

The Chief Executive Officer

Date: 12.02.2024

Tender ref: PTF/006/23-24/CIW

Due Date: 26.02.2024 @ 3 PM

Tenatative Technical Bid Opening: 27.2.2024 @ 11 AM

Dear Sir/Madam,

On behalf of the IITM Pravartak Technologies Foundation, offers are invited for the project of "**SELECTION OF AGENCY FOR DESIGN, PROCUREMENT AND EXECUTION OF INTERIOR WORKS**" conforming to the specifications given in **Technical Specification document – Annexure – III**

Instructions to the Bidder

- I. Prices:** - The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IITM Pravartak is eligible for concessional custom duty. Relevant certificates will be issued wherever necessary.
- II. Submission of the Tender:** - The tender shall be sent to the address mentioned below, either by post or by courier (duly sealed and super scribed on the envelope with the Vendor Email ID, Contact Number, tender reference No and due date & time) so as to reach our office before the due date and time specified in our schedule. The offer/bid can also be dropped in the tender box on or before the due date and time specified in the schedule.

The tender box is kept in the office of the:

IITM Pravartak Technologies Foundation,
B5, B Block, 5th Floor,
IITM Research Park, Tharamani,
Kanagam Road, Chennai – 600113.

- III. Late offer:** - The offers received after the due date and time will not be considered. IITM Pravartak, shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.

IV. Opening of the tender: - The offer/bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first, and examined by a technical committee which will decide the bids' suitability per our specifications and requirements. Bidders will be intimated for the opening procedure of the technical bids. And Only the Technically qualified bidder will be called for Financial Bid Opening.

V. Prices: - The price should be quoted only in INR net per unit (after the breakup) and must include all packing, transit insurance and delivery charges to the site (Sri Sathya Sai District, Andhra Pradesh, Palasamudram- 515241.)

a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be indicated separately.

VI. Terms of Delivery: -

Supplier will be fully responsible for the safe carriage of goods up to Palasamudram, Sri Sathya Sai District, Andhra Pradesh, Palasamudram-515241. Insurance coverage will be in the scope of the supplier.

The Installation/Commissioning should be completed as specified in our important conditions.

VII. IITM Pravartak reserves the full right to accept / reject any tender at any stage without assigning any reason.

Yours sincerely,

The Chief Executive Officer

IITM Pravartak Technologies Foundation,

IIT Madras Research park

Chennai – 600 113.

SCHEDULE

Important Conditions of the tender

1. The offers / bids should be submitted under two bid system (i.e.) Technical bid and financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate an item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Tender for "**SELECTION OF AGENCY FOR DESIGN, PROCUREMENT AND EXECUTION OF INTERIOR WORKS**" should be written on the left side of the Outer bigger cover and sealed.

****Note: Supplier contact details (Email, contact person, Phone number) to be specified clearly in the outer bigger cover for the purpose of sending communication regarding the Technical Bid opening.**

2. For the same tender, either the OEM or the authorized dealer/service provider can only quote. But both of them cannot quote separately for the same tender.
3. The offers/bids should be sent only for a solutions/product that are available in the market and supplied to a number of customers.
4. The original catalogue/Datasheet (not any photocopy) of the quoted solutions/product duly signed by the OEM/Bidder must accompany the quotation in the technical bid.
5. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the OEM/Bidder.
6. **Validity:** The validity of the Quotation should not be less than 120 days from the due date of tender.
7. **EMD:** Rs. 4,40,000/- (Rupees Four Lakhs and Forty Thousand Only) has to be paid by means of bank transfer. Bank Account Details are given below. Proof of remittance has to be enclosed along with technical bids; else the bid will be rejected due to non-enclosure of EMD. This Earnest Money will be returned to the unsuccessful tenderers after the finalization of the tenders. EMD will not carry any interest. EMD will not be waived under any circumstances. However, EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) and Startups as recognized by Department of Industrial Policy & Promotion (DIPP). **(MSE/MSME/DIPP PROOF should be enclosed in the cover containing technical bid).**

****Note: Any offer not accompanied with the EMD shall be rejected summarily as non-responsive.**

Account Name	IITM PRAVARTAK TECHNOLOGIES FOUNDATION
Account No	168001000711
IFSC CODE	ICIC0001680
Bank Name	ICICI
Branch Name	Adyar, Chennai
MICR No.	600229054
Account Type	Savings Account

8. Performance Security: - The successful bidder should remit Performance Security for an amount of 5 % of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD, FD Receipt in the name of "IITM PRAVARTAK TECHNOLOGIES FOUNDATION" from any scheduled commercial bank or Bank Guarantee from any scheduled commercial bank in India. The performance security should be furnished within 14 days from the date of the purchase order.

9. Delivery Delay: - In case there is any deviation in the delivery schedule, a liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.

In the event of **delay or non-supply of materials/execution of Contract** beyond the date of delivery/completion of job. The penalty will be levied @1% per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than accepted time frame by IITM Pravartak, the PO would be cancelled and liquidated damages will be enforced.

10. Risk Purchase Clause: - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

11. On-site Installation: - The equipment or machinery has to be installed or commissioned by the successful bidder within the number of days (as prescribed by PI) from the date of receipt of the item at the site of IITM Pravartak or location specified in PO.

12. Warranty: - All machinery/equipment/software should have 3 Years warranty. Any extended warranty offered for the same has to be mentioned separately.

**** Note: PO which involves installation, warranty/guarantee shall be applicable from date of installation.**

13. Acceptance and Rejection: - IITM Pravartak has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

14. Do not quote optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.

15. Debarment from Bidding: In case of breach of Terms & Conditions, Bidder may be suspended from being eligible for bidding in any contract with IITM Pravartak for up to 2 Years [as per Rule 151(iii) of GFR] from the date of Tender.

16. Disputes and Jurisdiction:

Settlement of Disputes: Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such an amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM Pravartak shall nominate one arbitrator. The Chief Executive officer will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceeding shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IITM Pravartak Technologies Foundation, Chennai.

- a. **The Applicable Law:** The Purchase Order shall be construed, interpreted and governed by the Laws of India. The court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.
- b. Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.

17. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension of the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

18. Defects Liability Period:

Defects Liability Period - 6 months from date of inauguration/ handover of the Service up to the successful completion of the site, during which the Bidder shall undertake the responsibilities, and have the liability for the installations.

19. Delivery Schedule:

Sr. No.	Stages	Duration
1.	Submission of Design Report (incorporating site visit observations)	7 days
2.	Submission of scheme inclusive of 3D visualization, acoustic performance simulation report.	4 days
3.	Submission of detailed design, and shop drawings for execution with 3D images.	4 days
4.	Post-scheme approval, submission of detailed working drawings and shop drawings, Samples with MTC.	5 Days
5.	Execution of work on site.	40 days
	Total	60 days

20. Payment Terms: Stage wise Payment as per below schedule:

Sr. no.	Stage as per schedule of Services	Percentage of payable fees at the completion of each stages
1	Submission of Design	10%
2	Submission of Detailed design, shop drawings, acoustic performance simulation report and 3D visualization.	10%
3	Procurement of materials and delivery at site.	40%
4	Pro data basis for 75% of the physical progress value approved as per the contract.	25%
5	Pro data basis for 25% remaining physical progress of the value of the work approved as per the contract.	10%
6	On the handover of work to the satisfaction of the end user.	5%

21. Eligibility Criteria:

As per the Government of India Norms Preference shall be given to , "Class - I Local Suppliers" and "Class - II Local Suppliers" participated in this tender. However in case of no participation or technically qualified Class I, Class II Supplier, the tender will be processed with the "Non Local suppliers" participated in this tender.

Bidder should confirm their acceptance that they comply with the provisions with report to "Guidelines for eligibility of a bidder from a country which shares a land border with India as detailed at Annexure-IV. The bidder should submit Certificate for "Bidder from/ Not from Country sharing Land border with India & Registration of Bidder with Competent Authority" as per Order of DoE F.No.6/18/2019-PPD dated 23.07.2020 as mentioned.

22. Evaluation of Bids:

Bid evaluation will take place in two stages.

Stage I: Technical Bid evaluation

1. Bidder Pre qualification Criteria-I & II will be evaluated first and those bidders who have complied with this criteria alone be evaluated for the technical Specification evaluation.
2. In the 2nd stage, the technical specification offered by the bidders will be evaluated by the technical committee for compliance. Bidders who qualify the Technical specification will be called for presentation. The proposed technical specification offered by the bidder should be equivalent or higher to the specifications mentioned in the technical bid.
3. All bidders who have fully complied with Bidder Pre qualification Criteria I, II and technical evaluation and Technical Presentation will only be considered for opening of financial bid.

Stage II: Financial Bid Evaluation

The financial bid evaluation will be based on price quoted by the bidder (BoQ). The tender will be awarded to the overall L1 bidder for the total work (Comprising all items).

23. Award of Contract: Selection of Successful bidder and Award of Order - Evaluation and Award of contract will be done as per GOI MOCI Order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P- 45021/102/2019-BE-II-Part(1) (E-50310) Dt.4th March 2021 and any subsequent modifications/Amendments, and latest orders if any with preference to Make in India. In case of No Local content present, the tender will be processed with the "Non Local suppliers" participated in this tender.

If the Price bid of the technically qualified/L1 bidder is substantially below our estimate for the contract (Abnormally Low), IITM Pravartak may require the bidder to produce detailed price analyses to demonstrate the internal consistency of those prices. Following the assessment of the price analysis, if the committee determines that achieving the desired quality of work is not feasible with such a significantly lower quotation, the committee, with the approval of the Competent Authority, retains the discretion and right to reject the price offer. In such instances, the second lowest bidder will be invited for negotiation.

24. Preference to "class 1 Local Suppliers": preference will be given to "class 1 local suppliers" (subject to class -I local supplier's quoted price falling within the margin of purchase preference) as per public procurement (preference to make in India) order 2017 .O.M No P- 45021/2/2017 – pp(BE - 11) dt 04/06/2020 subject to the conditions that the "class 1 Local Supplier" should agree to supply goods / provide service at L1 rate and furnish a certificate with the technical bid document that the goods/service provided by them consists local content equal to or more than 50%.(certificate from Chartered Accountant in case value of contract exceeds Rs 10 crore).

- 'Class - I local supplier' means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to or more than 50% as defined under the above said order.
- 'Class - II local supplier' means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to 20% but less than 50% as defined under the above said order
- 'Non – local supplier' means a supplier or service provider whose goods, services or works offered for procurement consists of local content less than 20% as defined under the above said order.
- 'Margin of purchase preference': - The margin of purchase preference shall be 20%. The Definition of the margin of purchase preference is defined in the govt. of India Order No: P-45021/12/2017-PP (BE-II) Dt.4th June, 2020 Order 2017. As per the Government of India Order – "Margin of Purchase Preference" means the maximum extent to which the price quoted by a

“Class-I local supplier” may be above the L1 for the purpose of purchase preference.

****Note: Local content percentage to be calculated in accordance with the definition provided at clause 2 of revised public procurement preference to Make in India Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P- 45021/102/2019-BE-II-Part (1) (E-50310) Dt.4th March 2021**

Acknowledgement: - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF BIDDERS
ALONG WITH SEAL OF THE
COMPANY WITH DATE**

FORMAT FOR AFFIDAVIT OF SELF-CERTIFICATION UNDER PREFERENCE TO MAKE IN INDIA.

Tender bidding Number:

Name of the item / Service:

Date:

I/We _____ S/o, D/o, W/o, _____ Resident of _____

Hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P-45021/102/2019-BE-II-Part(1) (E-50310) Dt.4th March 2021 and any subsequent modifications/Amendments, if any and

That the local content for all inputs which constitute the said item/service/work has been verified by me and I am responsible for the correctness of the claims made therein.

Tick (✓) and Fill the Appropriate Category	
<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to or more than 50% and come under "Class-I Local Supplier" category.
<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to or more than 20% but less than 50% and come under "Class-II Local Supplier" category.
<input type="checkbox"/>	I/We _____ [name of the manufacturer] hereby confirm in respect of quoted items that Local Content is less than 20% come under 'Non - Local Supplier' category

- The details of the location (s) at which the local value addition is made and the proportionate value of local content in percentage

Address _____ Percentage of Local content: _____%

For and on behalf of(Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

[Note: In case of procurement for a value in excess of Rs. 10 Crores, the bidders shall provide this certificate from statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.]

This letter should be on the letterhead of the quoting firm and should be signed by a competent authority. Non-submission of this will lead to Disqualification of bids

ANNEXURE – II

(To be given on the letter head of the bidder)

No. _____

Dated:

CERTIFICATE

(Bidders from India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I am not from such a country.

OR (*whichever is applicable*)

(Bidders from Country which shares a land border with India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I from _____ (Name of Country) and has been registered with the Competent Authority. I also certify that I fulfil all the requirements in this regard and is eligible to be considered. *(Copy/ evidence of valid registration by the Competent Authority is to be attached)*

Place:

Date:

Signature of the Tenderer
Name & Address of the
Tenderer with Office Stamp

ANNEXURE-III

Bidders who fulfil the following requirements shall be eligible to apply. Quote from Joint Ventures are not acceptable.

Pre-Qualification Criteria: I				
S.NO	PRE-QUALIFICATION CRITERIA - I	Compliance (Yes/No)	Reference Page No.	Remarks, If any
1	The bidder shall not be from a country sharing land border with India and if the bidder is from a country sharing land border with India the bidder should have been registered with the competent authority as per government of India orders. Declaration of Land border to be submitted as per Annexure II			
2	The bidder nor any of its partners has been blacklisted / debarred by any central or state government agencies in last 3 years. A self-declaration format given in Annexure V to be submitted along with Technical Bid.			
3	The Bidder should have valid GST Certificate.			
4	Bidder to submit GST Certificate along with PAN Card.			

Pre-Qualification Criteria: II				
S.NO	PRE-QUALIFICATION CRITERIA - II	Compliance (Yes/No)	Reference Page No.	Remarks, If any
1	The bidder should submit OEM authorization for all Make/brand wherever applicable for the item for which they are submitting the bid as per Annexure IV for each product.			
2	The Bidder Firms shall be of National reputation having past experience of executing "similar works" (Acoustical detailing ,Civil, Interior finishes, Furniture, Furnishings and Electrical & Mechanical Works for forensic lab development projects of State/ Central Govt. etc.) during the last three years ending 31st December 2023.			

3	<p>Should have satisfactorily completed during the last three years ending 31st December 2023</p> <p>Proof of having works in the field of Similar type of work Development projects (Government) during last (03) years ending of December 2023:</p> <p>Three similar projects costing each not less than Rs. 1 Crore. OR Two similar projects costing each not less than Rs. 1.5 Crore. OR One similar completed project costing each not less than Rs. 2.5 Crore</p> <p>Design and Execution of Interior work of Training Centre development/ experience centre/ forensic lab development for projects of State/ Central Govt. This should include working on detail design of Training centre/ Forensic Lab/ interior works/ installation /acoustical work including sound isolation / architectural lighting/ integration of systems. All projects should be Government projects. High-end Training centre/institute/ forensic lab with latest technology.</p>			
4	<p>The bidder Should have had average annual turnover of Rs 2,00,00,000/- on construction works during any 2 of the last three years ending 31st March 2023. (Financial statements/ certificates issued by Chartered Accountant should be submitted as proof).</p>			

Terms & Conditions

1. Any change in the design is not permitted.
2. The bidder should provide the detailed required Quantity/Bill of Material for the design given and should choose any of one of the mentioned brands/make of items as per list of approved makes.
3. Any other brand other than what mentioned in Approved makes list will not be accepted.
4. All materials which are in the quoted BoQ must be submitted for approval by NACIN prior to the work/installation. Samples of each material and table setup are required for review and must meet the necessary standards.
5. The Contractor will not be entitled to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

The accepted variation in quantity of each individual item of the contract would be up to 10% of the quantity originally contracted. The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever up to the limit of 10% variation in quantity of individual item of works.

6. The Selected bidder need to follow the norms of "NACIN" for carrying out works as per this tender.

Scope of Work

TENDER FOR SELECTION OF AGENCY FOR DESIGN, PROCUREMENT AND EXECUTION OF INTERIOR WORKS AT NATIONAL ACADEMY OF CUSTOMS, INDIRECT TAXES & NARCOTICS, PALASAMUDRAM, SRI SATHYA SAI DISTRICT, ANDHRA PRADESH, INDIA

Total project area is 280 SQM

Total Two rooms to be designed and executed as per the submitted design.

1. Training Centre – Area 136 SQM (Carpet Area):

- Seating capacity for 30 (Thirty) persons.
- Podium with backdrop provision for big presentation LED screen.
- Theater-style seating layout.
- Each seating unit (chair and table) shall be designed Ergonomically with all the basic amenities and provided with high tech facilities. Tables and chairs to be finished with state of material and accessories commensurate with executive desks.
- Each seating unit should have provision of table top microphone sync with sound system of room.
- Acoustic ceiling treatment, wall panels to ensure acoustic comfort and support learning environment.
- Room should be equipped with high quality ICT facilities.
- Acoustic performance simulation should incorporate HVAC system in place and any requisite upgrade and AV systems.
- Wiring and networking for tables to be designed in conjunction with service infrastructure in place.
- Architectural lighting shall be designed to be adequate with visual comfort.
- Screen positioning to take care of angle of vision.
- Fire safety system shall be provided as per NBC 2016 norms, local building codes contiguous to building services in place.
- Large picture window in place to have motorized blinds.

2. Cyber Forensic lab – Area 144 sqm (Carpet Area):

- Lab area to be split into four rooms with seating capacity of 9 (Nine) each.
- One lab to have complete sound isolation partitions and STC 45 doors.

- Each room seating shall be designed with basic amenities, ergonomics and to be furnished with high-end materials.
- Laboratory tables should integrate provision for requisite instrumentation, equipment, and service integration in tandem with hardware-software vendor.
- Room equipped with high quality ICT facilities.
- Suggested to have acoustic wall paneling materials.
- Acoustic performance simulation should incorporate HVAC system in place and any requisite upgrade and AV systems.
- Wiring and networking for tables to be designed in conjunction with service infrastructure in place.
- Architectural lighting shall be designed to be adequate with visual comfort.

The scope of works (this RFP) includes the following:

I. Conceptual design to be prepared for Training Centre and Cyber Forensic lab area. The newest materials and technology shall be reflected in design. The right lighting technology and luminaires shall be proposed in both rooms. The rooms shall be equipped with high quality ICT facilities.

II. Design should reflect futuristic content of lab and training center in its concept, civil and services integration, lighting, networking and acoustic detailing and installations.

III. Acoustic performance simulation report incorporating HVAC in place (with requisite upgrade) and AV systems

IV. Detailed design of Training Centre and Cyber Forensic Lab for interior and execution works. Performance simulation of sound isolation for one lab and acoustic comfort for all other areas.

V. Laboratory design should integrate provision for requisite instrumentation, equipment and service integration in tandem with hardware-software vendor.

VI. Preparation of shop drawings for civil work, services, acoustic fit out to be submitted for approval.

VII. Execution of interior works for Training Centre and Cyber Forensic Lab area.

VIII. Preparation of construction schedule and administration chart with milestones for approval.

IX. Submission of As-built civil work, services drawings after the execution is done.

X. Co-ordination with authority/other consultants/agencies for approval before execution of works on site.

Shop Drawing /Layout and Perspectives:

Preparation of Shop drawings as required, explaining the planning and nature of work with basic dimensions and keeping in view the functional requirement as well as the guidelines for such.

- I. Visiting the site and discussing the details with the authority, attending necessary meetings and getting approvals.
- II. Undertaking condition assessment of the site including undertaking the potential and constraints for development and stress factors.
- III. Preparing concept plan for the designing for supply, installation, testing and commissioning of subject work.
- IV. Design should reflect futuristic content of training center and lab and match vision of end user.

Technology Installation details:

- I. Detailed drawing and technical specification from concept to detailing, integrating the following: hardware- software, instrumentation and equipment, laboratory and training center operational requirements will be shared later.
- II. Since the proposed location is expecting national & international visitors, it is fundamental requirement to design and deliver with international standards and level.

Exclusions / Inclusions:

- I. List of works related to all Civil, HVAC, Fire safety, MEP works, Landscape works, outdoor flooring and paving.
- II. Civil works and MEP works pertaining to Interior works are part of the project. Agency needs to complete the works in the said project area if required as per design and requirement.
- III. Interior with required lighting is part of the project.
- IV. Training hall and Lab to be designed in conformity of any standards for Fire safety and to be linked with main building MIS system in coordination with the architect and Authority of the Institute.
- IV. Emergency lighting of Training Hall and Lab to be linked with main building emergency light system with escape route of building in coordination with the architect and Authority of the Institute.
- V. No outdoor P.A. system has been considered.
- VI. Site visit by the bidders at their own expense.

Deliverables during Execution:

The bidder should submit list of activities with timelines for the project execution items as below:

- I. Procure, supply and execution on site the approved design in the timelines.
- II. Work to proceed on site only after necessary approval availed from NACIN.
- III. A weekly report to be sent directly to IITM Pravartak on every Saturday.

Bill of Quantities for installations:

Bidder to submit bill of quantities, specifications as per the design. Corresponding specifications and rates from CPWD DSR 2021 document to be included (taking into account GST escalation (12%-18% adjustment and prevailing CPWD cost index at the time of tender submission)

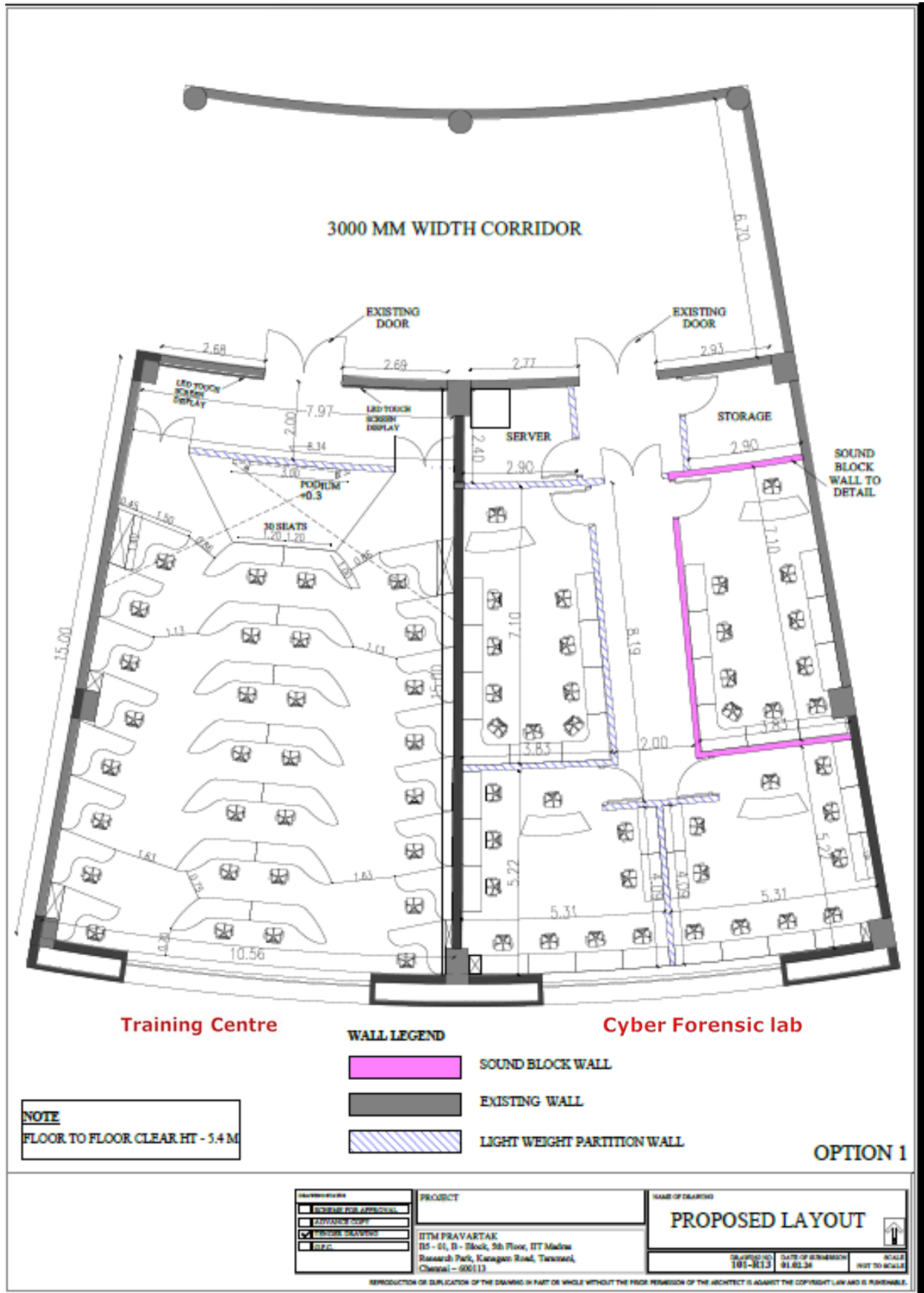
Technically Qualified bidders will be invited for the presentation and the presentation scoring criteria will be as below.

Presentation description	Marks
Approach and methodology (include understanding of concept, best practices, detailed design of training centre, forensic lab and Project management Plan)	20
Presentation of Past works executed (including the know-how of Tech. for training center and forensic lab)	20
Material assessment & Technical production	10
TOTAL MARKS	50

- Presentation (to be conducted online on an online platform) showcasing how this project will be executed in terms of management, timeline, shop drawing capabilities, execution capabilities, interior execution capability.
- The bidder or its official representative is invited to showcase his presentation & proposal on an informed date. This presentation will be held online on a virtual platform (Zoom or MS Teams)
- Details regarding the presentation date and time will be communicated to bidders.
- Bidders who qualify in both technical proposals and presentation will only be considered as technically qualified.
- Bidders fail to do presentation will be construed as technically disqualified.

Technical Specifications

Proposed Layout:



Site Images

No Prebid Meeting will be conducted. The site images can be referred below.

Cyber Forensic Lab



Training Center



**LIST OF TECHNICAL SPECIFICATIONS AND APPROVED MAKES FOR
INTERIOR AND FURNITURE WORKS**

S.No.	Component	Approved Make	Compliance (Yes/No)
1	Masonry	Providing and laying autoclaved aerated cement blocks masonry with 150 mm thick AAC blocks in super structure above as per CPWD DSR 2021 Section 6.47	
2	Plaster finishing	12 mm cement plaster of mix : 1:4 (1 Cement : 4 Fine sand / coarse sand) as per CPWD DSR 2021 Section 13.1	
3	Internal light weight partitions	Cement Bonded particle board 8 mm (Termite, Fire & Moisture Resistance), as per IS:14276 : 1995 CPWD DSR 2021 Section 26.43.2 Brands : Bison board or equivalent	
4	Fire doors	As per CPWD DSR 2021 section 9.136, 9.137,9.138	
5	Painting and finishing	Painting and finishing with emulsion paint with ICI, Asian, Berger of equivalent approved brands and manufacture as per DSR 202113.60.1	
6	Floor tiles	BRANDS : KAJARIA OR SOMANY as per CPWD DSR 2021 section 11.41A.3.3 Size of Tile 800 x 800 mm	
7	Carpet floor	Unitex or equivalent with NRC 0.5 or above	
8	Float Glass	Modi Guard/Indoasahi/ Saint Gobain	
9	Solid, nonporous, homogeneous surfacing material, composed of =1/3 acrylic resin and =2/3 natural minerals	12mm Corian solid surface	

10	Resin Based Adhesive	Fevicol/Vamicol/Blue Court	
11	Pin Up Board	Sintatex/Alkosign	
12	Ss/Chrome Coated Hardware	Ebco/Dorest/Arkay	
13	Laminate	Formica/Decolam/Merino Green Lam/Asis/Sunmica	
14	Veneer	Green/Century/Natural	
15	Aluminum Alloy Extruded Section	Hindalco/Indalco	
16	Post Form Board	Merino/Formica/Sunmica	
17	Locks	Godrej/Dorset	
18	Pivots, Handle Bars Etc	Dorma/Dorest	
19	Pre Laminated Particle Board	Novapan/Kitlam/Merino	
20	Plain False Ceiling	As per CPWD DSR 2021 SECTION 12.45.1 BRANDS: GYPROC (Saint Gobain) Or equivalent in Anutone, Armstrong- Knauf Ceiling, As Approved By Consultant Gyp Steel Ultra-With Company Section/Specifications Only It Shall Be Executed By Company's Authorized Applicator & Certificate From The Company Shall Be Attached With Final Bill.	

21	Grid False Ceiling	<p>ABSORPTIVE CEILING TREATMENT Supply and Installation of Anutone Subtex or Ecophon Focus E 20 mm thick, Glassfibre core fully encapsulated ceiling tile of size 595x595x15mm having density 100-120Kgs/m³, which is suspended by using 0.3mm thick and 15mm wide pre coated metal T15 grid system. / Specifications Only- It shall Be Executed By Company authorised Applicator & Certificate From The Company shall Be Attached With Final Bill</p>	
22	Acoustic baffles	Ecophon Solo™ baffles or Anutone resonance baffles	

23	Acoustic Paneling With Fabric Finish	<p>Supply and installation of Ecophon WALL PANEL FT 2700 x 1200 with 40 mm natural square edge ,demountable panels with standard approved fabric wrapped around in concealed system with grippers, option of Daily dusting, vacuum cleaning & weekly wet wiping. Panel is manufactured from high density glass wool utilizing the 3 RD technology</p> <p>Tiles classified under sound absorption class A with "alpha w " value of 1 at minimum 43mm o.d.s. Classification acc to EN ISO 11654, & single value ratings for NRC value 0.95 according to ASTM C 423. Panels withstand a permanent ambient RH up to 90% at 30*C & RH up to 75% at 30*C without sagging, warping or delaminating (EN13964). Thermal resistance (Lambda value - 0,035-0,04 W/mK)</p> <p>Certified by the Indoor Climate labelling, emission class M1 for building materials & recommended by Swedish Asthma & Allergy Association. Product Certified under GRIHA</p> <p>Council of India for Green ratings. Fully recyclable. The glass wool core of the tiles should be tested and classified as non combustible according to prEN ISO 1182 with reaction to fire classification class A2 s1 d0 according to EN 13501 - 1 - European Standard.</p> <p>Or</p> <p>Supply and installation of Anutone Acoustic wall NRC fabric stretch system by using FR Grade fabric of size 1700mm width, shall be stretched by using CC 25 with infill of synth pf 5X25 mm thick, rigid vinyl Stretch Tracks half wrap/full wrap 15mm (FS15) and Midseam</p>	
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		<p>15mm (FS15), strand board, synth PF infill with requisite accessories & tools. CC 25 mm is first installed on the wall along with the marking lines with metal fasteners inserted at 300mm centers . FS15 tracks to be installed on wooden base, after applying Stick S7 adhesive on both surfaces for a true and continuous secure grip, and heavy-duty fasteners at 150mm centers on one/both sides of Stretch Tracks.Strand3 Fibre square edge magnesite bonded pinewood fiber panels of size 600x1200x20mm having density 400kg/m³, weight 4kg which is fixed to wall with suitable fasteners. Synth PF 5x25mm thick adhered on strand panel by using Stick 7 adhesive. Fabric of width 1700mm is then aligned to the Stretch tracks by following the fabric thread line or pattern. The fabric is stretched and tucked into the Stretch tracks and secure into the locking jaws so that it will be smooth, free of wrinkles with the tucking tools. Note -minimum 50mm additional fabric is required for tucking hence maximum module wall fabric width would be 1600mm. Technical</p>	
24	Acoustic Paneling With Laminate Finish	<p>Anyone Salon Sonator or slats, Armstrong Or As Approved By Consultant With Company section / Specifications Only- It Shall Be Executed By Company's Authorized Applicator & Certificate From The Company Shall Be Attached With Final Bill.</p>	
25	SOUND ISOLATION PANEL	<p>SOUND ISOLATION PANEL Providing & fixing of sound isolation panel with anutone tufbloc, square edge, Magnesia cement core panels of size 1200x2400x12mm Framing of 10mm channels, density 1000kgs/m³, weight 12kg/m²,installed by using Anutone Studd framework.</p>	
26	Sound clouds	Saint Gobain or Anutone	

27	Doors	STC 45 or higher doors as per requisite acoustic performance. Shakti Harmon or Signum doors of 100mm thickness. Vision glass of 200mm x 400mm with acoustic seals.	
28	Window blinds	Providing & Fixing premium quality Roller blinds with Serge Ferrari Soltis-96 or Hunter Douglas. Motorisation equipment as per site requirement	
29	Wood-flooring	25 mm wooden planking, tongued and grooved in flooring, including fixing with iron screws complete with: Second class teakw	
30	Molding/Bending	Steam Beach, Teak Wood or As Approved By Consultant 1 st Quality Imported 95% In Even Color Without Knots, Joints & Bend Wood.	
31	Podium framework	For the raised podium Providing and fixing specified wood framework consisting of battens 50x25mm fixed with rawl plug and drilling necessary holes for rawl plug etc. including priming coat complete. 8.27.1 Kiln seasoned and chemically treated hollock wood	
A.	Block Board	Samrat/Century / Green/ Sainek/Arched Classic Ply	
B.	Ply Wood	Samrat/Century/ Green/ Sainek/Arched Classic Ply	
32	Adhesives	Synthetic Resistant Adhesives / Fevicol Sh.	
33	Floor Spring	Ozon / Godrej Or Equivalent	
34	Door Stop	E.G / Ebco Or Equivalent	
35	Hinges	GurgSs Finish / Aucto Closing Heavy Duty Approved By Architect.	
36	Stoppers	Orbit / Ebco Or Equivalent	
37	Drawer Chanel	Ebco / Hettich / Inox Or	

		Equivalent	
38	Door Closer	Godrej / Ozone Or equivalent	
39	Screw	Rk / Gkw / Nettle Fold Or equivalent	

TECHNICAL SPECIFICATION AND LIST OF APPROVED MAKES FOR ELV WORKS

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TECHNICAL SPECIFICATION AND LIST OF APPROVED MAKES FOR AUDIO VIDEO WORK

Sl. No.	Parameter	Specification	Compliance (Yes/No)
CAT 6A UTP Cable, PVC			
1	Type	Unshielded Twisted Pair, Category 6A, TIA / EIA 568-C.2 & ISO/IEC 11801	
2	Conductors	23 AWG solid bare copper	
3	Insulation	High Density Polyethylene	
4	Jacket	PVC	
5	Pair Separator	Cross-member (+) fluted Spline	
6	Operating temperature	-20°C to +60°C	
7	Frequency	Tested up to Minimum 500 MHz	
8	Packing Box	305 Meters/Box	
9	Cable Outer Diameter	6.9 +/- 0.4 mm	
10	Short Term Bend Radius	8 * Cable Diameter	
11	Long Term Bend Radius	4 * Cable Diameter	
12	Characteristic Impedance	100 Ohms + / - 6 ohms, 1 to 500 MHz	
13	Capacitance	45 pF/m nom	
14	DC Resistance	72 Ω/Km max.	

15	Propagation Delay Skew	25 ns/100 Mtrs. MAX	
16	Pulling Force	110 N/mm max	
17	Standard Compliance	ANSI/TIA-568-C.2:2009 Category 6A ISO/IEC-11801, 2nd Edition Class EA IEC 61156-5:2002 Category 6A	
18	Application	IEEE 802.3an :2006 (10GBASE-T)	
19	Certification	UL, CE, ETL	
20	Approved Make	Systimax, Panduit and Norden	

Sl. No.	Parameter	Specification	Compliance (Yes/No)
CAT 6A Unshielded Keystone Jack Toolless			
1	Material	High Impact, Flame-Retardant Plastic Compound	
2	Type	Category 6A	
3	Insertion/Extraction life	750 cycle minimum	
4	Jack Contact Material	50 μ Nickel over gold	
5	Conductor Compatibility Range	22-26 AWG, Solid or Stranded	
6	IDC Type	Dual (110 Or Krone) Type	
7	Current rating	1.5A max	
8	Insulation resistance	500 M ohm (min)@100 Vdc	
9	Contact Resistance	20 M ohm (max) per contact	
10	Retention	50N	
11	Voltage rating	72 Vdc max.	
12	Flammability Rating	UL 94V-0	
13	Safety Rating	UL1863	
14	Colour Coding	As Per 568 A/B Standards	
15	Standards Compliance	TIA/EIA TSB155 (draft) Category 6A specifications and Class E channel requirements of 2nd edition. IEC 60603-7-	

		5, ISO/IEC 11801 and CENELEC EN50173-1, the Cat 6A channel requirements of TIA/EIA-568-C.2-10	
16	Application	IEEE 802.af, IEEE 802.3at for PoE applications	
17	Certification	CE	
18	Approved Make	Systimax, Panduit and Norden	

Sl. No.	Parameter	Specification	Compliance (Yes/No)
CAT 6 face plate			
1	Type	Single / Dual / Quad port faceplate as per requirement	
2	Material	High Impact Thermoplastic (ABS) UL94V-0 fire retardant	
3	Colour	White	
4	Dust protection	Spring loaded shuttered Port for Protection	
5	Standards Compliance	Conforms to ANSI/TIA/EIA 568A-B.2.2001 standards	
6	Approved Make	Systimax, Panduit and Norden	

Sl. No.	Parameter	Specification	Compliance (Yes/No)
Cat 6A UTP Patch Cord, LSZH			
1	Cable Conductor	Stranded Bare Annealed Copper	
2	Wire Insulation	SFS PE	
3	Jacket	Low Smoke Zero Halogen (LSZH)	
4	Bend Radius	> 25 mm without load	
5	Flame Test	IEC 60332-1	
6	Gas Emissions testing	IEC 60754	
7	Smoke	IEC 61034	

	Density Testing		
8	Conductor Resistance	< 73 Ω/km	
9	Tensile Strength	96N min	
10	Durability	1000 Mating Cycles	
11	Propagation Delay	1-250MHz: < 25 ns/100m	
12	Current rating	1.0A max	
13	Insulation resistance	150 M ohm/km	
14	Voltage rating	72 V DC	
15	Contact resistance	20 M ohm (max) per contact	
16	Length	1 meter & 2 meter	
17	Standards Compliance	ISO 11801 Class EA channel standards IEC 60603-7, ISO/IEC-11801, ANSI/TIA-968-A,ANSI/TIA-568-C.2 Category 6A	
18	Application	IEEE 802.af and IEEE 802.3at for PoE applications IEEE 802.3an-2006	
19	Certification	CE	
20	Approved Make	Systimax, Panduit and Norden	

Sl. No.	Parameter	Specification	Compliance (Yes/No)
48/24 Port CAT 6A Toolless Patch Panel, Unloaded			
1	Material	Powder Coated Steel	
2	Ports	24 Port / 48 Port	
3	Colour	Black	
4	Mounting Style	Tool Less (Module)	
5	Compatible	Compatible with both T568A and T568B wiring options.	

		Backward compatible with Category 5e cabling standards	
6	AWG Support	Supports solid 22-24 AWG wires and stranded 24-26 AWG	
7	Connector Module Holder	High Impact, Flame-Retardant Plastic Compound	
8	Flammability Rating	UL 94V-0	
9	Safety Rating	UL1863	
10	Identification	Each port of the panel is numbered and has a designated label area for clear port identification	
11	Cable Management	Rear cable management bar which should act as stress reliever for terminated cables	
12	Standards Compliance	ISO/ IEC 11281:2002, IEC 60603-7 TIA-968-A (formerly FCC Part 68 Subpart F)	
13	Application	IEEE 802.3an, IEEE 802.3af (PoE), IEEE 802.3at (PoE+)	
14	Certification	UL, CE	
15	Approved Make	Systemax, Panduit and Norden	

Sr No.		42U 800 x 1000	Compliance (Yes/No)
1	Dimension	DK-PS Frame, 800W x 2000H x 1000D, Top cover with 4 x cutout of Dia 112, 2 x cutout of Dia 112 for cable entry. Bottom cover with 4 x cutout of Dia 112 for cable entry. All cutouts blanked with Plastic caps. 2 pairs, 42 U 19" L type angle, Front & ear, on Vertical Cable Trough (LH & RH)2 Pair, on 6 punched sections. Color: RAL 9005	
2	Side Panel	Side Panel 2000H X 1000D Screw Fixed, unvented (RAL 9005)	
3	Accessories	Sheet steel glazed door 2000H x 800W, RAL 9005	
4		Perforated door, 2000H x 800W, RAL 9005	
5		230V.AC,90 cfm fan (pack of 4). Fully Wired	
6		Castor Wheels With Brake	

7		Castor Wheels Without Brake	
8		1U 19" Horizontal Cable Manager (Zinc blue plated)	
9		Captive hardware (pack of 20).	
10		Component Shelf	
11		Keyboard Tray	
12		Metal Shunting Rings-90mm x 60mm pack of 10	
13	Power Sockets	5/15A Socket strip Single phase 10Sockets Indicator switch with fuse with 2.5 Mtr Power chord with 16A plug Colour: RAL9005 finish (LC)	
14	Approved Makes	Rittal, Elixir, APW	

Distribution board -	
Should be double door type ip 44 protection with ppl kit and earthing stud indoor wire with base frame . All MCB must be if 10kA with proper rating as per load requirement	
All terminations should be with pin type lugs and ferruling	

S.No.	Min. Requirement	Compliance (Yes/No)
4 zone IP based Amplifier - 260W		
	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The amplifier should support a minimum of 1 Nos x 10/100 Base-T network port	
2	The amplifier should support multi-Zone with mininum 4 zones.	
3	The amplifier should have built-in clock chip for timed broadcasting without server relies	
4	The amplifier should be able to manage through Web GUI	
5	The amplifier should have minimum 4inch LCD screen for easy setup	
6	The amplifier should support MP2, MP3, PCM and ADPCM audio codec	

7	The Amplifier should support infrared remote control	
8	The amplifier should have signal to noise ratio $\geq 80\text{dB}$	
9	The amplifier should support Audio Sampling & Bit rate as 8KHz - 44.1KHz, 16bit, 8Kbps - 320Kbps	
10	The amplifier should support Frequency Response between 80Hz-14KHz	
11	The amplifier should support - HTTP, TCP/IP, UDP, ARP, ICMP, IGMP	
12	The amplifier should support remote volume adjustment from a server software	
13	The mounting kit and power cables should come up with the amplifier from day 1	
14	The Amplifier should have a Minimum rated output of 260W	
15	Maximum power consumption : 320W	
16	The amplifier should have minimum two relay output for Fire alarm integration	
17	The amplifier should have minimum Operating temperature between $10^{\circ}\text{C} \sim +50^{\circ}\text{C}$ ($14^{\circ}\text{F} - +122^{\circ}\text{F}$)	
18	The amplifier should have minimum Operating humidity 10%-90% RH non-condensing	
19	The amplifier should have the working voltage as 220V AC	
20	The amplifier should be provided hardware warranty and ongoing software upgrades for all major and minor release for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S.No.	Min. Requirement	Compliance (Yes/No)
Ceiling Speaker		
	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The speaker should have a maximum output power of 10W	
2	The speaker should have built-in 70/100V transformer	
3	The speaker have Aluminium mesh type grill	

4	The speaker should be dustproof frame and metallic clip for ceiling mount	
5	The speaker should have 1 x 6.5" driver Units	
6	The speaker should support Frequency Response between 70Hz~20KHz	
7	The speaker should have a minimum Sensitivity (1M,1W) : 95dB (±2dB)	
8	The speaker should have Maximum SPL 105dB (±2dB)	
9	The speaker should be provided hardware warranty and ongoing software upgrades for all major and minor release for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S.No.	Min. Requirement	Compliance (Yes/No)
IP Paging Microphone		
	Make & Part No: Bidder need to mention the Make / Model and Part numbers	
1	The paging microphone should need to be durable high-grade aluminium alloy shell with 4" or higher LCD display with capacitive touch screen	
2	The Paging Microphone should come with minimum of 1 Nos x 10/100 Base-T network port	
3	It should have built-in digital audio processor	
4	It should come with at least 1 x USB 2.0 slot	
5	It should come with minimum 1 x Line Output: 1/8-inch (3.5mm) TRS Jack, 1 x AUX: 3.5mm TRS Jack	
6	It should support 1 x 2 pin Alarm input	
7	It should have Built-in 3 W speaker for monitoring & intercom	
8	The paging microphone on Built Speaker Frequency response should be in between 20Hz - 16kHz	
9	Paging Microphone need to have Web GUI and Touch Screen Operation for configuration	
10	Paging Microphone should support built in server to function to handle minimum 30 numbers of IP speakers/ IP Amplifier	

11	It should have Audio Transmission bit rate between 8Kbps-320Kbps	
12	It should have Audio Transmission Sampling rate between 8K-44.1KHz	
13	It should support Audio codec: MP3, WAV	
14	It should have signal to noise ratio \geq 89dB	
15	It should support standard SIP protocol for easy integration with mainstream SIP PBX	
16	It should support initiating and receiving offline call without server relies	
17	Paging microphone should support TCP/IP, UDP, ARP, ICMP, IGMP, HTTP, SIP	
18	DC 12V/1.5A power adapter should come up with the Paging microphone from day 1	
19	The Paging microphone should have minimum Operating temperature between -10°C - +50°C	
20	It should have minimum Operating humidity \leq 90 RH non-condensing	
21	The paging microphone should be provided hardware warranty and ongoing software upgrades for all major and minor release for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S. No.	Min. Requirement	Compliance (Yes/No)
INTELLIGENT CONFERENCE CONTROLLER		
	Make & Part No: Bidder need to mention the Make / Model and Part numbers	
1	The controller should have minimum 1 x10/100Base-T port.	
2	The controller should have minimum 4.2 inch high-definition color TFT Type touch screen Interface for easy setup	
3	The controller support camera tracking function for minimum 5 camera.	
4	The Controller should support Minimum 128 Conference microphone in a single host	

5	The controller should support extension host for future expansion	
6	The controller should come with at least 1 x RS232 serial port and 1 x RS422 serial port	
7	The controller should have embedded DSP, including low cut, frequency shifter and equalizer.	
8	The controller should have minimum 1 x Line In and 1 x Line Out RCA port	
9	The controller should have frequency response between 50Hz-20kHz	
10	The controller should have at least 1 x Alarm In port	
11	The controller should support timed speech, voting function and data management function	
12	The controller should support minimum 5 conference mode	
13	The controller should support recording function with external device.	
14	The controller should support limiting spokesman at a same time	
15	Maximum power consumption: 350W	
16	The controller should be 2U standard chassis, and can be installed in a 19-inch standard cabinet.	
17	The controller should have the working voltage as 220V AC	
18	The controller should be provided hardware warranty and ongoing software upgrades for all major and minor release for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix must be provided along with Tender document. Also, bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes: Toa, Bosch and Norden	

S.No.	Min. Requirement	Compliance (Yes/No)
Desktop Teacher Microphone		
	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The Chairman microphone should have On/off button and Chairman Priority button to mute other microphones	
2	The microphone should have 3.5mm headphone Output with	

	volume control	
3	The microphone should condenser type	
4	The microphone should have 8 Pin Din socket	
5	The microphone should be removable microphone goose -neck rod , for easy maintain and store	
6	The microphone should have a Frequency Response : 45Hz-18KHz (-3dB)	
7	The microphone should have a sensitivity of -45dBV/pa	
8	The microphone should have built In speaker of Minimum 1.5W	
9	The Microphone should have indication light for easy monitoring	
10	The microphone should have Input Impedance : 2k Ω	
11	Signal to Noice Ratio (SNR) should be greater than 78dB	
12	The Microphone should be provided hardware warranty for a period of 1 years. OEM direct contract details (email, Toll free and Web portal ccess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S. No.	Min. Requirement	Compliance (Yes/No)
Desktop Student Microphone		
	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The Delegate microphone should have On/off button	
2	The microphone should have 3.5mm headphone Output with volume control	
3	The microphone should condenser type	
4	The microphone should have 8 Pin Din socket	
5	The microphone should be removable microphone goose -neck rod , for easy maintain and store	
6	The microphone should have a Frequency Response : 45Hz-18KHz (-3dB)	
7	The microphone should have a sensitivity of -45dBV/pa	
8	The microphone should have built In speaker of Minimum	

	1.5W	
9	The Microphone should have indication light for easy monitoring	
10	The microphone should have Input Impedance : 2k Ω	
11	Signal to Noise Ratio (SNR) should be greater than 78dB	
12	The Microphone should be provided hardware warranty for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S.No.	Min. Requirement	Compliance (Yes/No)
Feedback Suppressor		
	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The feedback suppressor should be atleast 24-bit A/D and D/A conversion	
2	It should have minimum 2 x input channels and 2 x output channels (XLR, 1/4TRS)	
3	It should have input impedance of 10k Ω (Unbalanced) and 20k Ω (balances)	
4	It should have the output impedance of 150 Ω	
5	Feedback suppressor should have automatic search for 12 frequency feedback and the user should have the option to set all parameters of 2 \times 12 filters in manual mode	
6	Its should have a maximum input/output level of 10.5dBu	
7	Signal to noise ratio : 100dB	
8	It should have Frequency Response : 20Hz -20KHz	
9	Supression Time should be 0.3s@1kHz	
10	Feedback suppressor should automatically analyze and lock the feedback frequency by using its advanced DSP algorithm	
11	Audio Gain : 9dB	
12	Minimum Two parallel processing modules, the left and right channel may be adjusted independently or in parallel.	
13	It should have the working voltage as 220V AC	

14	Feedback suppressor should be provided hardware warranty for a period of 1 years. OEM direct contract details (email, Toll free and Web portal ccess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S.No.	Min. Requirement	Compliance (Yes/No)
Digital Mixer Amplifier		
1	Rated Power :60W	
2	Inbuilt USB,Bluetooth & FM player	
3	Should have priority mic input & Emergency Audio input with muting function	
4	LED Level indication	
5	Front panel mounted Individual Volume control for Each inputs & Master Volume control	
6	Front panel mounted music controls	
7	Common Bass & treble control on front panel	
8	Signal to Noise Ratio: > 80dB	
9	Should have 70/100V output & 4-16 Ohms output	
10	Inputs: 2 Nos of mic input, 2 Nos of Aux input	
11	MIC Frequency Response:200Hz-10kHz	
12	AUX Frequency Response:80Hz-16kHz	
13	Protection: AC,overheat, overload, clip & short circuit	
14	Feedback suppressor should be provided hardware warranty for a period of 1 years. OEM direct contract details (email, Toll free and Web portal ccess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

S. No.	Min. Requirement	Compliance (Yes/No)
Wall Mount Speaker - 20W		

	Make & Part No : Bidder need to mention the Make / Model and Part numbers	
1	The speaker should have a maximum output power of 20W	
2	The speaker should have built-in 70V/100V transformer	
3	The speaker have metal grill	
4	The speaker should be wall mountable and wall mounting kit should be available wit the speaker from day 1	
5	The speaker should support Frequency Response between 95Hz - 20KHz	
6	The speaker should have a minimum Sensitivity (1M,1W) : 90dB (± 2 dB)	
7	The speaker should have Maximum SPL 103dB (± 2 dB)	
8	The speaker should have power tapping option of 10/20W	
9	The speaker should have minimum driver size of 4"×1, 1"×1	
10	The speaker should be provided hardware warranty for a period of 1 years. OEM direct contract details (email, Toll free and Web portal cess) and Escalation matrix has to be provided along with Tender document. Also bidder need to ensure TAC support for minimum of one years from the OEM should be added for quoted product.	
	Makes : Toa, Bosch and Norden	

	Min. Requirement		Compliance (Yes/No)
Interactive Display			
	Feature	Specification	
	Active Screen Size	As per design requirement	
	Backlight	DLED	
	Active Area	2163 x 1221 mm	
	Display Ratio	16:09	
	Resolution	3840 x 2160 (4K)	
	Colors	1.07 Billion (10 Bit)	
	Brightness	>500 cd/m ²	
	Contrast Ratio	15000:1	
	Response Time	4ms	
	Viewing Angle	H=178, V=178 typ.	
	Display Life Time	≥50000 hours	
	Working Voltage	AC100~240V /50~60Hz	
	Power Consumption (Standby mode)	≤0.5W	
TOUCH TECHNOLOGY			
	Aspect	Specification	
	Touch System	Infrared Technology	
	Touch Points	Multi-touch points up to 20 points	
	Touch Surface Hardness (Mohs')	Mohs'7	
	Speaker Position	Bottom Front	
	Speaker Rated Impedance	60	
	Speaker Freq. Response	180Hz-20KHz when SPL is -10dB	
FRONT I/O PORTS			
	USB Type-C (PD 65W)		

	HDMI IN 2.0		
	USB Type-B (Touch)		
	USB 3.0 Type-A		
	Microphone In		
	REAR I/O PORTS		
	HDMI IN 2.0		
	DisplayPort 1.2		
	USB Type-B (Touch)		
	USB 3.0 Type-C (no PD)		
	USB 3.0 Type-A to Android		
	HDMI OUT 2.0		
	RS232		
	RJ45 (Gigabit)		
	OPS Slot		
	SPDIF		
	Audio Line out		
	WIFI module slot		
	(wifi module is standard)		
	Camera		
	Camera Resolution	4K 30 Hz /UHD	
	Field of View	120° FOV Lenses	
	Resolution	8M	
	Storage Temperature/Humidity	-20~60°C 0~90%RH (non-condensing)	
	Working Temperature/Humidity	0~40°C 20~80%RH (non-condensing)	
	Outline Dimension	2258.4 x 1344.8 x 122mm (without wall mount bracket thickness) 2440 x 1649 x 440mm	
	Packing Dimension	-	
	VESA Mount	800*600	
	Net Weight (tbc)	85 kg	

	Gross Weight (tbc)	100 kg	
	SoC Chipset	Amlogic 31102	
	CPU	A73*4+A53*4 (4 Core + 4 Core)	
	GPU	65*8 (8 Core)	
	RAM	4GB DDR4	
	FLASH Memory	32GB	
	Android Version	Standard 32GB/can be upgraded to 64GB	
	Multimedia File Formats Support	Android 11	
	Approved Makes: Newline, Samsung, LG		

	Min. Requirement	Compliance (Yes/No)
	Presentation Switcher/Scaler	
	INPUTS	
	4 HDMI : On female HDMI connectors	
	1 VGA: On a 15-pin HD connector	
	5 Stereo Analog Unbalanced Audio: On a 3.5mm mini jack	
	1 Microphone: On a 6.3mm jack	
	OUTPUTS	
	1 HDMI : On a female HDMI connector	
	1 HDBaseT: On an RJ-45 connector	
	1 Stereo Analog Unbalanced Audio: On a 3.5mm mini jack	
	PORTS	
	1 Ethernet: 100Mbps, on an RJ-45 female connector	
	1 DATA RS-232: On a 3-pin terminal block for serial link extension	
	1 CTRL RS-232: On a 3-pin terminal block for device control	
	6 Contact Closure Switches: On a 7-pin terminal block connector	
	1 USB: On a female USB-A connector for firmware upgrade	
	VIDEO	

	Max. Resolution: 4K@60Hz (4:4:4)	
	Max Data Rate: 18Gbps (6Gbps per graphic channel)	
	Standards Compliance: HDCP 1.4 & 2.2. Supports HDR10	
	Input Resolutions HDMI: 480i/576i, 480p/576p, 720p@60/50Hz, 1080i@60/50Hz, 1080p@60/50Hz, 1080p@24/25/30Hz, 640x480@60/67/72/75/85Hz, 800x600@56/60/72/75Hz, 1024x768@60/70/75Hz, 1280x1024@60/75Hz, 1280X960@60Hz, 1280X720@60Hz, 1920X1080@60Hz, 1600X1200@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1600X900@60Hz RB, 1680x1050@60Hz, 1920x1200@60Hz RB, 2048x1080@24/25/30/50/60Hz, 4K/2K@24/25/30/50/60Hz, 4K/2K(4:2:0)@50/60Hz	
	Input Resolutions VGA: 640x480@60/67/72/75/85Hz, 800x600@56/60/72/75Hz, 1024x768@60/70/75Hz, 1280x1024@60/75Hz, 1280X960@60Hz, 1280X720@60Hz, 1920X1080@60Hz, 1600X1200@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1600X900@60Hz RB, 1680x1050@60Hz, 1920x1200@60Hz RB	
	Output Resolutions: 640x480@60Hz, 800x600@60Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1200@60Hz RB, 1920x1080@60Hz, 1280x720@60Hz, 720x480p@60Hz, 720x576p@50Hz, 1280x720p@50/60Hz, 1920x1080p@24/25/30/50/60Hz	
	4K Output Resolutions – HDMI: 4K@24/25/30/50/60Hz (4:4:4)	
	4K Output Resolutions – HDBaseT: 4K@24/25/30Hz (4:4:4), 4K@50/60Hz (4:2:0)	
	Switching Time Between Inputs: 3 seconds	
	Video Latency: 1-2 frames	
	EXTENSION LINE	
	Compliance: HD Base T 1.0	
	Up to 40m (130ft): At 4K@60Hz (4:2:0)	
	Up to 70m (230ft): At full HD (1080p @60Hz 24bpp)	
	Note: When using Kramer HD Base T cables	
	POWER	
	Source: 5V DC, 4A	
	Consumption: 18-19W	

	ENCLOSURE	
	Cooling: Convection ventilation	
	Type: Aluminium	
	Size: 1/2 19"	
	ENVIRONMENTAL CONDITIONS	
	Operating Temperature: 0° to +40°C (32° to 104°FHz)	
	Storage Temperature: -40° to +70°C (-40° to 158°FHz)	
	Humidity: 10% to 90%, RHL non-condensing	
	Approved Makes : Kramer, Extron, Creston	

	Min. Requirement	Compliance (Yes/No)
	HDMI Wall Plate	
	Front Panel Connection — 1 HDMI (F).	
	Rear Panel Connection — 1 HDMI (F) on a flat, flexible cable.	
	Dimensions — 6.9cm x 4.0cm x 11.4cm (2.71" x 1.57" x 4.49") US; 8.6cm x 4.0cm x 8.6cm (3.39" x 1.57" x 3.39") and 8cm x 4.0cm x 8cm (3.15" x 1.57" x 3.15") EU W, D, H.	

	Layer 2 Manageable 28 Port PoE Giga Switch	Compliance (Yes/No)
	Number of Ports: 24*10f100f1000 Mbps PoE, Additional2*Gigabit SFP and RJ-45/RS-232 Console Port	
	Port Standards & Functions: IEEE 802.3 1 OBASE-T Ethernet, IEEE 802.3u 1 OOBASE-TX Fast Ethernet, IEEE 802.3ab 1 OOBASE-T Gigabit Ethernet, . 802.3ae 10 GbE, IEEE 802.3x Flow Control for Full-Duplex Mode, Auto-negotiation	
	Should support IEEE 802.3az Energy Efficient Ethernet	
	Performance	
	Switching Capacity should be 92 Gbps or more	
	64-byte Packet Forwarding rate should be 68 Mpps or more.	
	MAC Address Table should be 16K or more	
	MAC Address Update Up to 512 static MAC entries, Enable/disable auto-learning of MAC addresses.	

MTBF should be 2, 70,000 hours or more	
Stackability	
Switch should support Physical Stacking up to 6 units per stack. Stacking bandwidth should be up to 40G full duplex.	
Switch should have Virtual Stacking Support, up to 32 devices per virtual stack	
PoE Standard	
Should support IEEE 802.3af and IEEE 802.3at PoE support in all ports.	
Should support 193W power budget or higher for PoE .	
Should have time based PoE setting to determine the PoE activation period.	
L2 Features	
Should support Head of Line blocking prevention for lower latency and better performance	
Support Jumbo Frame up to 9000 Bytes or higher.	
Should support IGMP Snooping, Able to create 500 or more IGMP groups and require support for Host-based IGMP Snooping Fast Leave.	
Should support MLD Snooping, Able to create 500 or more MLD groups, Per VLAN MLD Snooping and require support for Host based MLD Fast Leave.	
Should have 802.1D STP, 802.1w RSTP and 802.1s MSTP Spanning Tree Protocol.	
Should support Loop Back detection.	
Should support Multicast Filtering to filters or forward all unregistered groups.	
Should have ERPS as per standard ITU-T G.8032 to provide sub-50ms protection for Ethernet traffic in ring topology	
VLAN	
Require IEEE 802.1Q Tagged VLAN protocol	
Should support 4K VLAN Groups and configurable VLAN ID: 0 to 4094	
Should support Auto Voice VLAN, GVRP, Asymmetric VLAN and Auto Surveillance VLAN	
Quality of Service (QoS)	
Should support 802.1p Quality of Service with 8 queues per port	

Should support Queue Handling with Strict Priority Queue, Weighted Round Robin, Deficit Round Robin (DRR) and SPQ + WRR	
Should support CoS based on 802.1p priority, VLAN, MAC address, Ether type, IP address, DSCP, Protocol type, TCP/UDP port number, DSCP of IPv6 Traffic Class and IPv6 flow label.	
Access Control List (ACL)	
Support at least 700 ACL rules, each rule should be applied on single/multiple ports.	
Should support Access Control List based on 802.1p priority, VLAN, MAC address, Ether type, IP address, DSCP, Protocol type, TCP/UDP port number, DSCP of IPv6 Traffic Class and IPv6 flow label.	
Should support Time-based ACL.	
Layer 3 Features	
Should have default routing support.	
Should support Static Routing with minimum 60 IPv4 static route entries and minimum 30 IPv6 static route entries.	
Support Neighbor Discovery (ND) protocol for IPv6.	
Security	
Should have Port Security with 120 or higher MAC addresses per port.	
Support per port Broadcast/Multicast/Unicast Storm Control.	
Require Dynamic ARP Inspection and ARP Spoofing Prevention.	
Should support DHCP Server Screening.	
Should have SSH and SSL for IPv4 and IPv6.	
Require prevention of DoS attacks, which include Land, Blat, TCP Null Scan, TCP Xmas Scan, TCP SYNFIN, Ping of Death Attack and TCP Tiny Fragment attack	
Support Traffic Segmentation to limit traffic flow from a single or group of ports, to another group of ports.	
Should have IP+MAC+Port Binding to restrict the access to a switch.	
Should support Compound Authentication with multiple option, which should include 802.1X Port based, 802.1X MAC based, WAC, MAC, and JWAC for access control.	
Should support RADIUS and TACACS+ authentication for switch access. Management	

Able to manage through Web-GUI, Fully functional CLI interface and Telnet	
Should support SNMP v1, v2c, v3 and SNMP Traps and Remote Monitoring (RMON).	
Should have dual Image support to reduced down time for the switches.	
Should support Cable Diagnostics to test copper cables and determine the quality of the cables and the types of error.	
Should supportsFlow (RFC3176) for monitoring traffic in data networks.	
Should have SNTP fNTP protocol for time synchronization.	
Should have IPv4/v6 Dual Stack	
Should support LLDP and LLDP-MED.	
Physical/Environmental	
AC Input: 100 to 240 V AC, 50/60 Hz internal universal power supply	
Operating Temperature: -5 to 50 °C (41 to 122 °F)	
Certifications: CE, FCC, C-Tick, VCCI, BSMI, CCC	
Safety: cUL, CB	
Switch should be supplied with the all necessary hardware accessories like Power cord, Rack-mount bracket, Installation Guide, etc. and necessary software image file to fulfill all above mention feature set from day 1.	
Approved Makes : Cisco, HP, Juniper	

PROFESSIONAL DISPLAY		Compliance (Yes/No)
DISPLAY Diagonal 65"Resolution 3840 X 2160 (UHD) DISPLAY		
Brightness	400 nits	
Dynamic Contrast Ratio (Dynamic MCI (Hz))	1,000,000:1	
Static (Panel) Contrast Ratio	1200:01:00	

Response Time (G to G)	60Hz	
Life Span	30,000 hrs	
HDR_HDR 10 Pro	Yes	
Built-in Speaker	10W + 10W	
Broadcasting System	ATSC, Clear QAM, Analog NTSC	
Crestron Compatibility	Yes	
Time scheduler	Yes	
NTP sync timer	Yes	
DPM (Digital Power Management)	Yes	
RTC (Real Time Clock)	Yes	
SuperSign Control	Yes	
RF In	Yes	
Digital Audio Out (Optical)	Yes	
LG SVC only	3.5mm	
RS-232C	3.5mm (4 pole)	
RJ45 (LAN)	Yes	
Color	Navy Blue (Almost Black)	
Size without Stand	57.2" x 33.0" x 2.3 in	
Size with Stand	57.2" x 35.4" x10.7 in	
Size in Shipping	63.0" x38.2"x6 .6in	
Bezel Width (L/R/T/B) Off Bezel	6 .8/6 .8/184mm	
Bezel Width (L/R/T/B) On Bezel	12 .8/12 .8/199mm	
Power Supply (Voltage, Hz)	120Vac,50/60Hz	
max Power Consumption	174 .4W	
14 .63W Typical Power Consumption		
Less than0 .5W Standby Power Consumption		

3 Year Limited Warranty		
19517-0243785 UPC		
Yes FCC(Regulatory)		
Yes UL(Certification)		
Yes EPEAT(Environmental)		
Yes ISTA6(Packaging)		
Approved Makes: Samsung, LG, Sony		

UPS 6 KVA		Compliance (Yes/No)
Acceptable Input Voltage	110VAC-275VAC	
Phase	Single phase with ground	
Input voltage range to take 50% load	110VAC 275VAC	
Input voltage range to take 100% load	160VAC 275VAC	
Input Power Factor	20.995	
Input Frequency Range	45-55Hz/54-66Hz (extendable to 40~70HZ when load < 60%)	
Generator Set	1.5 x UPS Rating Power	

Power (VA) max	6000	
Power (W) max	6000	
Power Factor	1	

Waveform	Pure sine wave	
Nominal voltage	208V/220V/230V/240V	
Voltage Variation	±1%	
Voltage distortion	< 1% THD@ linear load <5% @non-linear load	
OUTPUT Frequency	45-55Hz/54-66Hz (extendable to 40~70HZ when load < 60%)	
EFFICIENCY @ Line mode with battery full charged	95% @ 230V output with typical load	
EFFICIENCY @ ECO mode	≥98%	
EFFICIENCY @ Line mode with partial load	100%<Load≤105%: Constant	
OVERLOAD Capability @ line mode	105%<Load≤125%: 10 minutes, 125%<Load≤150%: 30s, >150%:500ms	
Communication and Interface		
RS232	YES	
USB	YES	
EPO Function	YES	
Comm slot box	YES	
Comm card	Optional (NMC/Modbus/Dry Contact)	
Dry Contact (Dry in/Dry out)	YES	

Place:
Date:

Signature of the Tenderer
Name & Address of the
Tenderer with Office Stamp

OEM CERTIFICATION FORM
(In Original Letter Head of OEM)

Tender No: Dated:
.....

We are Original Equipment Manufacturers (OEM) of.....
(Name of the company) Ms..... (Name of
the vendor) is one of our Distributors/Dealers/Resellers/Partners (tick one) for the
..... and is participating in the above-mentioned
tender by offering our product model.....(Name of the
product with model number).

..... is authorized to bid, sell and provide service
support warranty for our product
as mentioned above.

Name and Signature of the
Authorized signatory of OEM
along with
seal of the company with Date

NON-BLACKLISTING DECLARATION

Date: XXXX

Subject: Non-Blacklisting declaration in connection with tender RFF No: XXXXXX for procurement of "XXXXXXXXXXXXXXXXXXXXXXXXXXXX"

This is to notify you that our Firm/Company/Organization <provide Name of the Firm/Company/Organization> intends to submit a proposal in response to the invitation for procurement of "XXXXXXXXXXXXXXXXXXXXXXXXXXXX" In accordance with the above we declare that:

- a. We are not involved in any major litigation that may have an impact of affecting or compromising the delivery of services as required under this assignment.

- b. We are not blacklisted by any Central/ State Government/ agency of Central/ State Government of India or any other country in the world/ Public Sector Undertaking/ any Regulatory Authorities in India or any other country in the world for any kind of fraudulent activities in last 3 years.

Place:
Date:

Signature of the Tenderer
Name & Address of the
Tenderer with Office Stamp

TENDER CHECKLIST – Mandatory to be filled in and upload in the portal along with specification Document.

- (1) Completed and **Signed Form of Tender**. The Form of Tender document shall be signed by a person legally authorized.
- (2) Completed Technical Compliance Statement.
- (3) OEM/Bidder Undertaking of similar contracts completed/Product supplied.
- (4) Manufacturer Authorization Form from OEM is mandatory if Indian agent/Indian office of OEM is participating in this tender on behalf of OEM. (Ref. tender document pg.no. 2, Point no.2) (Annexure IV)
- (5) EMD Submitted (If applicable)
- (6) Land border certification (Annexure II)
- (7) Non-Blacklisting Declaration (Annexure V)
- (8) Acceptance of General Terms & Conditions under Technical Specification

The above documents should be provided for a contractor's bid to be valid. Bidders are asked to supply and tick off the required information. Failure to provide any of the stated documents may result in the bid being considered non-compliant and rejected.

Signature of the Bidder

FINANCIAL BID (PROFORMA) - BILL OF QUANTITIES (BOQ)

Item Name: SELECTION OF AGENCY FOR DESIGN, PROCUREMENT AND EXECUTION OF INTERIOR WORKS

Bidder should mandatorily submit a Price BOQ.

Total Amount Rupees in words

Note:-

1. Determination of L-1 will be done based on total of basic including the applicable GST considering corresponding specifications and rates from CPWD DSR 2021 document to be included. (taking into account GST escalation (12%-18% adjustment and prevailing CPWD cost index at the time of tender submission)
2. Technical Bid Should NOT Contain Price Bid/Financial Bid details (or) Indication. If the price Details are indicated, mentioned inside the Technical bid, then bid will be disqualified and neither the Technical Bid nor the Price Bid/Financial Bid will be considered.

I/We the bidder accept all the terms and conditions as per tender including all technical & commercial conditions.

Place:

Date:

Signature of the Tenderer
Name & Address of the
Tenderer with Office Stamp