ACLs and 128 IPv6 ACLs
3	**Layer-2, QoS and Security Features**
	The switch should support Spanning Tree Protocol (STP/RSTP/MSTP),LACP, Voice VLAN
	The switch should support IEEE 802.1Q VLANs (500 active VLANs) and MVRP or equivalent for automatic learning and dynamic assignment of VLANs

	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) for real-time classification,Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
	The switch should support Access control lists (ACLs) for both IPv4 and IPv6 traffic. IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
	The switch should support concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port, up to 30 sessions of IEEE 802.1X, Web, and MAC authentications
	The switch should support Control Plane Policing, STP BPDU port protection,DHCP (snooping) protection, dynamic ARP protection and port security.
4	**Layer-3 Routing and Services Features from day-1**
	The switch should support IPv4 and IPv6 Static Routing
5	**Management Features**
	The switch should support SNMP and Remote monitoring (RMON)
	The switch should support sFlow or equivalent for traffic analysis. The switch should support Port mirroring
	The switch should support REST APIs or equivalent
	The switch should support TACACS+ and RADIUS
	The switch should have Command Line Interface (CLI) with a hierarchical structure and SSH, Secure FTP/TFTP support
	The switch should support Network Time Protocol (NTP) or SNTP
6	**Certifications and Industry Recognition**
	The switch should have RoHS compliance
	The switch should have safety/emissions certifications including UL/CUL 69050, EN 55024, VCCI Class A or equivalent

7. 12-U wall mount Network Enclosure

S. No.	Technical Specification
1	Racks manufactured out of steel sheet punched, formed, welded and Powder coated
2	Rack should be from ISO 14001 ,27000 Certified Company & UL Listed
3	Standard for Racks configuration will be welded frame with Integrated side panel and vented top cover
4	Rack should have Front tinted Glass door
5	Rack should have provision to mount racks on Wall
6	Rack should be 12U(1U = 44.45 mm) in Height.
7	It should be minimum 550MM Wide & 600MM Deep
8	Rack should Conforms to DIN 41494 or Equivalent EIA /ISO / EN/CEA Standard
9	Rack should have Adjustable mounting depth,
10	Rack 4 No Adjustable, 19" verticals with Punched 10mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern offers greater mounting flexibility, maximizes usable mounting space.
11	Rack should have Numbered U positions

12	Rack should have 100% assured compatibility with all equipment conforming to DIN 41494 (General industrial standard for equipment)
13	Powder coated finish with seven Tanks pre-treatment process meeting IS
14	Rack should have one Hoz. Cable Manager Loop 1U.
15	Rack should have one Cantilever shelf.
16	Rack should have Fan module Mount Provision on top Cover with minimum 1 no. 90 CFM Fan
17	Rack should have one Server /IT Rack mount power distribution unit, 1Ph, 230V, 8A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5A, Inlet Plug type 6A Indian Round Pin, 8A Fuse - PDU Rating 1.8KVA/Side feed-1.5Mt/ Black
18	Rack should have provision for cable entry Exit from Both top & Bottom.
19	Rack should have 1 Packet of mounting hardware, Pack of 20.

8.   6-Core Single Mode Fiber Cable

S.	Parameters	Specifications
1	Cable Type	6 Core fiber Cable, Single Mode OS2, Unitube Armored, Gel filled cable complying to ISO.IEC 11801 - 2nd Edition, EIA/TIA 568-C.3.;ITU-T REC G 652D IEC 60793/60794, spec for Low Water Peak fiber suitable for use in direct burial, outdoor ducts and backbone cabling.
2	Armour	Corrugated Steel Tape Armour -Thickness > 0.15mm
3	Water Blocking	Thixotropic Gel (Tube), Petroleum Jelly (Interstices)
4	Attenuation	1310nm <=0.35 db/Km MAX
		1550nm <=0.22 db/Km MAX
5	Attenuation Discontinuity	Both Windows <0.10dB
6	Fiber protection (Tube)	Polybutylene Terephthalate (PBT)
7	Core/Mode-Field (um)	9 ± 0.4 μm
8	Clad Diameter (um)	125 ± 1
9	Coat Diameter	245 ± 10
10	Loose tube material	Single PBTP Loose tube filled with water blocking Thixotropic gel
11	Jacket material	UV Stabilized Polyethylene (HDPE)
12	Peripheral Strength Member	Two Steel wires
13	Tensile Strength	1500N or better
14	Crush Resistance	2000N/10 cm
15	Cable Diameter	9.8mm or better

16	Max. Bending Radius (during installation)	20D
17	Fiber Identification	Color coded
18	Cable weight Kg/Km	95 kg/km or better
19	Operating Temperature	.-40 Degree C to +70 Degree C

9. Passive Components

Technical Specification		
Cat 6 UTP 23 AWG UTP Cable		
1	Cat 6	Should meet minimum Category 6 requirements
2	Type of Conductors and Grade	4 Pair 23 AWG Solid Copper Conductors with FR Grade
3	Frequency	Characterised to 600Mhz
4	Standards in Compliance with Third Party Certification	ETL Certified ANSI/TIA-568-C.2, ISO/IEC 11801 and EN50173-1 Category 6
5	Performance Testing Compliance	Zero Bit Error Performance Testing by ETL
6	Jacket	FR PVC/LSZH
7	Separator	Incorporates central X-shaped polymer spine maintaining 4 pairs separation.
9	Mechanical Characteristics	Conductor: Solid Bare Copper AWG: 23 Conductor Dia Norm: 0.574 Insulation: PE Average Thickness (±0.03mm): 0.23 Min. Point Thickness (mm): 0.18 Insulation Dia. (±0.05mm): 1.04 Twisting Lay Length (mm): 30underneath Cabling Lay Length (±10mm): 140 Filler: PE Average Thickness (±0.05mm): 0.50 Min. Point Thickness (mm): 0.46 Outer Dia. (±0.15mm): 6.20 Temperature: Max 75°C
10	Certification	UL Listed and ROHS Compliant
11	Rating	CM - For Horizontal Cabling
12	Color	Blue

	Cat6 24 Port Loaded UTP Patch Panel 1U Height	
1	Material	Rack mount 19" 1U, CRS - Cold Rolled Steel (Thickness - 1.5mm) with ROHS Compliant
2	Rear Cable Manager	Flat type metal with Perforated Rear Cable Manager to hold CAT6 UTP Cable with Velcro cable ties
3	Jack Connector	Plastic Housing: Polycarbonate, UL94V-0 rated Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 50µ" Gold/100µ" Nickel Contact Force: 100g minimum Plug Retention Force: 15 lb. IDC Contact Plating: Tin/Lead Plate Wire Accommodation: 22-24 AWG solid
4	RJ45 I/O Compatibility	Individual Compatible RJ45 Jack
5		Pointed IDC Tower on RJ45 Jack for easy termination
6		Jack should have Half Plugged Patch Cord should be spitted out if not properly plugged in
7	Dust Proof	Each port features the patented spring-loaded shutter: – prevents incomplete mating – protects from dust and contaminants
8	Dimension	44mm H x 483mm W x 98mm D
9	Labels	Should include labels with transparent clear label covers at the front and Port number at the back. 4 x 6 ganged jack configuration
10	Commercial Standards:	TIA/EIA-568-B.2-1 Component Compliant FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant ETL Verified for Category 6 Component Compliance
	Cat 6 4-Pair UTP Patch Cords 0.5, 1, 2, 3Mtrs	
1	Mechanical Characteristics - Cable	Conductor size: 24 AWG stranded copper wire Nom. O.D.: 5.9mm Sheath: LS0H Bend radius: 4X O.D. Operating temperature range: -20°C to 60°C
2	Mechanical Characteristics - Plug	MIN operating life: 750 insertion cycles RJ45 plug and boot material: Clear polycarbonate Contact material: 0.35mm thick copper alloy Contact plating: Selective gold RJ45 plug dimensions compliant with: ISO/IEC 60603-7-4 and FCC 47 Part 68

	Electrical Characteristics	Max voltage: 150 VAC (max) Max current: 1.5A @ 25°C
3	Boots	Transparent Plug with anti-snag slip on boots
5	Sheath Standards	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034
6	Separator	Cross / Star Spine to separate 4Pairs Patch Cords
7	Standards	ETL Certified with ANSI/TIA-568-C.2, ISO/IEC 11801 Category 6
8	Operating Temperature	-20 Degrees to +60 Degrees
9	Color	Minimum 7 color options

Cat 6 Information Outlet

1	Type	Cat 6 Data Gate Plus jack is designed to maintain clean secure connections. The RJ-45 jack features 'spring-loaded shutter' which protects it from dust and contaminants as well as provides tactile feedback –the spring-loaded shutter pops out an improperly seated patch cord–all with single-handed plug-in and removal.
2	Wire terminal	200 termination cycles
3	Modular Jack	750 mating cycles
4	Plastic Housing	Polycarbonate, UL94V-0 rated or equivalent
5	IDC Contact Plating	Tin/Lead Plate
6	Dust Proof	Each port features the patented spring-loaded shutter in Jack: – prevents incomplete mating – protects from dust and contaminants
7	ROHS/ELV	ROHS Compliant
8	Commercial Standards:	TIA/EIA-568-C.2 Component Compliant FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant ETL Verified for Category 6 Component Compliance & UL listed

cat6 Single / Dual / Quad Face Plate

1	Face Plate	Synergy Face plates 86 x 86mm. Colour of the Jack should be visible to identify the application of Data, Voice and Redundant Port
2	Colour of the Face Plate	White
3	Grade	Fire Retardant
4	Made of	PS / ABS Rugged plastic with ROHS Compliant
5	Face Plate should support Multiple Jack	Capable of supporting – UTP Jack, STP Jack, Fiber Coupler and Coax Connector.
6	Back Box	Back Box should be supplied as per Faceplate

Fiber Patch cord LC LC SM 3.0 Mtrs		
Sl	**Specifications**	**Requirement**
1	Make and Type	LC to LC / SC to LC Duplex tuned Fiber Optic Patch Cord 3 Mtr, 9/125 Micron
2	Cable Sheath	LSZH
3	Cable Diameter	1.8 mm twin zip
4	Ferrule	Ceramic
5	Buffer	Tight buffered
6	Insertion Loss	MAX .3 db
7	Return Loss	> 45 db
8	Temperature Range	.-10 Degree C to +60 Degree C
9	ROHS	ROHS Compliant

10. Giga Media Converter

Giga Media converter
1000Base-T to 1000Base-LX Media converter
Fiber wavelength-1300nm
max distance-10Km
Ports One RJ - 45 and two Fiber port SC type connector
Mode-Single - mode
Auto MDI support
The Standalone Media Converters compliant with 802.3u & 802.3x.
Media converter provides data rates at Gigabit speeds
Store & forward traffic forwarding
Low latency
Operating Temperature 0° C to 50° C
Emission (EMI) & Safety Certifications CE, FCC

18.12.5 Technical Specification for Additional Items for Digital Library, Smart Class & Seminar Hall

1. Kiosk

Parameter	Specification
Type of Kiosk	Processor Based
Type Of Enclosure	Mild Steel
Thickness of Enclosure (mm)	Minimum 1.6mm
Chassis	Screw less
Mounting	Floor mount
Processor Make	Intel
Processor Configuration	Intel Core i5 12th generation
Operating System (Preloaded)	Windows 10 IOT LTSC
Memory (GB)	Minimum 8 GB
Storage	Minimum 1TB SSD
Display Size	Minimum 32 inches 350 nits
Resolution	1920 x 1080
Brightness (Nits)	Minimum 250
Display Type	Color LED touch Screen
Keyboard	Industrial Steel Touch Pad Keyboard
Touch Type	IR
Input / Output	Minimum 8 x USB, Mother Board Integrated **Dual LAN** Port, Wi-Fi, 1 x HDMI, 1x VGA , 6 x com port , MIC, Lin Out , Inbuilt SMPS
Certification on Automatic Data Processing Machine	CPU and Monitor same OEM BIS Certification, ROHS, FCC,CE , ISO 9001 , ISO 20000 , ISO 14001 ,ISO 27001, EPR certificate of OEM.
Kiosk Cabinet	The Kiosk shall be floor mount type.

2. Digital Locker (50 Box)

Parameter	Specification
Monitor	17" Monitor With Touch
CPU	Core i5
RAM	8 GB
SSD	512 GB
CAMERA	1.3 Mega Pixel
Biometric Device	Finger
Door Lock	Lock with door status detection
Dimension	Dimension 450 mm Depth , (380 mm Length X 380 mm Height) for each Locker Box
The required Digital Locker application software Integrated	

3. Device Cart

Parameter	Specification
Locker	10 Box (6 mobile charging and 4 Laptop charging) with finger based authentication
Type Of Enclosure	Mild Steel
Thickness of Enclosure (mm)	Minimum 1.6 or more
Chassis	Screw less
Mounting	Floor mount / Wall Mount
Controller	Embedded
CPU	Cori3 10th Generation
Display Size	Min 17inch touch or more
Finger Print	Automatic finger detection technology Image Quality standards (UIDAI, Aadhaar) Fake Finger Rejection Ultra-compact, lightweight, and portable USB connection
Camera	Resolution: 720p/30fps FoV: 60° Built-in mic: mono
Certification on Automatic Data Processing Machine	CPU and Monitor same OEM BIS Certification, ROHS, FCC,CE , ISO 9001 , ISO 20000 , ISO 14001 ,ISO 27001, EPR certificate of OEM.
Kiosk Cabinet	The Mobile Charging Locker shall be floor mount type

4. 55" Standee

Parameter	Specification
Type of Information KISOK	Processor Based
Type of Enclosure	Mild Steel
Processor Make	Intel
Processor Configuration	10th Generation Intel Core™ - i5 Processor
Processor Speed (GHz)	2.7 or Higher
Operating System (Pre-Loaded)	Window 10 IoT ENT
Memory (GB)	8GB DDR 4 – 2666 MHz RAM (1 x 8 GB)
Storage/HDD (GB)	1 TB 7200 RPM SATA HDD
Display Size 55"	55"
Display Type	Color LED Touch Screen
Touch Type	Infrared
Resolution	3840 x 2160 pixels
Brightness (nits)	500 nits

Multimedia (Optional)	*Video Decoder : MPEG-1/2/4, H.263, H.264/AVC, UHD H.264/AVC, VC-1,
	AVS+, HEVC, JPEG, PNG, VP8, VP9 *Audio Decoder : AC3 (DD), MPEG
IO Ports (ADPM)	USB 2.0 , USB 3.0 ,VGA/ HDMI Port, Dual LAN Port, Audio In and Out
BIS Registration	Automatic Data Processing Machine
Speakers	Yes
Weight	75kg
Dimension (mm) Standee	1800x850x125
Certification on Automatic Data Processing Machine	BIS ,ROHS, FCC,CE , ISO 9001 , ISO 20000 , ISO 14001 ,ISO 27001, EPR certificate of OEM.