

H.P. STATE ELECTRONICS DEVELOPMENT CORPORATION LTD.
(A Unit of H.P. Government Undertaking)



**e-Tender
for
Rate Contract for Peripherals for Digital Communication,
Collaboration and Learning**

E-Tender No: **HPSEDC/RC/Digi-Comm/2K26-3013**

H.P. STATE ELECTRONICS DEVELOPMENT CORPORATION LTD.,
1st FLOOR, I.T BHAWAN, MEHLI, SHIMLA-171013, H.P.
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Email: hpsedc@hpsedc.in, procurement@hpsedc.in

Website: www.hpsedc.in, tender document can also be downloaded from <https://hptenders.gov.in>

03/09/2026

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SECTION-I
INVITATION FOR E-BIDS

E-TENDER NO: HPSEDC/RC/Digi-Comm/2K26-3013

Note:

The Press e-Tender Notice published for inviting e-Tenders for Rate Contract for Peripherals for Digital Communication, Collaboration and Learning during warranty period and post warranty period. In case there is any decrease/ increase in prices, HPSEDC may asked the bidders to submit revised quotes in sealed envelopes. The rates finalised in this tender will also be considered for General Rate Contract of equipment and will be valid for two years.

The detailed e-Tender document contained in following sections has been prepared to elaborate all techno-commercial conditions of this tender. In case of any discrepancy between the Press Advertisement and detailed provisions of this Tender Document, the latter will prevail. For any further changes (if any, based on feedback/ queries from any quarter and pre-bid meeting) in this tender document, please see its updated version/corrigendum on www.hpsedc.in and <https://hptenders.gov.in>.

A) e-Tenders are invited by the undersigned from eligible bidders, i.e., Original Equipment Manufacturers (O.E.M.)/ Principal National Distributors/ Country Channel Partners in India (in case of imported equipment)/ Large Scale Systems Integrator duly authorised by the manufacturer for these Hardware Equipment as per technical specifications in Annexure-I and providing after sale support during warranty period.

GIST OF IMPORTANT GENERAL CONDITIONS

- 1) The tender has been floated for finalizing the rate contract for Peripherals for Digital Communication, collaboration and learning as per specifications mentioned in Annexure-I. The rate will be finalised for all the components involved in the specified hardware, where the bidder has quoted lowest (L1) rate item wise. However, since the equipment is to be procured and supplied so reasonability of the rates would be ascertained by the tender committee w.r.t. other tenders/ rate contracts in the market. Bidders have to ensure that the **rates quoted for this tender/ rate contract are economical** (or at least equal) than the rates in other rate contracts/ government supplies or open market anywhere else in the country.
- 2) The rates, as discovered through this RFP, shall also be considered for Rate Contract, valid for two years. The terms and conditions of the Rate Contract shall be same as per this tender document.
- 3) After finalizing the L1 rate contract, other bidder(s) may be given opportunity to match the prices of L1 bidder for rate contract, if tender committee deems fit to ensure healthy competition and timely supply of hardware. Therefore, bidders are advised to quote their best rates.
- 4) Unless otherwise specified for a part of the order, the supplies should be completed within **5-6 weeks** from the date of placing the supply order except for snowbound/ tribal areas, where delivery can be made within 6-8 weeks. Delivery is to be made FOR destination i.e. anywhere in the State of Himachal Pradesh and Installation has to be completed within **one week** after supply of material. In Remote and snowbound areas delivery may be done at nearest district head quarter, in case the area is cut-off for the time being. The Managing Director, HPSEDC reserves the right to extend the delivery period based on the request of the supplier, wherever required.
- 5) The committee reserves the right to negotiate the rates with L1 bidder to bring them to a reasonable level based on the best prices offered by other bidders and current market rates.
- 6) If the bidder quotes/ reduces, its price to render similar goods, works or services at a price lower than any tender/ rate contract price to anyone in the Country at any time during the currency of this tender, the price shall be automatically reduced with effect from the date of reducing or quoting lower price, for all delivery of the subject matter of procurement under this tender shall be amended, accordingly. The tender holder shall furnish the certificate to the HPSEDC that the provisions of this clause have been complied with in respect of

supplies made or billed for upto the date of this certificate. On the conclusion of the tender the successful bidder shall furnish a certificate that the provision of this clause has been complied with during the period of tender/ rate contract.

- 7) Any prospective bidder can procure the Tender Document from the “H.P. STATE ELECTRONICS DEVELOPMENT CORPORATION LTD., FIRST FLOOR, I.T. BHAWAN, MEHLI, SHIMLA-171013, (H.P)”. Tender can also be downloaded from website <http://www.hpsedc.in> and <https://hptender.gov.in>.

The tender document will be available on all working days upto last date of bids submission on payment of Rs.5000/- (Rupees Five Thousand only) non-refundable, by demand draft in favour of “HP State Electronics Development Corporation Ltd., Shimla” payable at Shimla. If the tender document is downloaded from the website, the tender fee will have to be deposited along with the bid as a separate bank draft. E-tenders will be uploaded on HP Government e-Procurement portal <https://hptenders.gov.in> as well on HPSEDC website www.hpsedc.in. Interested bidder can participate for all or any of the category of equipment/items by procuring a single tender (i.e no separate tender cost has to be paid for each category of items).

SCHEDULE OF THE TENDER PROCESS:

S. No.	Information	Details
1.	RFP No. and Date	No: HPSEDC/RC/Digi-Comm/2K26-3013 Date: 3/09/2026
2.	Last Date for submission of pre-bid queries	Pre-Bid queries will only be accepted upto 09/09/2026 till 5PM through email and no query will be entertained after 09/09/2026 through e-mail (procurement@hpsedc.in)
3.	Pre-Bid Meeting	Pre-Bid meeting will also be held on 10/09/2026 at 11:30AM through video conference. Video Conferencing link is as under: https://meet.google.com/jbc-zgdi-cgx
4.	Price of Tender Document	Rs. 5000/-
5.	Earnest Money Deposit	Rs. 5,00,000/-
6.	Bid validity period	180 days from the last date (deadline) for submission of e-Tenders.
7.	Bid submission start date	17/09/2026, (11:00 AM)
8.	Bid submission End date	29/09/2026 (02:30 PM)
9.	Opening of e-Tenders Bids	30/09/2026 (02:30 PM)
10.	Tender Download Site	www.hpsedc.in & https://hptenders.gov.in
11.	Venue	H.P. State Electronics Development Corporation Ltd., 1 st Floor, I.T. Bhawan, Mehli, Shimla-171013, H.P.

Note: *If Price of Tender document and EMD, is deposited through RTGS, then kindly select DD & fill RTGS No. in available columns on e-Procurement Portal and upload the copy of RTGS receipt.*

(i) Eligibility-cum-Technical Bids shall be opened initially and eligibility documents will be evaluated.

(ii) Thereafter Technical Bids of Eligible Bidders shall be evaluated.

(iii) Commercial Bids of Eligible and Technically qualified bidders will be opened thereafter.

****** *Any corrigendum, modifications, changes related to this tender before the day of bid submission shall be notified on website www.hpsedc.in or <https://hptenders.gov.in> only.*

8.) Notwithstanding anything else contained to the contrary in this Tender Document, the Managing Director, H.P. State Electronics Development Corporation Ltd., Shimla reserves the right to cancel/withdraw/ modify fully or partially the “Invitation for Bids” or to reject one or more of the bids without assigning any reason and shall bear no liability whatsoever consequent upon such a decision.

INSTRUCTIONS TO BIDDERS FOR ELECTRONIC TENDERING SYSTEM

1. Registration of bidders on e-Procurement Portal: -

All the bidders intending to participate in the tender processed online are required to get registered on the centralized e-Procurement Portal i.e. <https://www.hptenders.gov.in>. Please visit this website for more details. In case of any problem in registration, please contact on toll free No. 1800-3070-2232

2. Obtaining a Digital Certificate:

- 2.1 The Bids submitted online should be encrypted and signed electronically with a Digital Certificate to establish the identity of the bidder bidding online. These Digital Certificates are issued by an Approved Certifying Authority, by the Controller of Certifying Authorities, Government of India.
- 2.2 The bidders may obtain Class-II or III digital signature certificate from any Certifying Authority or Sub-certifying Authority authorized by the Controller of Certifying Authorities or may obtain information and application format and documents required for the issue of digital certificate from:
- 2.3 Bid for a particular tender must be submitted online using the digital certificate (Encryption & Signing), which is used to encrypt and sign the data during of bid preparation stage. In case, during the process of a particular tender, the user loses his digital certificate (due to virus attack, hardware problem, operating system or any other problem) he will not be able to submit the bid online. Hence, the users are advised to keep a backup of the certificate and also keep the copies at safe place under proper security (for its use in case of emergencies).
- 2.4 In case of online tendering, if the digital certificate issued to the authorized user of a firm is used for signing and submitting a bid, it will be considered equivalent to a no objection certificate/power of attorney /lawful authorization to that User. The firm has to authorize a specific individual through an authorization certificate signed by all partners to use the digital certificate as per Indian Information Technology Act 2000.
Unless the certificates are revoked, it will be assumed to represent adequate authority of the user to bid on behalf of the company/firm in the department tenders as per Information Technology Act 2000. The digital signature of this authorized user will be binding on the firm.
- 2.5 In case of any change in the authorization, it shall be the responsibility of management/ partners of the company/firm to inform the certifying authority about the change and to obtain the digital signatures of the new person / user on behalf of the firm / company. The procedure for application of a digital certificate however will remain the same for the new user.
- 2.6 The same procedure holds true for the authorized users in a private/public limited company. In this case, the authorization certificate will have to be signed by the directors of the company.
- 2.7 Pre-requisites for online bidding:

In order to bid online on the portal <https://www.hptenders.gov.in>, the user machine must be updated with the latest Java & DC setup. The link for downloading latest java applet & DC setup are available on the Home page of the e-tendering Portal.

3.Online Viewing of Detailed Notice Inviting Tenders (N.I.T.) :

The bidders can view the detailed N.I.T and the time schedule (Key Dates) for all the tenders floated through the single portal e-Procurement system on the Home Page at <https://www.hptenders.gov.in>

4. Download of Tender Documents:

The tender documents can be downloaded free of cost from the e-Procurement portal <https://www.hptenders.gov.in> and www.hpsedc.gov.in.

5.Key Dates:

The bidders are strictly advised to follow dates and times as indicated in the online Notice Inviting Tenders. The date and time shall be binding on all bidders. All online activities are time tracked and the system enforces time locks that ensure that no activity or transaction can take place outside the start and end dates and the time of the stage as defined in the online Notice Inviting Tenders.

6. Bid Preparation (Qualification & Financial)

- i. Payment of Tender Document Fee& EMD of online Bids: The payment for Tender document fee and EMD can be made as mentioned in Section 3, at Sr. No. 1 and 2 of the Table.
- ii. The bidders shall upload their eligibility and technical offer containing documents, qualifying criteria, technical specifications, schedule of deliveries, and all other terms and conditions except the rates (price bid).
- iii. The bidders shall quote the prices in price bid format only.
- iv. If bidder fails to complete the Online Bid Preparation at Submission stage on the stipulated date and time, his/hers bid will be considered as bid not submitted, and hence not appear during tender opening stage.
- v. Bidders participating in online tenders shall check the validity of his/her Digital Signature Certificate before participating in the online Tenders at the portal <https://www.hptenders.gov.in>.
- vi. For help manual please refer to the 'Home Page' of the e-Procurement website at <https://www.hptenders.gov.in>., and click on the available link 'How to .. ?' to download the file.

- vii. Post registration, bidder shall proceed for bidding by using both his digital certificates (one each for encryption and signing). Bidder shall proceed to select the tender he is interested in.

NB: Any changes/corrigendum/revised tender related to this Tender Document will be published on our website www.hpsedc.in and <https://hptenders.gov.in>. Therefore, prospective bidders are requested to see the updates on these websites regularly.

SECTION 2
INSTRUCTIONS TO BIDDERS
A-INTRODUCTION

2.1. Eligible Bidders

Sr. No.	Pre- Qualification Criteria	Required details to be accompanying the Bid document
1.	The Bidder should be registered under the Indian Companies Act, 1956/ Proprietors/ Partnership Firms should have valid Government licence and GSTN. The bidder should be in existence for not less than preceding 5 years in the relevant field.	Memorandum of Association (MoA), Articles of Association (AoA) of bidder/ Proprietor and detailed profile of the Company/ Firm/ Government License and GSTN, PAN for proprietors
2.	(i) Tender Document Fee in favour of Managing Director, H.P. State Electronics Development Corporation, I.T. Bhawan, Mehli, Shimla-13. (ii) Earnest Money Deposit (EMD) in the shape of Demand Draft/ RTGS valid for 180 days in favour of Managing Director, H.P. State Electronics Development Corporation, I.T. Bhawan, Mehli, Shimla-13.	(i) Tender Fee: Rs. 5000/- (Rupees Five Thousand only) (ii) Earnest Money (Rs. 5,00,000/-) Deposit (EMD) as mentioned in clause 2.10 DD / EMD may be submitted through RTGS in HPSEDC Account no. 050010200006521, IFS Code: UTIB0000050, Axis Bank, SDA Complex, Shimla-9, HP.
3.	The Bidder should have a valid GST Number, PAN Number.	Relevant Registration Certificates (copies to be enclosed)
4.	A Bidder should be Original Equipment Manufacturer (OEM) or Authorised Principal National Distributor/ Importer/ System integrator duly authorised by the OEM (Original Equipment Manufacturer) of the required equipments respectively. It will, however be, preferred that the Original Equipment Manufacturers (O.E.M.) quotes directly.	Authorization letter from OEM in format given at Proforma-A, in case OEM not bidding directly.
5.	OEM should have established office in India for more than 10 Years.	Valid Certificate of Incorporation is to be submitted with technical bid documents.
6.	A Bidder quoting for Peripherals for Digital Communication, collaboration and learning or its OEM {themselves or through resellers} must have supplied minimum 500 number of Peripherals for Digital Communication, collaboration and learning/ similar equipment(s) in the last three years in Government/Semi Govt./ PSUs/ Autonomous bodies of Central/ State Govt.	Copies of supply orders/ satisfactory reports of last three years are to be provided and Proforma-“C”
7.	The average annual turnover of the OEM, whose equipment's/ systems/ Items are sought to be supplied should Rs.200 Crores during last 3 years as per audited balance sheets/Annual reports of accounts.	Audited Balance sheets from company Statutory Auditor/ CA OR Certificate from Chartered

		Accountant (CA) confirming the average annual turnover for the specified period & financial data of the last three years in the format given in Proforma 'B'
8.	The average annual turnover of the bidders should be Rs. 10 Crores (Rs. Ten Crores) during last 3 years as per audited balance sheets.	Audited Balance sheets from company Statutory Auditor/ CA OR Certificate from Chartered Accountant (CA) confirming the average annual turnover for the specified period & financial data of the last three years in the format given in Proforma 'B'
9.	The bidder and OEM should either have positive Net worth in last three years or should be a profit-making Company/ firm during the immediately preceding last 3 financial years as per audited balance sheets.	Supporting financial documents/Balance sheet/ certificate from company's Statutory Auditor/ CA.
10.	The OEM/ bidder should have ISO 9001:2008, relevant BIS or any other equivalent or better-quality certification;	Certificate of each type from the certifying organizations.
11.	OEM Toll Free Help-desk facilities should be already available during working hours (9 AM to 6 PM and from Monday to Saturday). The bidder and OEM should have its own website having product related information (for OEM) and support related information (for both bidder and OEM).	Contact information and availability hour's details. Provide detail of web linkages.
12.	The Bidder should not have been declared ineligible at the time of bid submission and at the time of placing of supply order due to corrupt and fraudulent practices with any of the departments of the Central, State Governments Deptt. and PSUs of Central/ State Govt.	Certificate from the authorized signatory prescribed in Form-E.
13.	The bidder should have submitted the declaration of acceptance of terms and conditions of this RFP as per Form D	Declaration from Authorized Signatory as per Form D of this RFP
14.	The Bidder should already have reasonable support base in this region. The Purchaser's discretion regarding reasonableness of support base shall be final. It is clarified that this clause pertains to only the existing level of support. The actual support required to implement this arrangement has been described in the relevant section.	Supporting documents/ certificate from company's authorised signatory.

Note: -

Purchase Preference for Local Micro and Small-Scale units/ Startup Enterprises of the state: -

The following purchase preference ratio shall be applicable to the Local Micro and Small-Scale Units of State and Local Micro and Small-Scale categories under H.P. State Startup Scheme: -

1. Local Micro and Small-Scale Units of State of H.P. =15%
2. Local Micro and Small-Scale categories under H.P. State, Startup Scheme=15%

Total Purchase Preference =30%)

Provided that if Startup Enterprises will not be available, then 30% purchase preference shall automatically be given to Local Micro & Small-Scale Unit and vice versa as the case may be.

Exemption, if any in evaluation criteria or any other terms & conditions of this document, will be as per Notification No. 4-Ind/SP/Misc/F/6-10/4/80-Vol-V dated 16.05.2020 issued by Controller of Stores Himachal Pradesh or any other orders issued by Govt. of Himachal Pradesh in case the committee deems it fit.

It is reiterated that Purchaser's decision regarding Bidder's eligibility will be final and binding on all the Bidders.

The Bidder can choose to have a separate Authorised Service Provider (ASP). There is no turnover criterion for the ASP, but it should provide the first level of OEM's support which is fully backed up by the O.E.M. by means of a written understanding regarding maintenance. However, the Purchaser shall have the final discretion in this regard and can even ask for a trilateral agreement with the Bidder and the OEM in such cases to ensure timely delivery and maintenance.

If the bidder happens to be a System Integrator (SI), should have a National presence besides meeting the turnover criteria and having a sustained relationship with the O.E.M. in the past. The Bidder (or his OEM) must be able to establish his capability to execute the order(s) by showing satisfactory/ timely delivery, where similar numbers of equipment(s) and its allied accessories are involved.

Either OEM or its authorized reseller only can participate in the bid/tender and if both participate in the bid/tender, then the bid of both bidders will not be considered, and both the bids would be technically disqualified. If the OEM authorizes more than one reseller, all the bids of the participating resellers shall be deemed disqualified.

If the bidder offers or reduces their price to supply similar goods, works, or services at a rate lower than the HPSEDC rate contract price (i.e. Basic price + HPSEDC technical charges) to any party in the state during the validity of this rate contract, their rate contract will be terminated without prior notice.

2.2 Cost of Bidding:

2.2.1 The Bidder shall bear all costs associated with the preparation and submission of its bid and H.P. State Electronics Development Corporation Ltd., Shimla (hereinafter

referred to as the 'Purchaser' or “HPSEDC” in short) will in no case be responsible or liable for these costs, whether or not the Bid is finally accepted.

B- TENDER DOCUMENT

- 2.3 Contents of Tender Document:
This Tender Document comprises of the following Parts/ Sections.
Section-1 : Invitation for e-Bids
Section-2 : Instructions to Bidders
Section-3 : General Conditions of The Tender & Contract
Section-4 : Technical Specifications and Maintenance Conditions
Section-5 : Technical Specifications & Annexures.
- 2.4 The Bidder is expected to examine the Tender Document carefully. Failure to furnish all information required as per the Tender Document may result in the rejection of the Bid.
- 2.5 Clarification regarding Tender Document:
The clarifications/ changes in tender document/ corrigendum can be uploaded by giving up to 7 days for bid submission.
- 2.6 Amendment of Bids:
2.6.1 Bids once submitted cannot be amended. However, in some circumstances (such as major anomaly in the technical specifications having a major impact on pricing), the Purchaser may decide to take fresh bids from all the Bidders before actually opening of the Commercial Bids.
2.6.2 In order to afford prospective Bidders reasonable time to make amendment in their bids, the Purchaser may, at his discretion, extend the deadline for the submission of bids. However, no such request in this regard shall be binding on the Purchaser.

C - PREPARATION OF BIDS

- 2.7 Language of Bid & Correspondence:
The Bid will be prepared by the Bidder in English language only. All the documents relating to the Bid (including brochures) supplied by the Bidder should also be in English and the correspondence between the Bidder & Purchaser will be in English Language only. The correspondence by Fax / E-mail must be subsequently confirmed by a duly signed copy (unless already signed digitally).
- 2.8 Documents comprising of Bid:

The Bidder will prepare the bid in two parts.

I. FEE-ELIGIBILITY CLAIM-CUM-TECHNICAL BID:

In support of his eligibility cum technical bid, a Bidder must submit/upload the relevant documents strictly in accordance with Proforma B marked with page numbers on e-portal <https://hptenders.gov.in>.

Packet-I (Fee/other Eligibility Documents/Technical) (to be uploaded in Packet-1 on e-procurement portal)

II. COMMERCIAL BID:

Commercial Bids of only eligible and technically qualified bidders will be opened as per the date notified by the purchaser on its website (www.hpsedc.in and <https://hptender.gov.in>). Those technically qualified bidders which have also deposited the tender cost and Bid Security shall be termed as Substantially Responsive (i.e. eligible and technically qualified and have also deposited Bid Security & tender cost). The Tender Committee's determination of a Bid's responsiveness is to be based on the contents of the Bid itself and not on any extrinsic evidence. However, while determining the responsiveness of various Bidders, the Tender Committee may waive off any minor infirmity, which does not constitute a material deviation. The decision of the Tender Committee in this regard shall be final.

The bidder has to submit their Commercial Bids online as per BOQ in Packet-2 on the e-procurement portal.

(i) Sample BOQ / Price Bid will be as per Schedule I.

2.9 Bid Currencies:

2.9.1 Prices shall be quoted in Indian Rupees.

2.9.2 The contract price shall be paid in Indian Rupees.

2.10 Bid Security:

2.10.1 The Bidder shall furnish Bid security, as part of its bid as mentioned hereunder. Any bid submitted without bid security or with the lesser bid amount, as indicated below may be rejected being non-responsive.

Sr. No.	Equipment types	EMD/ Bid security amount in Rupees
1.	Peripherals for Digital Communication, collaboration and learning	Rs. 5,00,000/- (Rupees five lakh only)

2.10.2 The Bid Security is required to protect the Purchaser against the risk of Bidder's conduct which may require forfeiture of security pursuant to Para 2.10.8.

2.10.3. The Bid Security shall be submitted online through HP Govt. e-Procurement Portal i.e. <https://hptender.gov.in>.

2.10.4 Any bid not secured in accordance with Para 2.10.1 and 2.10.3 will be rejected by the Purchaser.

- 2.10.5 Unsuccessful Bidders' Bid Security will be refunded as promptly as possible.
- 2.10.6 The successful bidder's Bid Security shall be discharged to the bidder upon finalization of the Rate Contract/ Tender and signing of the agreement.
- 2.10.7 No interest will be payable by the Purchaser on the above-mentioned Bid Security.
- 2.10.8 The Bid Security may be forfeited:
- 1.If a Bidder withdraws its bid during the period of bid validity specified by the bidder and required by the Purchaser.
 - 2.During the tendering process, if a Bidder indulges in any such activity as would jeopardise or unnecessarily delay the tender process. The decision of the Purchaser regarding forfeiture of the Bid Security/EMD shall be final & shall not be called upon question under any circumstances.
 - 3.In the case of a successful Bidder, if the Bidder fails,
 - (i)to sign the contract by raising issues contrary to the provisions of the RFP or the Bid or undertakings given during evaluation of bids, or
 - (ii)to furnish Performance Security or
 - (iii)Violates any of such important conditions of this tender document or indulges in any such activity as would jeopardise the interest of the Purchaser. The decision of the Purchaser regarding forfeiture of the Bid Security shall be final & shall not be called upon question under any circumstances.
- 2.11 Period of validity of Bids:
- 2.11.1For the purpose of placing the order, the Bids shall remain valid for at least 180 days after the date of bid opening. A bid valid for a shorter period may be rejected by the Purchaser as being non-responsive. During the period of validity of Bids, the rates quoted shall not change. However, in case of general fall in prices of a product in the IT/ Electronics Industry before despatch of goods, such a reduction shall be passed on to the Purchaser after mutual negotiations.
- 2.11.2In exceptional circumstances, the Purchaser may ask for extension of the period of validity and such a request shall be binding on the Bidder. The Purchaser's request and the response to such a request by various Bidders shall be in writing. A Bidder agreeing to such an extension will not be permitted to increase its rates.

D-SUBMISSION OF BIDS

2.12 Submission of Bids:

- 2.12.1 Bidder(s) shall submit their bids only on online e-procurement portal www.hptenders.gov.in. All the instructions regarding e-bids submission are also available on www.hptenders.gov.in.

2.13. Deadline for Submission of Bids:

- 2.13.1 Bids will be online submitted/uploaded on e-procurement portal <https://hptenders.gov.in> on or before the deadline mentioned on the e-portal.

- 2.13.2 The Purchaser may, at its discretion, extend this deadline as per Para 2.6.2. The Purchaser may also extend this deadline for any other administrative reason.

2.14. Bids not submitted online:

- 2.14.1 Any bid not submitted/uploaded through e-portal will not be received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser, as per clause 2.13.1 or 2.13.2, will be rejected.

2.15 Modification and withdrawal of Bids:

- 2.15.1 E-bids can be modified upto last date & time has not been closed by e-procurement system.
- 2.15.2 E-Bids cannot be withdrawn in the interval after its submission of bids and before the expiry of Bid's validity specified by the Purchaser. Withdrawal of Bid during this interval may result in the forfeiture of Bidder's Bid security pursuant to clause 2.10.8.

E-BID OPENING AND EVALUATION

2.16. Opening of bids by Purchaser:

- 2.16.1 The e-Bids shall be opened on the date and time already described in the tender/e-portal or on any other later day and time fixed as per Para 2.6.2 or other enabling provisions in this behalf, in H.P State Electronics Development Corporation Ltd, First Floor, IT Bhawan, Mehli, Shimla-13 (H.P.) in the presence of representatives of the Bidders who may choose to attend the proceedings. The representatives of Bidders will sign a register in evidence of their presence.
- 2.16.2 In order to assist in the examination, evaluation and comparison of Bids, the Purchaser may at its discretion ask the Bidder for a clarification regarding its Bid. The clarification shall be given in writing, but no change in the price or substance of the Bid shall be sought, offered or permitted.
- 2.16.3 In the first instance, Eligibility bid documents uploaded on the e-portal will be opened and evaluated for eligibility of each Bidder will be ascertained. Technical Bids of only those Bidders shall be evaluated who are found to be eligible as per the criteria laid down in para 2.2.1/ 2.8 (I) and submitted bid security and tender cost as per Para 2.10. In doubtful cases (where further documents or clarification are required to establish eligibility), the Purchaser in its discretion, may decide to open/evaluate Technical Bid. However, such Bids can be rejected subsequently, if it is found that the bidder has claimed eligibility on false grounds.
- 2.16.4 The Technical e-Bids of only the Eligible Bidders will be opened and the contents (particularly Fact Sheets) will be announced/ displayed in the presence of all Bidders or their representatives.
- 2.16.5. Scrutiny of Technical Bid:
The product proposed in the bid document of only eligible bidders will be evaluated as per the requirements specified in the RFP/ Tender Document. The "Fact Sheets" submitted by the Bidders shall be compared against the Product Catalogue and authenticated circulars regarding latest changes in the specifications. It will thus be ascertained whether the product offered by the Bidder matches with the minimum requirement of the Purchaser as given in the Technical Specifications in this Tender Document. In case of a doubt the Purchaser may require the bidder to produce the quoted equipment for physical

inspection and demonstration, so that components could be seen to ascertain the veracity of the Bidder's claim about specifications.

The Tender Committee may undertake oral and or written clarifications with the bidders. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. The financial bids of only eligible and technically qualified bidders will be opened for further processing. It is, however, clarified that subject to other provisions of this document, every bidder will have to fulfil the minimum technical specifications laid down in this document for being qualified technically. In order to assist in the examination, evaluation and comparison of Bids, the Tender Committee may at its discretion ask the Bidder for a clarification regarding its Bid. The clarification shall be given in writing immediately, but no change in the price shall be sought, offered or permitted. The Technical e-Bids of only the Eligible Bidders will be opened and the contents (particularly Fact Sheets) will be announced in the presence of all Bidders or their representatives. An open discussion regarding technical parameters quoted by various Bidders may also take place, if required. The Compliance/ Deviation statement submitted by the Bidders shall be compared against the Product Catalogues and authenticated circulars regarding latest changes in the specifications. It will thus be ascertained whether the product offered by the Bidder matches with the minimum requirement as given in the Technical Specifications in this Tender Document. The Financial Bids of only those eligible and technically qualified bidders will be opened who also fulfil minimum technical requirements mentioned in this document. However, the Tender Committee reserves the right of giving minor relaxation, if a particular Bidder is not able to exactly match the specifications given in the Tender Document, provided that such a minor deficiency does not substantially reduce the performance level and is suitably compensated by some extra feature in the product. The decision of the Tender Committee about giving minor relaxation shall be final and shall not be called upon question under any circumstances.

The commercial Bids of only those bidders will be opened who fulfils the minimum technical requirements of the purchaser and are found substantially responsive and in conjunction with other relevant clauses/Forms. However, the Purchaser reserves the right of giving minor relaxation, if a particular Bidder is

not able to exactly match the specifications given in the document, provided that such a minor deficiency does not substantially reduce the performance level and is suitably compensated by some extra feature in the product. Therefore, all Bidders must indicate in the Fact Sheets, deviations, if any, extra features offered by them. The decision of the Purchaser about giving minor relaxation shall be final and shall not be called upon question under any circumstances.

The evaluation committee, if so desire may ask for the demonstration of the quoted solution/products, for which sufficient time will be given for arranging demonstration.

2.16.6. Opening of Bid Security:

The document containing bid security will be opened and checked at the time of determining eligibility of the bidders at the time of eligibility bid opening.

2.16.7. Opening of Commercial Bids:

The Commercial Bids of only those Bidders will be opened who meets the minimum technical requirement and substantially responsive. The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself and not on any extrinsic evidence. However, while determining the responsiveness of various Bidders the Purchaser may waive off any minor infirmity, which does not constitute a material deviation. The decision of the Purchaser in this regard shall be final.

2.16.8 A Bid determined as not substantially responsive will be rejected by the Purchaser. Such a Bid will not be normally allowed to be made responsive subsequently by way of correction/ modification.

2.17. Evaluation and Comparison of Commercial Bids:

2.17.1 The comparison of Commercial Bids shall be done as follows:

2.17.2 Bid Comparison:

The Bidders are required to complete their Commercial Bid/ BOQ in Schedule-I. Initial evaluation/ comparison of items within a Category given in the Tender Document will be done as per clause 2.17.3.

2.17.3. Item Rate:

Item Rate for each item for all will be calculated as under;

Item Rate = FOR Destination Unit Price of the Item under a category including installation charges (if any) with three years' warranty inclusive GST of the Item in a Category.

Note 1:

The Bidder shall not quote prices subject to certain conditions. Bids containing any conditional prices may be rejected or the Purchaser may take a final decision in its discretion about such conditionality.

2.17.4 In the procurements of goods, the following procedure shall be followed:

- (i) Among all qualified bids, the lowest bid will be termed as L1. If L-1 is from a local supplier, the contract for full quantity will be awarded to L1.
- (ii) If L-1 bid is not from a local supplier, 50% of the order quantity shall be awarded to L-1.

Note: Local supplier shall be as per relevant state procurement guidelines.

2.17.5 Thereafter, the lowest bidder among the local suppliers, will be invited to match the L-1 price for the remaining 50% quantity subject to the local supplier's quoted price falling within the margin of @5% and contract for that quantity shall be awarded to such local supplier subject to matching the L-1 price. In case such lowest eligible local supplier fails to match the L-1 price or accepts less than the offered quantity, the next higher local supplier within the margin of @5% shall be invited to match the L-1 price for remaining quantity and so on, and contract shall be awarded accordingly.

2.17.6 In case some quantity is still left uncovered on local suppliers, then such balance quantity may also be ordered on the L1 bidder.

2.18. RANKING OF BIDDERS:

2.18.1 Bidders will be ranked in the inverse order of Item Rate in the Category. The criterion for selection of lowest Bidder (L1) for individual items in all categories.

2.18.2 Reduction in Statutory Duties and Levies:

If any reduction in taxes takes place after opening the commercial bids, but before despatch of goods; the Successful Bidder shall pass on the proportional benefit to the Purchaser. However, if any such reduction takes place after the opening of bids but before the finalisation of tender, revised sealed commercial bids shall be taken.

2.19. NEGOTIATIONS:

- 2.19.1 The Purchaser may finalise the Tender & award the Contract without any negotiations, if it is satisfied with reasonableness & workability of the lowest offers. Therefore, the bidders are advised to quote lowest possible rates in the first instance only. In case of negotiation, that shall be held with Lowest Ranked (L1) bidder only for a particular item in the Category. The purchaser has the discretion to have rate contract for more than one eligible and technically qualified bidders.
- 2.19.2 During the negotiations a revised offer will be taken from the representative of the Bidder by way of sealed bids. This revised offer will replace/supersede the earlier Technical & Commercial Bid, provided that the original offer (i.e. Technical/ Commercial) will not be allowed to be changed to the detriment of the Purchaser, as far as rates of every individual item & terms/ conditions are concerned. Therefore, the Bidders are advised to send sufficiently senior representatives (who can take spot decisions) for negotiations.
- 2.19.3 During the negotiations on prices & other related terms/conditions, prevalent worldwide street-prices of such product, prices finalised in bids of similar size on GEM portal/Other State Government Rate Contract etc. will be kept in mind. The scope of negotiations may also include precise *modus-operandi* of after-sales service, mode of delivery, system integration and price of add-ons & consumables etc.
- 2.19.4 During the negotiations, the Purchaser may even go in for marginally higher or lower configurations as per its absolute discretion.
- 2.19.5 After this final ranking is done based on negotiated prices, award of rate contract will be made to the lowest Bidder, subject to post qualification in Para 2.20 below.

F - AWARD OF CONTRACT

2.20 Post Qualification:

HPSEDC will devise a performance criterion in consultation with successful bidders which will include online after sales feedback from the Government departments. The lowest Bidder can be denied the right of continuing with the contract, if the equipment being supplied by him, fails the standard performance criteria. In such an event, the next lowest bidder (L-2) shall be considered.

2.21 Purchaser's right to vary Quantities:

The Purchaser reserves the right to place the supply received from various Government departments/ Govt. Institutions/ Autonomous bodies on the approved vendors during the currency of the rate contract.

2.22 Purchaser's Right to accept any Bid and to reject any or all Bids:

Notwithstanding anything else contained to contrary in this Tender Document, The Purchaser reserves the right to accept or reject any Bid or to annul the bidding process fully or partially or modifying the same and to reject all Bids at any time prior to the award of Contract, without incurring any liabilities in this regard.

2.23 Notification of Award/Rate Contract:

- 2.23.1 Prior to the expiry of the period of Bid validity, the Purchaser will notify the successful Bidder in writing by speed post or Fax or email that his Bid has been accepted.
- 2.23.2 The liability of the supplier(s) to deliver the Goods and perform the services will commence from the "date of Notification of Award/Rate Contract". The Delivery Period shall be counted from the date of 'Placing the Supply Order'. The "date of delivery" shall be the date on which the equipment / material is received at the destinations.
- 2.23.3 Upon the successful Bidders' furnishing of performance security, the purchaser will promptly notify each unsuccessful Bidder and will refund his Bid Security.

2.24 Signing of Contract:

- 2.24.1 After the Purchaser notifies the successful Bidder(s) that his 'Bid' has been accepted, the Purchaser will sign an agreement (described as Contract herein after) within 10 days with the successful Bidder on mutually agreed terms for efficacious implementation of the order.
- 2.24.2 The Purchaser's liability of taking the goods from the selected supplier(s) shall commence only from date of signing the date of the Contract.

SECTION-3

GENERAL CONDITIONS OF THE TENDER & CONTRACT

3.1 Definitions:

In this part, the following interpretation of terms shall be taken:

- (a) "The Contract" means an agreement regarding supply of the goods & provision of services entered into between the HPSEDC and the Supplier, as recorded in the Contract Form signed by the parties, including all appendices thereto and all documents incorporated by reference therein.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Goods" means all the equipment and/or other material, which the Supplier is required to supply to the Purchaser under the Contract.
- (d) "Services" mean services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, training, maintenance and other such obligations of the Supplier covered under the Contract.
- (e) "The Purchaser" means the H.P. State Electronics Dev. Corporation Ltd" or "HPSEDC" in short.
- (f) "The Supplier", means short listed Bidder supplying the goods and services under this Contract.
- (g) "End User" means various Government Departments, Boards, and Corporation etc. in the State of Himachal Pradesh.

Note: The aforesaid definitions will be valid with respect to one or more Suppliers short-listed to execute the Project. Services to be executed by each Supplier have been explained in detail in this Tender Document.

3.2. Application:

- 3.2.1 These General Conditions shall apply to the extent that these are not superseded specific by provisions in other parts of this tender document. A detailed Contract agreement shall be signed after the order is placed. Detailed provisions of such a contract-agreement shall have an over-riding effect vis-a-vis this Tender Document.

3.3 Standards:

- 3.3.1 The goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications and the latest improvements incorporated after the finalisation of contract, but before the dispatch.

3.4 Patent Rights of the Goods:

- 3.4.1 The Supplier shall indemnify the Purchaser against all third party claims of infringement of patent, trademark or industrial design rights arising from use of the goods or any part thereof in India.

3.5 Performance Security:

- 3.5.1 Performance Security for delivery/ installation and maintenance during warranty period.
- 3.5.2 After 'award of work order/ supply order', the successful bidder/ Supplier shall furnish a 3% Performance Bank Guarantee of total order value valid for T+3 months (where T refers to the duration of the work order/ supply order) to safeguard the purchaser against timely delivery/installation and maintenance of ordered equipment during the currency of the contract. In case PBG is not submitted initially as per order value, then same would be deducted from the submitted bills on the basis of value of bills.
 - (1) In case of subsequent supply orders then 3% amount of each supply order will be deducted as PBG from due payment from bidder & same will be released after expiry of the warranty period or bidder has an option to submit additional PBG against the supply order.
 - (2) EMD of successful bidder(s) will only be released after finalization of the Tender and signing of agreement.
- 3.5.3 The proceeds of the Performance Bank Guarantee/ additional Performance Bank Guarantee as Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete his obligations under the Contract. The Purchaser may claim such compensation in addition to initiating any other legal proceedings.
- 3.5.4 The Performance Bank Guarantee shall be given in one of the following forms:
An irrevocable and unconditional Bank Guarantee in favour of the Purchaser issued by a Nationalised/schedule bank in a format given by the Purchaser. This Bank Guarantee should be of a sufficient duration to cover the risk of the Purchaser.

3.5.5 The Performance Bank Guarantee, regarding delivery & installation will be discharged by the Purchaser and returned to the Supplier not later than 30 days following the date of completion of the Supplier's performance related obligations, under the Contract (excluding after sales maintenance for which separate performance guarantee has been taken).

3.6 Inspections and Tests:

3.6.1 The Purchaser or its representative shall have the right (if it so desires) to test the goods to ascertain their conformity to the specifications. The Purchaser shall notify to the Supplier in writing of the identity of the representative deputed for this purpose & nature of tests that may be conducted (if found necessary) for benchmarking.

3.6.2 The inspections and tests may be conducted in the factory premises of the Supplier. All reasonable facilities and assistance including access to drawings and production data shall be furnished to the inspecting officers at no charge to the Purchaser. The Contractor shall inform the Purchaser in advance the time of starting of manufacture and the progress of manufacture of the equipments offered by him so that arrangements can be made for inspection at the premises, if so desired by the purchaser.

3.6.3 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject them and the Supplier shall either replace the rejected goods or make all alterations necessary to meet specification requirements to the Purchaser.

3.6.4 If the Purchaser decides to conduct the inspection at supplier's premises as per clause 3.6.1 to 3.6.3, no material being furnished against this specification shall be dispatched until inspected and approved by the Purchaser/ or his representative. Such inspection and approval will not relieve the Contractor of full responsibility for furnishing equipment conforming to the specifications nor will it prejudice any claim, right or privilege which the Purchaser may have on account of any loss sustained by it due to defective or unsatisfactory equipment supplied by the contractor. Should the inspection be waived off by the Purchaser, such waiver shall not relieve the contractor in any way from his contractual obligations.

3.6.5 The sample of the proposed Equipment, if desired by the purchaser, to be supplied for approval/testing.

3.6.6 Bidder has to provide the required drivers etc. if essentially required for the quoted

equipment/peripherals being supplied.

- 3.6.7 Bidder has to provide necessary support by providing required drivers for connecting the hardware devices being used at the user site. All these drivers should be freely available on the OEM website for which necessary links may be provided.
- 3.6.8 Bidder has to install the patches/upgrades during warranty period at no extra cost.
- 3.6.9 GUI tools for configuring devices.
- 3.6.10 Bidder should provide service maintenance of System Software / driver software up-gradations, installing patches etc., at no extra cost during the warranty period.
- 3.6.11 All drivers' patches required at site are to be arranged by the supplier and should be available on the website of the respective OEM.
- 3.6.12 The Supplier of software items shall depute its technical person, if end user is facing problem in installation/working of software. On-line support will be made available without any charges to end user.

3.7 Packing Delivery & Documentation:

- 3.7.1 The supplier shall provide such packing as is required to prevent damage or deterioration of the goods during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitations, rough handling during transit and exposure to extreme temperatures and precipitation during transit and open storage. The Supplier shall be responsible for any defect in packing.
- 3.7.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as will be specifically provided for in the contract.
- 3.7.3 Delivery of the goods and associated documentation will be done in such manner as may be prescribed by the Purchaser in the Contract.

3.8 Insurance:

- 3.8.1 The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
- 3.8.2 The supplier will indemnify the Purchaser from all responsibility of compensation etc. caused by third party injury including death while he is discharging his duties under the contract.

3.9 Transportation:

- 3.9.1 The entire cost of carriage/transportation from the port of discharge to the destination shall be borne by the Supplier.
- 3.9.2 Where the Supplier is required to affect delivery to some other address within Himachal Pradesh, the supplier shall be required to meet all transport and storage expenses until delivery is completed.
- 3.10 Literature and Instruction:
- 3.10.1 Each supplied equipment(s) packing box must contain copy of illustrated literature and instruction books regarding the installation, handling, maintenance and use of the Goods at each station shall be supplied by the supplier as part of the Contract price before dispatch of the first assignment.
- 3.11 Payment:
- 3.11.1 **First Instalment:** First Instalment shall be paid after delivery of the Goods at the prescribed destinations. Amount of 1st instalment shall be regulated in such a manner that the total payment after delivery is 85% of the order value. A claim for first instalment shall be staked by the Supplier, when he has supplied adequate number of equipment(s). The first installment of 85% will be paid only after receipt of duly acknowledged delivery challans & invoice, as required by the Purchaser.
- 3.11.2 **Second Instalment:** Remaining amount of 15% of the order value shall be paid after satisfactory installation of equipment(s) and execution of Performance Guarantee for proper maintenance during warranty period as mentioned at Clause 3.5. If the installation is delayed beyond 45 days on account of site not being ready (or any other reasons entirely attributable to the Purchaser) or any other reason attributable to the Purchaser, $\frac{2}{3}$ of the second instalment (i.e., 10% of the order value) shall be released to the Supplier subject to submission of site not ready (SNR) report from concerned department. In such an unlikely event of the site not being ready, the remaining amount $\frac{1}{3}$ of the second instalment (i.e., 5% of order value) will be released after submission of successful installation reports of the ordered equipment(s) duly signed by the competent authority of the department(s).
- Note:** *First & second instalments shall be released only on production of bill supported by delivery challan and installation report by the Supplier. Any bill supported by requisite documents will be processed and objections, if any, will be conveyed in one go. If the claim is found in order, the payment will be made accordingly as per*

the funds released from the End User Department.

3.12 Prices:

- 3.12.1 Subject to the provision to Rule 2.11.1, the prices charged by the Supplier for Goods delivered and services performed under the Contract shall not vary from the prices quoted by the Supplier in his Bid. But in case of global or national fall in prices of a product in IT/ Electronics industry due to a change in Government Policy or otherwise, such a reduction shall be passed on to the Purchaser after mutual negotiations.
- 3.12.2 There shall be no effect of the exchange rate variation etc., on the rates to be quoted by the Vendor during one-year period. However, if rates will increase/ decrease, HPSEDC will call techno-commercial bids from the empanelled bidders on requests received from them.

3.13 Modification in the Order:

- 3.13.1 The Purchaser may at any time, by written order given to the Supplier make changes within the general scope of the Contract in anyone or more of the following:
- (a) The specifications of the Goods
 - (b) The method of shipment or packing
 - (c) The service to be provided by the Supplier
 - (d) Quantity of goods
 - (e) Any other change that the purchaser may deem fit
- 3.13.2 If any such change causes an increase or decrease in the cost of, or the time required for the Supplier's performance of any part of the work under the Contract, an equitable adjustment shall be made in the Contract price or delivery Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be put forth within 30 days from the date of the Supplier's receipt of the Purchaser's change order.

3.14 Subcontract:

- 3.14.1 The Supplier shall not assign in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.
- 3.14.2 The Supplier shall notify the Purchaser, in advance in writing, of all sub-Contracts awarded under the Contract if not already specified in his bid. Such notification, in

his original bid of later (even if with prior approval of Purchaser) shall not relieve the Supplier of any liability or obligations under the Contract.

3.14.3 Subcontracts must comply with the provisions of the clause 2.3.

3.15 Delays in the Supplier's Performance:

3.15.1 Delivery of the goods and the performance of services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Contract.

3.15.2 Any unjustifiable delay by the Supplier in the performance of his delivery obligation may render the Supplier liable to any or all the following:

- (i) forfeiture of its performance security,
- (ii) imposition of liquidated damages @Rs 50/- per day per Peripherals for Digital Communication, collaboration and learning of the unfulfilled order. The maximum penalty will not exceed 10% of the equipment cost.
- (iii) termination of the contract and risk purchase at Supplier's risk
- (iv) initiation of any other legal proceedings.

3.15.3 The Supplier will strictly adhere to the time-schedule for the performance of Contract. However, the Purchaser can relax this time limit in force majeure conditions.

3.16 Termination for Default:

3.16.1 The Purchaser may without prejudice to any other remedy for breach of contract, (including forfeiture of Performance Security) by written notice of default sent to the supplier, terminate the Contract in whole or in part after sending a notice to the Supplier in this regard.

- (a) if the Supplier fails to deliver any or all of the goods within the time period(s) specified in the Contract, or any extension thereof granted by the Purchaser pursuant to clause 2.11.2, or
- (b) if the Supplier fails to perform any other obligation under the Contract.

3.16.2 In the event the Purchaser terminates the Contract in whole or in part, he may procure, upon such terms in such manner, as it deems appropriate, goods similar to those undelivered, and the Supplier shall be liable to pay excess cost of such similar goods to the Purchaser. This liability will be in addition to forfeiture of performance guarantee and any other legal proceedings, which the Purchaser may initiate as per Para 3.15.2.

3.17 Force Majeure:

- 3.17.1 Notwithstanding the provisions of the clauses 3.15 and 3.16, the Supplier shall not be liable for forfeiture of its performance security or termination for default, or payment of any damages, if and to the extent that his delay in performance under the Contract is the result of an event of Force Majeure.
- 3.17.2 For purpose of this clause, Force Majeure means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser either in its sovereign or contractual capacity, war, revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 3.17.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing or such conditions and the cause thereof not later than 7 days of occurrence of such event(s). Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract, as far as reasonably practical, and shall seek all reasonable alternative means for performance, not prevented by the *Force Majeure* event.

3.18 Taxes and Duties:

3.18.1 Supplier shall be entirely responsible for payment of all taxes, duties and levies, imposed up to/until the delivery point specified in the Contract. If there is a reduction in any of the statutory duties and levies before the despatch of goods, the benefit of the same will be passed on to the Purchaser.

3.19 Limitation of Liability:

The liability of the supplier in respect of all claims under this tender including penalty for delay in delivery, services, liquidity damages etc. shall not exceed the aggregate value of the goods and services supplied under this tender. Either party shall not be liable for any claim made for any indirect, consequential or incidental losses and indirect damages, costs or other expenses related thereto.

3.20 Arbitration:

All disputes, differences, claims and demands arising under this tender shall be referred to arbitration of a sole arbitrator to be appointed with mutual consent of both the parties. All arbitration will be held in Shimla. If the parties cannot agree on the appointment of the Arbitrator within a period of one month from the notification by one party to the other of existence of any dispute and need for appointment of an arbitrator. Further action will be taken in accordance with the

provisions of the Arbitration and Conciliation Act, 1996 and the award made under this tender shall be final and binding upon the parties hereto, subject to legal remedies available under the law.

SECTION-4

TECHNICAL SPECIFICATIONS AND MAINTENANCE CONDITIONS

4.1. SCOPE OF THE TENDER:

The successful Bidder(s) will provide the following services:

(i) Manufacture /Import (ii) Testing (iii) Supply (iv) Installation (v) After Sales Service during warranty and Annual Maintenance period.

(i) Manufacture/Import.

The OEM/ Bidder can manufacture the Goods in India or import the same (in full or in parts) from any part of the world.

(ii) Testing.

Testing/ Benchmarking as per requirement of the Purchaser and in such manner and for such size of sample as may be prescribed subsequently may be got done as a part of the Contract.

(iii) Supply

The Goods need to be supplied F.O.R. as per the list of destinations to be supplied at the time of signing the Contract.

(iv) Installation and Commissioning of equipment(s): The successful bidder of respective equipments will do installation and ensure that the equipment supplied works/run properly.

(v) After-Sales-Services

The Supplier will open Own/Authorised Service Centres at least in four locations (Shimla, Mandi, Kangra and Hamirpur) in Himachal Pradesh for the maintenance of equipment(s) supplied under this tender. Similarly, the supplier shall keep equipments as spare (as finalised of RC to be mutually decided), to provide immediate replacement, with the service centre during the warranty period. It will be desirable that minor functional problems of these equipments are taken care of by the service centre only. In case of major & specific problems, respective vendors will have to rectify the defect within the time-limits prescribed in Para 4.2.2 below, otherwise must have to replace with the new one.

4.2 AFTER SALES SERVICES:

4.2.1 Comprehensive Warranty:

The Supplier shall provide Comprehensive OEM warranty (including labour and spares) for 36 calendar months. The warranty shall cover the System Software, Labour and all the hardware parts including updation/ upgradation (free of cost) of the Operating System. An undertaking to this effect shall be given by the Bidder in the Fact Sheets. The supplier of Items shall ensure genuine add-ons items & consumables for the items sold in the state for their own brand.

4.2.2 Service Centre:

The Service Centres in the State shall be manned by qualified Engineers as per Clause 4.1(v) above and one call coordinator. It will be equipped, with sufficient inventory of spares as per ABC Analysis. The supplier will provide prompt after sales support and shall attend any complaint not later than 24 hours. The minor and major defects shall be rectified not later than 36 hours and 60 hours respectively. If defect is not rectified within the time stipulated as above penalty as prescribed by the Purchaser will be imposed. However, the penalty in such instances shall not exceed 10% of the equipments cost against a non-attendance/ non-rectification of defects against a service call. The exact quantum of penalty per day shall be @ Rs. 50 per day. During the warranty period, this penal clause will be enforced by ensuring that the supplier gives a Performance Security by way of Bank Guarantee to the Purchaser.

4.2.3 Inventory of Spares:

An ABC analysis of inventory of spares shall be done by the Purchaser in consultation with the supplier to ensure that all critical spares/ components apart from the 1% inventory of new equipments for replacement purposes (if equipment are beyond repair within 24 hours) are available with the Service Centres in sufficient quantity.

4.2.4 The amount of non-delivery of products as mentioned in Clause No. 3.15: **Delays in the Supplier's Performance** and Clause No. **4.2: After Sale Services** or any other recoverable amount from bidder(s) may be adjusted/ recovered or set-off against any sum payable to the bidder against any other contract with HPSEDC or with State Government. The amount shown against that shall be withheld to be adjusted against the compensation

levied as mentioned above. Recovering or deducting of this amount on failure of delivery/ delay in delivery or not providing services in time bound manner, shall be automatic deducted without any notice to the concerned bidder.

The Managing Director, HPSEDC, will reserve the right to relax/ decrease the penalties or release recovered amount without giving any interest to the bidder(s), after receiving justified/ reasonable reasons from the bidder(s).

4.3 TECHNICAL SPECIFICATIONS:

4.3.1 The Technical Specifications have been given in Annexure-I in Section-5. These specifications should be carefully studied by the Bidder, so that the product could be technically evaluated as per the Purchaser's requirement.

4.4. FACT SHEETS:

- (i) Fact Sheets as per Annexure-I Section 5 are to be filled in by the bidders as part of the Bid. These Fact Sheets should be complete in all respects and should be free from errors and omissions. All required parameters must be replied to in affirmative/ negative. In case of any difference between fact sheets (in Section – 4) and the specifications given in Annexure - I of Section - 5, the latter shall prevail.
- (ii) The Bidder shall also supply along with the Bid all brochures and authenticated bulletins carrying latest changes covering the technical aspects of each item appearing in schedule of requirement intended to be supplied by the Bidder. For the purpose of establishing latest changes, printouts down loaded from INTERNET (& duly authenticated) may be acceptable.

4.5. Acceptance Testing After Notification of Award:

- i. The Purchaser may conduct benchmarking & acceptance test, which could involve operation of complete system for at least two consecutive days. The Supplier(s) will provide full assistance in this regard. Partial delivery/ installation/ testing of hardware/ system software will not be permissible for acceptance/ payment. The criteria for benchmarking/ acceptance will be conveyed separately.

PROFORMA- A
(Declaration by the O.E.M.)
[Para 2.8(I)(ii)]

To Date:

The Managing Director,
H.P. State Electronics Development Corporation Ltd.,
1st Floor, IT Bhawan, Mehli, Shimla- 171013.

Subject: Authorisation to a distributor for tender No: **HPSEDC/RC/Digi-Comm/2K26-3013**

Dear Sir,

Please refer to your Notice Inviting Tenders for procurement of Peripherals for Digital Communication, collaboration and learning.

M/s _____ (Bidder), who is our reliable distributor for the last _____ years, is hereby authorised to quote on our behalf for this prestigious tender. M/s _____ (Bidder) is likely to continue as our business partner during years to come. We undertake the following regarding the supply of these equipments/ peripherals etc.

1. The Machines supplied in this tender shall be manufactured by us as per the specifications required by the Purchaser. M/s _____ (Bidder) shall not be allowed to do any hardware integration on our equipment.
2. It will be ensured that in the event of being awarded the contract, the Peripherals for Digital Communication, collaboration and learning will be delivered by M/s _____ (Bidder) & maintained by M/s _____ (ASP) properly as per the conditions of the contract. For this purpose, we shall provide M/S _____ necessary technical support including technical updates, & spares to the ASP. If M/s _____ fails to maintain the equipments for any reason what-so-ever, we shall make alternative arrangements for proper maintenance of these equipment(s) during the warranty period. During the period of 3 years' warranty, we shall provide full support back up to the Bidder/ASP. On the whole, it shall be ensured that the clauses regarding service and maintenance of Machines do not get diluted in implementation due to non-availability of spares and lack of technical inputs from our side even during AMC/extended warranty period.
3. If due to any reason whatsoever, the tie up between our Company & M/s _____ (Bidder) or M/s _____ (ASP) breaks down subsequently, we shall make necessary alternatives arrangements for honouring the terms of the contract.

Yours very truly,

Name : _____
Designation : _____
Company : _____

PROFORMA-B
[Para 2.8 (II)(i)]

I. Financial Parameters

1. Net worth as on 31-03-23, 31-03-24 & 31-03-2025
2. (PBT) Profit before taxes for the last three years.
3. (PAT) Profit after taxes for the last three years.
4. Income Tax Return for the last three years.
5. Equity Base
6. Premier contributors to Equity including Promoter's Contribution.
7. Turn-over during the last 3 financial years.

II. Growth Profile

- (i) Percentage increase in
t/o from 2021-22 to 2022-2023
- (ii) Percentage increase in
t/o from 2022-2023 to 2023-24
- (iii) Percentage increase in
t/o from 2023-24 to 2024-25

III. Installation Base and Regional Spread

IV. Customer Support and Service.

- (i) Number of engineers and their qualification

Sr. No.	Qualification	Numbers (\$)	Experience	Break Up	Special Attributes *
1.	B.Tech and above				
2.	Diploma Holders				
3.	Others				

- (ii) Inventory of critical components maintained at _____
 - Give special attributes such as Microsoft Certified etc.
 - \$ Indicate number of Engineers in Himachal Pradesh / Chandigarh

PROFORMA-C
[Para 2.8(II)(ii)]

(i) DETAILS OF EQUIPMENTS BASE SUPPLIED DURING THE LAST 3 YEARS.

Sr. No.	Organisation (\$)	Number of Peripherals for Digital Communication, collaboration and learning supplied and installed	Value	Date of Order	Current Status
1.					
2.					
3.					
4.					
		<Total>	<Total>		

* Give latest position regarding installation and arrangement for after sales support.

\$ Give telephone/ fax No./email-id and address of the contact persons

(ii) Certificate from five prominent Government/Semi Govt./PSUs/Autonomous bodies of Centre/State Govt. institutions, duly signed and stamped by the authorized officers of the end user department clearly indicating name, address and contact number regarding satisfactory supply, installation and after sale support during warranty period.

Sr. No.	Name, Address, Contact Number of the End user deptt.	Number of Peripherals for Digital Communication, collaboration and learning supplied installed	Supplied/ Installed (Yes/No)	Date of Supply/ Installation
1.				
2.				
3.				
4.				

FORM-D

DECLARATION REGARDING ACCEPTANCE OF TERMS & CONDITIONS CONTAINED
IN THE TENDER DOCUMENT

To

The Managing Director,
H.P. State Electronics Development Corporation Ltd.,
1st Floor, IT Bhawan, Mehli, Shimla-171013.

Sir,

I have carefully gone through the Terms & Conditions contained in the Tender Document [No.: **HPSEDC/RC/Digi-Comm/2K26-3013**] regarding procurement Peripherals for Digital Communication, collaboration and learning for Rate Contract by HPSEDC. I declare that all the provisions of this Tender Document contained in Section-1 to Section-5 and subsequent corrigendum(s)/ clarifications issued from time to time are acceptable to my Company/firm. I further certify that I am an authorised signatory of my company and am, therefore, competent to make this declaration.

Yours very truly,

Name: _____

Designation: _____

Company: _____

Address: _____

Contact No:

Email-id:

FORM-E

DECLARATION REGARDING PAST PERFORMANCE

To

The Managing Director,
H.P. State Electronics Development Corporation Ltd.,
1st Floor, IT Bhawan, Mehli, Shimla-13.

Sir,

I have carefully gone through the Terms & Conditions contained in the Tender Document [No. **HPSEDC/RC/Digi-Comm/2K26-3013**] regarding rate contract of Peripherals for Digital Communication, collaboration and learning by HPSEDC. I hereby declare that my company has not been debarred/blacklisted by any Government / Semi Government organizations for quality/service products nor is there any pending dispute regarding short shipment/ installation/service. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours truly,

Name: _____

Designation: _____

Company: _____

Address: _____

Contact No:

Email-id:

SCHEDULE - I
SAMPLE OF PRICE SCHEDULE/BOQ
[Para 2.8 (III)(i)]

(to be completed by bidder as per the format available on e-procurement portal
<https://hptenders.gov.in>)

PRICE SCHEDULE (DOMESTIC TENDERS - RATES ARE TO GIVEN IN RUPEES (INR) ONLY) (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)									
Sl. No.	Item Description	Qty	BASIC RATE with installation (if any) and three years warranty In Figures To be entered by the Bidder in Rs. P	GST Amount in percent age (%)	GST amount in Rupees Rs. P	Unit Price with GST Rs. P	TOTAL AMOUNT Without Taxes with three-year warranty Rs. P	Gross Bid Value Inclusive installation and Taxes (for three-year onsite OEM warranty) Rs. P	TOTAL AMOUNT In Words
1.	Item No. 1 – Full HD Webcam	1							
2.	Item No. 2 – 4K Webcam with digital zoom	1							
3.	Item No. 3 – 4K Video Conferencing Camera with 12x Optical Zoom	1							
4.	Item No. 4 – 4K Video Conferencing Camera with 20x Optical Zoom	1							
5.	Item No. 5 – Full HD Video Conferencing Camera with 12x Optical Zoom	1							
6.	Item No. 6 – Full HD Video Conferencing Camera with 20x Optical Zoom	1							
7.	Item No. 7 – Wireless Speakerphone with 4 Array Mic	1							
8.	Item No. 8 – Wireless Speakerphone with 8 Array Mic	1							

9.	<i>Item No. 9 – Wireless Speakerphone with 4 expansion external microphone</i>	<i>1</i>							
10.	<i>Item No. 10 – All in One Video Bar</i>	<i>1</i>							
11.	<i>Item No. 11 – Vertical Digital Signage Kiosk (55 Inch)</i>	<i>1</i>							
12.	<i>Item No. 12 – Interactive Touch Screen Kiosk (21.5 Inch)</i>	<i>1</i>							
13.	<i>Item No. 13 – Interactive Touch Screen Kiosk (32 Inch)</i>	<i>1</i>							
14.	<i>Item No. 14 – Vertical Digital Signage Kiosk (43 Inch)</i>	<i>1</i>							
15.	<i>Item No. 15 – OPS Module (Core i5 Class)</i>	<i>1</i>							
16.	<i>Item No. 16 – OPS Module (Core i7 Class)</i>	<i>1</i>							
17.	<i>Item No. 17 – Micro Computer (Intel Core i5 Class or Equivalent)</i>	<i>1</i>							
18.	<i>Item No. 18 – Micro Computer (Intel Core i7 Class or Equivalent)</i>	<i>1</i>							
19.	<i>Item No. 19 – Movable Stand for Mounting Digital Display</i>	<i>1</i>							
20.	<i>Item No. 20- Interactive Screen with Diagonal 65 inch</i>	<i>1</i>							
21.	<i>Item No. 21- Interactive Screen with Diagonal 75 inch</i>	<i>1</i>							
22.	<i>Item No. 22- Interactive Screen with Diagonal 86 inch</i>	<i>1</i>							
23.	<i>Item No. 23- Interactive Screen with Diagonal 98 inch</i>	<i>1</i>							
24.	<i>Item No. 24- Interactive Screen with Diagonal 110 inch</i>	<i>1</i>							
25.	<i>Item No. 25- Interactive Screen with Diagonal 65 inches with camera & Mic</i>	<i>1</i>							

26.	<i>Item No. 26- Interactive Screen with Diagonal 75 inches with camera & Mic</i>	<i>1</i>							
27.	<i>Item No. 27- Interactive Screen with Diagonal 86 inches with camera & Mic</i>	<i>1</i>							
28.	<i>Item No. 28- Interactive Screen with Diagonal 98 inches with camera & Mic</i>	<i>1</i>							
29.	<i>Item No. 29- Interactive Screen with Diagonal 110 inches with camera & Mic</i>	<i>1</i>							
30.	<i>Item No. 30- Interactive Screen with Diagonal 65 inch (EDLA certified)</i>	<i>1</i>							
31.	<i>Item No. 31- Interactive Screen with Diagonal 75 inch (EDLA certified)</i>	<i>1</i>							
32.	<i>Item No. 32- Interactive Screen with Diagonal 86 inch (EDLA certified)</i>	<i>1</i>							
33.	<i>Item No. 33- Interactive Screen with Diagonal 98 inch (EDLA certified)</i>	<i>1</i>							
34.	<i>Item No. 34- Interactive Screen with Diagonal 110 inch (EDLA certified)</i>	<i>1</i>							
35.	<i>Item No. 35: Sliding Screen with Safety Lockable Enclosure for 65" Interactive Display</i>	<i>1</i>							
36.	<i>Item No. 36: Sliding Screen with Safety Lockable Enclosure for 75" Interactive Display</i>	<i>1</i>							
37.	<i>Item No. 37: Digital Podium:</i>	<i>1</i>							
38.	<i>Item No. 38: Digital Podium with Front Display</i>	<i>1</i>							
39.	<i>Item No 39: 135 inch All in One LED Display</i>	<i>1</i>							
40.	<i>Item No 40: 162 inch All in One LED Display</i>	<i>1</i>							
41.	<i>Item No. 41: 8-Port Audio Digital Signal Processor</i>	<i>1</i>							
42.	<i>Item No. 42: 16-Port Audio Digital Signal Processor</i>	<i>1</i>							
43.	<i>Item No. 43: 8-Port Audio Digital Signal Processor with Inbuilt Amplifier and Wireless Microphone Set</i>	<i>1</i>							
44.	<i>Item No. 44: 16-Port Audio Digital Signal Processor with Inbuilt Amplifier and Wireless Microphone Set</i>	<i>1</i>							

45.	<i>Item No. 45: Information Kiosk with Integrated Camera</i>	<i>1</i>							
46.	<i>Item No 46: English Language Lab Software Solution</i>	<i>1</i>							
47.	<i>Item No 47: English, Hindi & Sanskrit Language Lab Software Solution</i>	<i>1</i>							
48.	<i>Item No 48: English, Hindi, Sanskrit, French & Spanish Language Lab Software Solution</i>	<i>1</i>							
49.	<i>Item No 49: Student Response System (25 +1 Clicker Set)</i>	<i>1</i>							
50.	<i>Item No 50: Student Response System (50 +1 Clicker Set)</i>	<i>1</i>							
51.	<i>Item No 51: Lecture Capturing & Streaming System</i>	<i>1</i>							
52.	<i>Item No 52: Room Controlling Device with 10" Display, Light & power sequencer</i>	<i>1</i>							
53.	<i>Item No 53: Learning Management System with (50+1 Students)</i>	<i>1</i>							
54.	<i>Item No 54: Device Management Software</i>	<i>1</i>							
55.	<i>Item No 55: Digital Audio-Conferencing System – Wired Based Chairman Unit</i>	<i>1</i>							
56.	<i>Item No 56: Digital Audio-Conferencing System – Wired Based Delegate Unit</i>	<i>1</i>							
57.	<i>Item No57: Digital Audio-Conferencing System – Central Conference Control Unit</i>	<i>1</i>							
58.	<i>Item No 58: Digital Audio-Conferencing System – Wireless Based Chairman Unit</i>	<i>1</i>							
59.	<i>Item No 59: Digital Audio-Conferencing System – Wireless Based Delegate Unit</i>	<i>1</i>							
60.	<i>Item No 60: Digital Audio-Conferencing System – Central Conference Control Unit for Wireless System</i>	<i>1</i>							
61.	<i>Item No 61: Digital Audio-Conferencing System – Wireless Access</i>	<i>1</i>							

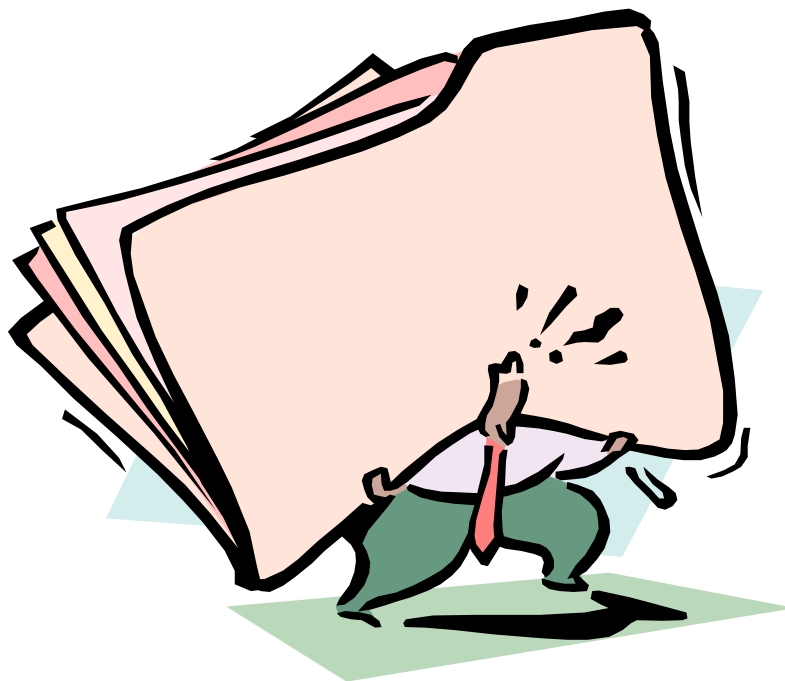
	<i>Point</i>								
62.	<i>Item No 62: Digital Audio-Conferencing System – Charging Station</i>	<i>1</i>							
63.	<i>Item No 63: Flush Mount Boundary Layer Microphone</i>	<i>1</i>							
64.	<i>Item No 64: Cascade Device for Flush Mount Boundary Layer Microphone</i>	<i>1</i>							
65.	<i>Item No 65: Central Conference Controller for Flush Mount Microphone</i>	<i>1</i>							
66.	<i>Item No. 66 – Retractable Chairman Display (15 inch)</i>	<i>1</i>							
67.	<i>Item No 67: e-Sign Cards (Dual Side Display)</i>	<i>1</i>							
68.	<i>Item No 68: e-Sign Cards (Single Side Display)</i>	<i>1</i>							
69.	<i>Item No 69: 65-inch Interactive Flat Panel Display</i>	<i>1</i>							
70.	<i>Item No 70: 75-inch Interactive Flat Panel Display</i>	<i>1</i>							
71.	<i>Item No 71: 86-inch Interactive Flat Panel Display</i>	<i>1</i>							
72.	<i>Item No. 72: 10 – 20 Seaters (Option 1)</i>	<i>1</i>							
73.	<i>Item No. 73: 10 – 20 Seaters (Option 2)</i>	<i>1</i>							
74.	<i>Item No. 74: 20 – 30 Seaters (Option 1)</i>	<i>1</i>							
75.	<i>Item No. 75: 20 – 30 Seaters (Option 2)</i>	<i>1</i>							
76.	<i>Item No. 76: 30 – 40 Seaters</i>	<i>1</i>							
Total in Figures							0.00	0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only							

SECTION- 5
TECHNICAL SPECIFICATIONS

ANNEXURES

Tender Document No:

HPSEDC/RC/Digi-Comm/2K26-3013



NB: Final specifications uploaded after pre-bid meeting. Please visit our web-sites www.hpsedc.in & <https://hptenders.gov.in> for latest amendments or notices in reference to this tender.

ANNEXURE-I

SECTION – 5

TECHNCIAL SPECIFICATIONS ANNEXURES

The specification mentioned hereunder are bare minimum requirement. Bidders are encouraged to offer better specifications in this bid or subsequently during the period of rate contract. **The onsite warranty of all these equipment(s) should be three years.**

Item No. 1 – Full HD Webcam

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Resolution	1080P@30fps or better	
2	Sensor	2 MP CMOS Sensor or better	
3	Field of View	78 degrees or better	
4	Minimal Illumination	10 Lux	
5	White Balance	Auto	
6	Camera bracket	bracket with damper	
7	Backlight Compensation	Should support Backlight Compensation	
8	Digital Noise Reduction	2D & 3D Digital Noise Reduction	
9	Video Output	Should support USB 2.0 Video output suitable for software-based video conference	
10	Video Format (USB)	1080P@30fps/25fps, 720p@30fps/25fps, 960x540p@30fps/25fps, 640x360p@30fps/25fps	
11	Built in Microphone	Should have a built-in microphone array to pick up sound equally from all directions, unique noise reduction algorithm to accurately present your voice.	
12	Input Voltage	5V (USB power supply)	
13	Max. Power Consumption	1.5 W or less	

14	Certifications	BIS Certification Required	
15	Warranty	Three years warranty	

Item No. 2 – 4K Webcam with digital zoom

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Resolution	4k@30fps or better	
2	Sensor	8 MP CMOS Sensor or better	
3	Zoom	5x or higher	
4	Field of View	100 degrees or better	
5	Minimal Illumination	0.5 Lux	
6	Shutter	1/30s ~ 1/10000s or better	
7	White Balance	Auto, Indoor, Outdoor, One Push, Manual	
8	Camera bracket	bracket with damper	
9	Backlight Compensation	Should support Backlight Compensation	
10	Digital Noise Reduction	2D & 3D Digital Noise Reduction	
11	HDR	Should Support High Dynamic Range	
12	Preset	Should have 3 Presets on Remote control	
13	Resolution	Should support 4K Ultra HD@30fps/25fps encoding output, and should be down compatible with 1080p,720p.	
14	Video Output	Should support USB 3.0 Video output suitable for software-based video conference	
15	Auto Focus Lens	Should be completely customizable auto focus non-distortion lens, view angle up to 100°, should support e-PTZ.	
16	Built in Microphone	Beamforming 2 microphone-array with noise suspension and automatic gain algorithm	
17	Audio Pickup	4 meters or more	

19	Remote control	Parameters of the camera should be controllable using IR remote	
20	Interface	1x USB 3.0 Type C or more	
21	Input Voltage	5V (USB power supply)	
22	Certifications	BIS Certification Required	
23	Warranty	Three years warranty	

Item No. 3 – 4K Video Conferencing Camera with 12x Optical Zoom

S. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Sensor	1/2.8", CMOS, Effective Pixel: 8 MP or higher	
2	Optical Zoom	12x or higher	
3	AI-Tracking Modes	Presenter Tracking, Auto Framing	
4	Horizontal Field-of-View	65 degrees(W) ~ 7.5 degrees(T) or better	
5	Vertical Field-of-View	40 degrees(W) ~ 4 degrees(T) or better	
6	Diagonal Field-of-View	75 degrees(W) ~ 8 degrees(T) or better	
7	Horizontal Rotation	350° (-175° to +175°) or better	
8	Vertical Rotation	180° (-90° to +90°) or better	
9	Number of presets	User can set up to 255 presets (10 presets on IR remote)	
10	Video S/N	≥50Db	
11	Video Signal	4K@30fps or better	
12	Video Encoding Format	H.264, H.265, MJPEG, YUY2	
13	Control Interface	RS232(input), RS485, USB3.0 RJ45	
14	Video Output	USB 3.0, HDMI, RJ45	
15	Video Streams	2; Mainstream, Sub stream	
16	Sream Resolution	Mainstream: 1920x1080 (Max), Sub Stream: 1280x720 (Max)	
17	LAN	1xRJ45, PoE(802.3af)	
18	Operation Systems	Windows/Android/Mac OS/Linux	
19	Input Voltage	DC 12V	
20	Current Consumption	2A (Max)	
21	Power Consumption	24W (Max)	
22	Operating Temperature	0° to 40° degrees Celsius	
23	Storage Temperature	-20° to 60° degrees Celsius	

24	Certifications	BIS Certifications Required	
25	Warranty	Three years warranty	

Item No. 4 – 4K Video Conferencing Camera with 20x Optical Zoom

S. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Sensor	1/2.8", CMOS, Effective Pixel: 2 MP or higher	
2	Optical Zoom	20x or higher	
3	AI-Tracking Modes	Presenter Tracking, Auto Framing	
4	Horizontal Field-of-View	50 degrees(W) ~ 3 degrees(T) or better	
5	Vertical Field-of-View	30 degrees(W) ~ 2 degrees(T) or better	
6	Diagonal Field-of-View	60 degrees(W) ~ 4 degrees(T) or better	
7	Horizontal Rotation	350° (-175° to +175°) or better	
8	Vertical Rotation	180° (-90° to +90°) or better	
9	Number of presets	User can set up to 255 presets (10 presets on IR remote)	
10	Video S/N	≥50Db	
11	Video Signals	4K@30fps or better	
12	Video Encoding Format	H.265, H.264, MJPEG, YUY2	
13	Control Interface	USB 3.0, RS-232 (Input), RS485	
14	Video Output	USB 3.0, HDMI	
15	Operating Systems	Windows/Android/Mac OS/Linux	
16	Input Voltage	DC 12V	
17	Current Consumption	2A (Max)	
18	Power Consumption	24W (Max)	
19	Operating Temperature	0° to 40° degrees Celsius	
20	Storage Temperature	-20° to 60° degrees Celsius	
21	Certifications	BIS Certifications Required	
22	Warranty	Three years warranty	

Item No. 5 – Full HD Video Conferencing Camera with 12x Optical Zoom

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Sensor	1/2.8" CMOS, Effective Pixel: 8 MP or higher	
2	Optical Zoom	12x or higher	
3	AI-Tracking Modes	Presenter Tracking, Auto Framing	
4	Horizontal Field-of-View	65 degrees(W) ~ 7.5 degrees(T) or better	
5	Vertical Field-of-View	40 degrees(W) ~ 4 degrees(T) or better	
6	Diagonal Field-of-View	75 degrees(W) ~ 8 degrees(T) or better	

7	Horizontal Rotation	350° (-175° to +175°) or better	
8	Vertical Rotation	180° (-90° to +90°) or better	
9	Number of presets	User can set up to 255 presets (10 presets on IR remote)	
10	Video S/N	≥50dB	
11	Video Signal	1080p@60/50/30/25fps, 720p@60/50/30/25fps	
12	Video Encoding Format	H.264, H.265, MJPEG, YUY2	
13	Control Interface	RS232(input), RS485, USB3.0 (UVC1.1), RJ45	
14	Video Output	USB 3.0, HDMI, RJ45	
15	Video Streams	2; Mainstream, Sub stream	
16	Stream Resolution	Mainstream: 1920x1080 (Max), Sub Stream: 1280x720 (Max)	
17	LAN	1xRJ45, PoE(802.3af)	
18	Operation Systems	Windows/Android/Mac OS/Linux	
19	Input Voltage	DC 12V	
20	Current Consumption	2A (Max)	
21	Power Consumption	24W (Max)	
22	Operating Temperature	0° to 40° degrees Celsius	
23	Storage Temperature	-20° to 60° degrees Celsius	
24	Certifications	BIS Certifications Required	
25	Warranty	Three years warranty	

Item No. 6 – Full HD Video Conferencing Camera with 20x Optical Zoom

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Sensor	1/2.8", CMOS, Effective Pixel: 2 MP or higher	
2	Optical Zoom	20x or higher	
3	AI-Tracking Modes	Presenter Tracking, Auto Framing	
4	Horizontal Field-of-View	50 degrees(W) ~ 3 degrees(T) or better	
5	Vertical Field-of-View	30 degrees(W) ~ 2 degrees(T) or better	
6	Diagonal Field-of-View	60 degrees(W) ~ 4 degrees(T) or better	
7	Horizontal Rotation	350° (-175° to +175°) or better	

8	Vertical Rotation	180° (-90° to +90°) or better	
9	Number of presets	User can set up to 255 presets (10 presets on IR remote)	
10	Video S/N	≥50dB	
11	Video Signals	1080p@60/50/30/25fps, 720p@60/50/30/25fps	
12	Video Encoding Format	H.265, H.264, MJPEG, YUY2	
13	Control Interface	USB 3.0, RS-232 (Input), RS485	
14	Video Output	USB 3.0, HDMI	
15	Operating Systems	Windows/Android/Mac OS/Linux	
16	Input Voltage	DC 12V	
17	Current Consumption	2A (Max)	
18	Power Consumption	24W (Max)	
19	Operating Temperature	0° to 40° degrees Celsius	
20	Storage Temperature	-20° to 60° degrees Celsius	
21	Certifications	BIS Certifications	
22	Warranty	Three years warranty	

Item No. 7 – Wireless Speakerphone with 4 Array Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Parameter	Specifications	
2	Number of MIC	Should have inbuilt 4 microphone connected in array	
3	Sensitivity	-26dBFS or better	
4	Microphone Frequency response	100Hz – 7.5kHz or better	
5	DSP functionality	Should Have AI Noise algorithm with Acoustic Echo Cancellation (AEC), Automatic Gain Control (AGC), Automatic Noise Cancellation (ANC)	
6	Speakers Frequency response	120Hz - 18kHz or better	
7	Speaker Power	Minimum 5 Watt or better	
8	Connectivity	USB Type C and Bluetooth V5.2 or better	
9	Control buttons	Power, Volume +/-, Mute, Bluetooth & Call Answer/Hangup or more	
10	Control Interface	USB 3.0, RS-232 (Input), RS485	
11	Video Output	USB 3.0, HDMI	

12	Operating Systems	Windows/Android/Mac OS/Linux	
13	Input Voltage	DC 12V	
14	Current Consumption	2A (Max)	
15	Power Consumption	24W (Max)	
16	Operating Temperature	0° to 40° degrees Celsius	
17	Storage Temperature	-20° to 60° degrees Celsius	
18	Warranty	Three years warranty	

Item No. 8 – Wireless Speakerphone with 8 Array Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Number of MIC	Should have inbuilt 8 microphone connected in array	
2	Sensitivity	-26dBFS +/-1dB @ 1Pa	
3	Frequency response	90Hz – 16kHz	
4	DSP functionality	Should Have AI Noise algorithm with Acoustic Echo Cancellation (AEC), Voice Activity Detection (VAD), Automatic Noise Cancellation (ANC)	
5	Number of Speakers	Should have inbuilt Dual Speakers or better	
6	Frequency response	Music: 120Hz - 20kHz & Voice: 200Hz- 20kHz or better	
7	Speakers	2" Main unit with 0.75" tweeter	
8	Speaker Power	Minimum 15 Watt with 10-Watt (base) & 5-Watt (tweeter) or better	
9	Connectivity	USB Type C, Wireless USB Dongle and Bluetooth V5.2 or better	
10	Wireless Cascade	Device should have capability to cascade wirelessly with maximum up to 2 mic and both should be operate as a single unit	
11	Control buttons	Power, Volume +/-, Mute, Bluetooth & Cascade or more	
12	System Compatibility	Windows, MacOS, Android & Chrome OS	
13	Battery Type	Li-ion or better Rechargeable battery	
14	Backup Time	8 Hours or better	
15	Charging Time	5 Hours or Less	
16	Warranty	Three years warranty	

Item No. 9 – Wireless Speakerphone with 4 expansion external microphone

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Speakerphone		
2	Speaker Output	Speaker system should include 2 speakers of 10 watt each housed in single unit	
3	Controls	Should have touch button to control the device	

4	Function Control	Power ON/OFF (Battery status), Volume+, Volume-, Speaker mute, Microphone mute, Scene switch, Language switch etc.	
5	Status Indication	Should have LED Light Indication	
6	Connectivity	Should have USB wired and wireless USB dongle connectivity	
7	Inbuilt Battery	Should have inbuilt battery with minimum 2 hours battery backup	
8	Power Supply	DC 12 Volts, 2 Amp.	
9	Expansion Microphone		
10	Wireless Microphone	Solution should supply with minimum 4 Wireless expansion microphones	
11	Microphone type	Digital Silicon Omnidirectional Microphone	
12	Sensitivity	-26dBm	
13	Frequency Response	100Hz - 16kHz	
14	Signal to Noise Ratio	60dB or better	
15	Sampling Rate	48 kHz or better	
16	Voice Pick up Range	3 Meters or more	
17	Wireless Transmission	Should connect with 2.4 Ghz wireless transmission	
18	Controls	Should have touch button to control the device	
19	Function Control	Power ON/OFF, Microphone mute	
20	Status Indication	Should have LED Light Indication for charging, Mute and working status	
21	Inbuilt Battery	Should have inbuilt battery with minimum 6 hours battery backup	
22	Charging	Charging mode USB type C & Charging tray	
23	Charging Tray		
24	Charging Tray	System should be supplied with minimum 2 no's of charging tray.	
25	Charging Capacity	Charging tray should have charging capacity of up to 2 Microphone	
26	Charging Interface	USB type C	
27	Power Supply	DC 5 Volts, 2 Amp.	
28	Operational Requirements		
29	Echo Cancellation	Solution should support echo cancellation up to 256ms or more	
30	Noise Cancellation	Solution should support noise cancellation	
31	Warranty	Three years warranty	

Item No. 10 – All in One Video Bar

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Camera		
2	Pixels	8 MP or higher	

3	Video Signals	3840*2160P@30/25fps, 1920*1080P@60/50/30/25fps, 1280*720P@60/50/30/25fps or better	
4	Field of View	Diagonal 120 or more, Horizontal 110 or more, Vertical 75 or more	
5	All-in-one design	Compact unit combining camera, microphone, and speaker in one device	
6	Cross-Platform Compatibility	Seamless integration with any major VC platform	
7	Auto Tracking AI Modes	Single person tracking, speaker tracking, participant tracking, close-up of speaker	
8	Digital Noise Reduction	2D&3D	
9	Backlight compensation	Supported	
10	SNR	>55db	
11	Pan / Tilt / Zoom		
12	Digital Zoom	5x or more	
13	Pan/Tilt	pan: ±10°, tilt: ±10° or more	
14	Speaker		
15	Speaker Power	10 watt or higher	
16	Microphone		
17	Microphone Type	Beamforming array	
18	No. of Microphones	Inbuilt 8 microphones or more	
19	Audio processing	AEC (acoustic echo cancellation), automatic noise reduction, automatic gain	
20	Pick-up range	8 meters or better	
21	Connectivity and other specifications		
22	HD Interface	1xHDMI or more	
23	USB Interface	1 x USB 3.0, 1 x USB2.0 or more	
24	Network Interface	1 x RJ45 or more	
25	Remote	IR Remote control with 3 Preset buttons	
26	Power Supply	DC 12V	
27	Power Consumption	20W (Max)	
28	Compatible Operating System	Windows 10 or higher, Mac OS 10.10 or higher	
29	Accessories	Remote Control, Power Adaptor, User Manual, desktop stand	
30	Mounting Options	Wall-mountable and desktop stand;	
31	Others	BIS Certifications required	
32	Warranty	Three years warranty	

Item No. 11 – Vertical Digital Signage Kiosk (55 Inch)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	LCD Panel Parameter:		

2	LCD Screen Size:	55 inches diagonal or higher	
3	Panel Type:	TFT-LCD	
4	Brightness	500cd/m2 or more	
5	Aspect Ratio:	16:9	
6	Resolution:	3840 x 2160 4K or better	
7	Contrast Ratio:	5000:1 or better	
8	Display colour	16.7 M	
9	Visual angle	178 H / 178 V	
10	Response time	6 ms or better	
11	Duty Cycle	16 x 7 working	
12	Touch Panel		
13	Touch type	Infrared Touch	
14	Positioning accuracy	±2mm or better	
15	Transmittance	≥92% or better	
16	Hardness	7H or better	
17	Response time	6 ms or better	
18	No. of Touch Points	10 touch points or more	
19	Touch Media	Finger touch	
20	Power & Environment		
21	Power supply	AC 100~240V 50/60Hz	
22	Power consumption	≤ 120W or less	
23	Operation temperature	0-50 degree Celsius	
24	Operation humidity	20% to 80%	
25	Hardware		
26	Material	Aluminium Alloy (Frame)	
27	Protective Glass	AR Laminated and Tempered glass	
28	Processor		
29	Memory	2 GB or Better	
30	Storage	16 GB or Better	
31	Operating System	Android 11 or Latest	
32	Interface		
33	Input/Output Port	1x HDMI, 1x USB, 1x RJ45, Audio	
34	Speaker	2 x 10 Watt Each or better	
35	Network	LAN & Wifi or more	
36	Certification	BIS Certification required	
37	Additional Functions	Signage Software function	
38	Digital Signage Software Features	1. Content Creator • Full transparency and layering. • Enables you to create your presentation using a simple drag and drop type process. • Unlimited free-style zones. • User Friendly GUI to create designs and content • Features extensive file format support and delivers smooth playback. • Advance tickers and live news feed Doc, Img, video supportive 2. Content Manager	

		• Smart Data Transfer updates only the changes in existing content. • Grouping support for players. • FTP and direct transfer. • Secure encrypted content transfer. • Resume Capability of Data transfer- Eliminates the need to transfer files from scratch after network breakdown. • One-click Emergency Alerts. • take screenshots and check player health from the central server. • Created content for multiple devices. 3. Content Player • Multiple format content playback. • Minimized hardware requirements. • Allows to log report of presentation, playback and player health. • Retrieves its last working state in case of power failure. • Playbacks for presentations for touch screen kiosks and non-interactive screens. • Output in scalable resolutions (horizontal or vertical). • OEM Logo & credentials should be published on website.	
39	Other features	Anti-vandalism (Lock & Key)	
40	Warranty	Three years warranty	

Item No. 12 – Interactive Touch Screen Kiosk (21.5 Inch)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type/Mounting	Pedestal	
2	Construction base	The enclosure shall be of minimum 1.6 mm thick CRCA Steel, polymer powder coated designed to work in harsh conditions. The design shall be vandal resistant. Design must be sleek and attractive.	
3	Display Type:	Display with anti-glare toughened glass	
4	Display Size	21.5 inch or higher	
5	Panel Type	IPS Technology	
6	Active area(mm)	476.064(H)x267.786(V) or better	
7	Resolution	1920 x 1080 Full HD or better	
8	Light Source	LED	
9	Brightness	250 cd/m ² or higher	
10	Contrast Ratio	1200:1 or higher	
11	Colours	16.7M or better	
12	Aspect Ratio	16:09	
13	Response Time (Typical	8ms or better	

	GTG)		
14	Operational Hours	30000 Hours or higher	
15	Viewing Angles	178° horizontal, 178° vertical	
16	Curvature	Flat	
17	Colour Gamut	72% or better	
18	Interactive Method	IR / Capacitive	
19	Touch Type	Pressure-sensitive, cordless, battery-free	
20	Touch Accuracy	±0.5mm(center); ±1mm(edge)	
21	Touch Response	First touch:30ms; Continuous touch:5ms	
22	Touch Screen	Multi-touch Points	
23	Control Buttons	Power, Menu, +/-, Auto or more	
24	Connectivity (Minimum)	USB x 1, HDMI x 1, DP or better	
25	Pen Type	Pen / stylus	
26	Power Supply	12V DC	
27	System Details:		
28	CPU	Intel Core i5 (10 th Gen or better processor)	
29	RAM	8 GB RAM	
30	Storage	256 GB SSD or better	
31	In-Built Wi-Fi / Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
32	Ports (Minimum)	HDMI/DP x 2, USB ports x 4, LAN Port x 1, Audio	
33	Operating System	Windows 11 or better	
34	Certification	Valid BIS registration of the Mini PC to be submitted with technical bid. BIS should be registered in the name of kiosk manufacturer.	
35	Warranty	Three years warranty	

Item No. 13 – Interactive Touch Screen Kiosk (32 Inch)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	LCD Panel Parameter:		
2	LCD Screen Size:	32 inches diagonal or higher	
3	Panel Type:	TFT/LCD with LED backlit	
4	Brightness	300 cd/m2 or more	
5	Aspect Ratio:	16:9	
6	Resolution:	1920 x 1080 or more	
7	Contrast Ratio:	5000:1 or better	
8	Display colour	16.7 M	
9	Visual angle	178 H / 178 V	
10	Response time	6 ms or better	
11	Duty Cycle	16 x 7 working	
12	Power & Environment		
13	Power supply	AC 100~240V 50/60Hz	
14	Power consumption	≤ 60W or less	

15	Operation temperature	0-50 degree Celsius	
16	Operation humidity	20% to 80%	
17	Working temperature	0°C - 45°C	
18	Internal Computing System		
19	Processor	ARM Cortex Quad-core @ 1.5GHz or better	
20	Memory	4 GB or Better	
21	Storage	64 GB or Better	
22	Operating System	Android 12 or Latest	
23	Video format Supported	H.265, H.264, VC-1, MPEG-1/2/4, VP8	
24	Picture format Supported	JPG, JPEG, BMP, PNG, GIF	
25	Speaker	2 x 10 Watt Each or better	
26	Network	LAN & Wifi or more	
27	USB port	2x USB or more	
28	Additional Functions	Signage Software function	
29	Digital Signage Software Features	Should be designed as an integrated content control system where display handling, layout configuration, and content flow operate together as a single unified process	
30		Should allow centralized control of multiple screens with each device uniquely identified and manageable from the admin interface, including the ability to remotely deactivate or detach any device when required.	
31		Should support pre-built screen templates with automatic adjustment of content based on orientation and layout selection, while also providing a preview option to verify how the final output will appear before publishing	
32		Content handling shall be seamless, allowing users to upload, organize, add, and remove media such as images, videos, and documents, and combine them into playlists that can be assigned and controlled across devices.	
33		Playback shall be governed through an integrated scheduling mechanism where content, playlists, and display behavior can be time-controlled and automated without manual intervention.	
34		on-screen elements such as scrolling text or information bars shall be optionally enabled, with customization in appearance and behavior, or replaced with live information feeds when required.	
35		A real-time clock display should also be supported within these elements.	

36		User access should follow a structured hierarchy where higher-level users can create and manage other users and administrators, with secure verification during account creation	
37		the system should function as a centralized yet flexible solution where device control, content management, scheduling, and user access are interconnected, ensuring smooth and controlled digital display operations.	
38	Warranty	Three years warranty	

Item No 14: Vertical Digital Signage Kiosk (43 Inch)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	LCD Panel Parameter:		
2	LCD Screen Size:	43 inches diagonal or higher	
3	Panel Type:	TFT/LCD with LED backlit	
4	Brightness	300 cd/m2 or more	
5	Aspect Ratio:	16:9	
6	Resolution:	1920 x 1080 or more	
7	Contrast Ratio:	5000:1 or better	
8	Display colour	16.7 M	
9	Visual angle	178 H / 178 V	
10	Response time	6 ms or better	
11	Duty Cycle	16 x 7 working	
12	Power & Environment		
13	Power supply	AC 100~240V 50/60Hz	
14	Power consumption	≤ 60W or less	
15	Operation temperature	0-50 degree Celsius	
16	Operation humidity	20% to 80%	
17	Working temperature	0°C - 45°C	
18	Internal Computing System		
19	Processor	ARM Cortex Quad-core @ 1.5GHz or better	
20	Memory	4 GB or Better	
21	Storage	64 GB or Better	
22	Operating System	Android 12 or Latest	
23	Video format Supported	H.265, H.264, VC-1, MPEG-1/2/4, VP8	
24	Picture format Supported	JPG, JPEG, BMP, PNG, GIF	
25	Speaker	2 x 10 Watt Each or better	
26	Network	LAN & Wifi or more	
27	USB port	2x USB or more	
28	Additional Functions	Signage Software function	
29	Digital Signage Software Features	Should be designed as an integrated content control system where display handling, layout configuration, and content flow operate together as a single unified process	

30		Should allow centralized control of multiple screens with each device uniquely identified and manageable from the admin interface, including the ability to remotely deactivate or detach any device when required.	
31		Should support pre-built screen templates with automatic adjustment of content based on orientation and layout selection, while also providing a preview option to verify how the final output will appear before publishing	
32		Content handling shall be seamless, allowing users to upload, organize, add, and remove media such as images, videos, and documents, and combine them into playlists that can be assigned and controlled across devices.	
33		Playback shall be governed through an integrated scheduling mechanism where content, playlists, and display behavior can be time-controlled and automated without manual intervention.	
34		on-screen elements such as scrolling text or information bars shall be optionally enabled, with customization in appearance and behavior, or replaced with live information feeds when required.	
35		A real-time clock display should also be supported within these elements.	
36		User access should follow a structured hierarchy where higher-level users can create and manage other users and administrators, with secure verification during account creation	
37		the system should function as a centralized yet flexible solution where device control, content management, scheduling, and user access are interconnected, ensuring smooth and controlled digital display operations.	
38	Warranty	Three years warranty	

Item No. 15 – OPS Module (Core i5 Class)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type Detachable	PC module	
2	CPU Intel Core	i5 10th Generation or better	
3	RAM	8 GB or better	
4	SSD	256 GB SSD or better	

5	Operating system	Windows10	
6	I/O Ports	HDMI x 1, USB ports x 4, LAN Port x 1	
7	Max Power	50W or less	
8	Certifications	BIS certification required, as per BIS manufacturing facility should be in India in own name of OEM & Product catalogue should be available on OEM website.	

Item No. 16 – OPS Module (Core i7 Class)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type Detachable	PC module	
2	CPU Intel Core	I7 10th Generation or better	
3	RAM	8 GB or better	
4	SSD	256 GB SSD or better	
5	Operating system	Windows10	
6	I/O Ports	HDMI x 1, USB ports x 4, LAN Port x 1	
7	Max Power	50W or less	
8	Certifications	BIS certification required, as per BIS manufacturing facility should be in India in own name of OEM & Product catalogue should be available on OEM website, Non-compliance shall result the rejection of bid.	
9	Warranty	Three years warranty	

Item No. 17 – Micro Computer (Intel Core i5 Class or Equivalent)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Processor	Intel Core i5 (10th Gen or better processor)	
2	Small Form Factor	Computer should be of 2 liters Volume or less	
3	In-Built Wi-Fi /Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
4	RAM	8 GB or better	
5	SSD	256 GB SSD or better	
6	Ports (Min.)	HDMI x 1, USB ports x 4, LAN Port x 1	
7	Keyboard & Mouse	Wireless	
8	Operating System	Windows 10	
9	Certifications	BIS certification required	
10	Warranty	Three years warranty	

Item No. 18 – Micro Computer (Intel Core i7 Class or Equivalent)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Processor	Intel Core i7 (10th Gen or better processor)	
2	Small Form Factor	Computer should be of 2 litres Volume or less	
3	In-Built Wi-Fi /Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
4	RAM	8 GB or better	
5	SSD	256 GB SSD or better	
6	Ports (Min.)	HDMI x 1, USB ports x 4, LAN Port x 1	
7	Keyboard & Mouse	Wireless	
8	Operating System	Windows 10	
9	Certifications	BIS certification required	
10	Warranty	Three years warranty	

Item No. 19 – Movable Stand for Mounting Digital Display

Particulars	Minimum Technical Specifications	Compliance (Yes/No)
Movable Stand for Mounting Digital Display	Type: Floor-mounted movable display stand with lockable castor wheels Display Compatibility: Suitable for flat panel digital displays of sizes 55", 65", 75", 86" and 98" Load Capacity: Minimum 150 kg maximum supported load VESA Mount Support: Compatible with standard VESA mounting patterns suitable for supported display sizes Construction: Heavy-duty metal construction (steel or equivalent) for stability and durability Mobility: Smooth-rolling wheels with at least two lockable wheels for secure positioning Accessories: Integrated base shelf and accessory shelf/rack for placement of media players, conferencing equipment, or peripherals Finish: Industrial powder-coated finish or equivalent for corrosion resistance	
Warranty	Three years warranty	

Item No. 20 – Interactive Screen with Diagonal 65 inch

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	65" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	350 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better,– Processor- RK 3576	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	

8	OS	Android 16.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Speakers	20 Watt x 2 speakers or better	
16	Wi-fi	Wi-fi 5 (2.4 and 5 GHz) or better	
17	Bluetooth	Bluetooth version 5.2 or higher	
18	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
19	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
20	Power Supply	AC 100-240V 50/60Hz	
21	Max. Power Consumption	350 W or Better	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No.21 – Interactive Screen with Diagonal 75 inch

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	75" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	350 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better- Processor- RK 3576	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 16.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	

13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Speakers	20 Watt x 2 speakers or better	
16	Wi-fi	Wi-fi 5 (2.4 and 5 GHz) or better	
17	Bluetooth	Bluetooth version 5.2 or higher	
18	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
19	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
20	Power Supply	AC 100-240V 50/60Hz	
21	Max. Power Consumption	350 W or Better	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 22 – Interactive Screen with Diagonal 86 inch

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	86" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	450 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better - Processor- RK 3576	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 16.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Speakers	20 Watt x 2 speakers or better	
16	Wi-fi	Wi-fi 5 (2.4 and 5 GHz) or better	

17	Bluetooth	Bluetooth version 5.2 or higher	
18	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
19	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
20	Power Supply	AC 100-240V 50/60Hz	
21	Max. Power Consumption	350 W or Better	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 23 – Interactive Screen with Diagonal 98 inch

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	98" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better- Processor- RK 3576	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 16.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Speakers	20 Watt x 2 speakers or better	
16	Wi-fi	Wi-fi 5 (2.4 and 5 GHz) or better	
17	Bluetooth	Bluetooth version 5.2 or higher	

18	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
19	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
20	Power Supply	AC 100-240V 50/60Hz	
21	Max. Power Consumption	350 W or Better	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 24 – Interactive Screen with Diagonal 110 inch

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	110" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better Processor- RK 3576	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 16.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Speakers	20 Watt x 2 speakers or better	
16	Wi-fi	Wi-fi 5 (2.4 and 5 GHz) or better	
17	Bluetooth	Bluetooth version 5.2 or higher	
18	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	

19	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
20	Power Supply	AC 100-240V 50/60Hz	
21	Max. Power Consumption	350 W or Better	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 25 – Interactive Screen with Diagonal 65 inches with camera & Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	65" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	350 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 14.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Camera	48MP AI Camera with inbuilt 6-microphone array	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-fi (2.4 & 5 GHz) or better	
18	Bluetooth	Bluetooth version 5.2 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	

22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 26 – Interactive Screen with Diagonal 75 inches with camera & Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	75" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	350 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 14.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Camera	48MP AI Camera with inbuilt 6-microphone array	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-fi (2.4 & 5 GHz) or better	
18	Bluetooth	Bluetooth version 5.2 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	

26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 27 – Interactive Screen with Diagonal 86 inches with camera & Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	86" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	450 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 14.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Camera	48MP AI Camera with inbuilt 6-microphone array	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-fi (2.4 & 5 GHz) or better	
18	Bluetooth	Bluetooth version 5.2 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 28 – Interactive Screen with Diagonal 98 inches with camera & Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	98" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 14.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Camera	48MP AI Camera with inbuilt 6-microphone array	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-fi (2.4 & 5 GHz) or better	
18	Bluetooth	Bluetooth version 5.2 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 29 – Interactive Screen with Diagonal 110 inches with camera & Mic

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	110" or higher	
2	Resolution	4K UHD or higher	

3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	128 GB or higher	
8	OS	Android 14.0 or better	
9	Panel life	50,000 hrs or higher	
10	Touch Glass	4 mm tempered glass or better	
11	Touch points	40 or higher	
12	Touch response time	6 ms or better	
13	Connectivity - Minimum Ports	USB 3.0 Type A - 3, USB Type C - 1, HDMI In - 2, RJ45 - 1, Mic in - 1, Earphone – 1	
14	Additional Features	Smart Eye Protection, Anti-glare coating	
15	Camera	48MP AI Camera with inbuilt 6-microphone array	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-fi (2.4 & 5 GHz) or better	
18	Bluetooth	Bluetooth version 5.2 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS Certifications Required	
27	Warranty	Three years warranty	

Item No. 30 : Interactive Screen with Diagonal 65 inch (EDLA certified)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	65" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	450 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	64 GB or higher	
8	OS	Android 14.0 or better (EDLA-Certified)	

9	EDLA Certification	Should be verifiable online (google website) and on device (play store)	
10	Panel life	50,000 hrs or higher	
11	Touch Glass	3.2 mm tempered glass or better	
12	Touch points	40 or higher	
13	Touch response time	8 ms or better	
14	Connectivity - Minimum Ports	USB 3.0 Type A - 2, USB Type C - 1, HDMI In - 2, RJ45 - 1	
15	Additional Features	Smart Eye Protection, Anti-glare coating	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-Fi 6 / Wi-Fi 6E or better	
18	Bluetooth	Bluetooth 5.0 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS & EDLA Certificate required	
27	Warranty	Three years warranty	

Item No. 31 : Interactive Screen with Diagonal 75 inch (EDLA certified)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	75" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	450 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	64 GB or higher	
8	OS	Android 14.0 or better (EDLA-Certified)	
9	EDLA Certification	Should be verifiable online (google website) and on device (play store)	
10	Panel life	50,000 hrs or higher	
11	Touch Glass	3.2 mm tempered glass or better	
12	Touch points	40 or higher	
13	Touch response time	8 ms or better	

14	Connectivity - Minimum Ports	USB 3.0 Type A - 2, USB Type C - 1, HDMI In - 2, RJ45 - 1	
15	Additional Features	Smart Eye Protection, Anti-glare coating	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-Fi 6 / Wi-Fi 6E or better	
18	Bluetooth	Bluetooth 5.0 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS & EDLA Certificate required	
27	Warranty	Three years warranty	

Item No. 32 : Interactive Screen with Diagonal 86 inch (EDLA certified)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	86" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	64 GB or higher	
8	OS	Android 14.0 or better (EDLA-Certified)	
9	EDLA Certification	Should be verifiable online (google website) and on device (play store)	
10	Panel life	50,000 hrs or higher	
11	Touch Glass	3.2 mm tempered glass or better	
12	Touch points	40 or higher	
13	Touch response time	8 ms or better	
14	Connectivity - Minimum Ports	USB 3.0 Type A - 2, USB Type C - 1, HDMI In - 2, RJ45 - 1	
15	Additional Features	Smart Eye Protection, Anti-glare coating	
16	Speakers	20-Watt x 2 speakers or better	

17	Wi-fi	Wi-Fi 6 / Wi-Fi 6E or better	
18	Bluetooth	Bluetooth 5.0 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS & EDLA Certificate required	
27	Warranty	Three years warranty	

Item No. 33 : Interactive Screen with Diagonal 98 inch (EDLA certified)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	98" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	64 GB or higher	
8	OS	Android 16.0 or better (EDLA-Certified)	
9	EDLA Certification	Should be verifiable online (google website) and on device (play store)	
10	Panel life	50,000 hrs or higher	
11	Touch Glass	3.2 mm tempered glass or better	
12	Touch points	40 or higher	
13	Touch response time	8 ms or better	
14	Connectivity - Minimum Ports	USB 3.0 Type A - 2, USB Type C - 1, HDMI In - 2, RJ45 - 1	
15	Additional Features	Smart Eye Protection, Anti-glare coating	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-Fi 6 / Wi-Fi 6E or better	
18	Bluetooth	Bluetooth 5.0 or higher	

19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content · Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS & EDLA Certificate required	
27	Warranty	Three years warranty	

Item No. 34 : Interactive Screen with Diagonal 110 inch (EDLA certified)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Diagonal Size	110" or higher	
2	Resolution	4K UHD or higher	
3	Brightness (typical)	500 nits or higher	
4	Contrast ratio (typical)	1100:1 or higher	
5	CPU	Octa-Core or better	
6	Memory (RAM)	8GB or higher	
7	Storage (ROM)	64 GB or higher	
8	OS	Android 16.0 or better (EDLA-Certified)	
9	EDLA Certification	Should be verifiable online (google website) and on device (play store)	
10	Panel life	50,000 hrs or higher	
11	Touch Glass	3.2 mm tempered glass or better	
12	Touch points	40 or higher	
13	Touch response time	8 ms or better	
14	Connectivity - Minimum Ports	USB 3.0 Type A - 2, USB Type C - 1, HDMI In - 2, RJ45 - 1	
15	Additional Features	Smart Eye Protection, Anti-glare coating	
16	Speakers	20-Watt x 2 speakers or better	
17	Wi-fi	Wi-Fi 6 / Wi-Fi 6E or better	
18	Bluetooth	Bluetooth 5.0 or higher	
19	Whiteboard Interactive Software (Android) Features	· Multi-touch writing (multiple users simultaneously) · Pen, marker, highlighter tools · Adjustable pen thickness and colors · Eraser (finger, pen-end, or tool-based) · Lasso/select tool to move or resize content	

		· Geometrical Tools	
20	Wireless screen sharing	Share/mirror the content of an external device wirelessly on the interactive panel	
21	Power Supply	AC 100-240V 50/60Hz	
22	Operating temperature	0°C ~ 40°C or Better	
23	Operating Humidity	10% ~ 80% RH Non-Condensing or Better	
24	Accessories	Wall mount Kit, Remote, 2 x Stylus, 1x HDMI Cable (1.5 Meter), 1x USB A to B cable (1.5 Meter), 1x Power Cable (1.5 Meter)	
25	Magnetic pen holder	Magnetic pen holder for two pens	
26	Certifications	BIS & EDLA Certificate required	
27	Warranty	Three years warranty	

Item No. 35: Sliding Screen with Safety Lockable Enclosure for 65” Interactive Display

S. No	Minimum Technical Specification	Compliance (Yes/ No)
1	Outer Length of Frame: As per the dimension of panel	
2	Outer width of Frame: As per the dimension of panel	
3	Thickness of Frame (Depth): 210 mm	
4	Frame is made of Aluminium	
5	2 numbers boards with movable whiteboard with lock & key and 2. no's of white/Green board in background. Base material with 14 mm thickness. Movable board is having lock system to safe IFPD from vandalism	
6	Front metal sheet is having thickness 0.3 mm	
7	Back Side metal sheet is colour coated/ GI sheet with thickness of 0.2-0.3mm	
8	Whole system is mounted on the wall with the help of metal clamps	
9	Three years warranty	

Item No. 36: Sliding Screen with Safety Lockable Enclosure for 75” Interactive Display

S. No	Minimum Technical Specification	Compliance (Yes/ No)
1	Outer Length of Frame: As per the dimension of panel	
2	Outer width of Frame: As per the dimension of panel	
3	Thickness of Frame (Depth): 210 mm	
4	Frame is made of Aluminium	

5	2 numbers boards with movable whiteboard with lock & key and 2. no's of white/Green board in background. Base material with 14 mm thickness. Movable board is having lock system to safe IFPD from vandalism	
6	Front metal sheet is having thickness 0.3 mm	
7	Back Side metal sheet is colour coated/ GI sheet with thickness of 0.2-0.3mm	
8	Whole system is mounted on the wall with the help of metal clamps	
9	Three years warranty	

Item No. 37: Digital Podium:

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type/Mounting	Free Standing	
2	Construction	The Podium shall be wheel mounted capable of moving in all directions with a facility of lock them while the electronic podium is in use. The enclosure shall be made of Polymer Powder Coated Steel Body designed to work in suitable environmental conditions. The wooden top shall have lock and key and should have a sliding cover for opening/closing easily. The Podium should have housing and connectivity for Visual Presenter while the visualiser is in use and not in use. At the time of using the Visualiser, drawer can be opened, and Visualiser can be used. The construction of the podium should be such that, while the podium is locked and not is use, there should not be any port exposed/ visible on the outer body for breakage/mishandling.	
3	Display	Built-in highly sensitive Interactive Panel with adjustable Motorized tilt & a mechanism to make the Panel stable so that it does not shake while writing with following minimum features -	
4	Display Size	21.5 inch or higher	
5	Panel Type	IPS Technology	
6	Active area(mm)	Active display area suitable for 21.5 inch or higher display	
7	Resolution	1920 x 1080 Full HD or better	
8	Light Source	LED	
9	Brightness	350 cd/m ² or higher	
10	Contrast Ratio	1200:1 or higher	
11	Colours	16.7M or better	
12	Aspect Ratio	16:09	
13	Response Time (Typical GTG)	8ms or better	
14	Operational Hours	30000 Hours or higher	
15	Viewing Angles	178° horizontal, 178° vertical	
16	Curvature	Flat	

17	Colour Gamut	72% or better	
18	Interactive Method	Pen-based interactive technology	
19	Touch Type	Pressure-sensitive, cordless, battery-free	
20	Touch Accuracy	±0.5mm(center); ±1mm(edge)	
21	Touch Response	Continuous touch:8ms	
22	Touch Screen	Multi-touch Points	
23	Control Buttons	Power, Menu, Auto image adjust, up/down or more	
24	Connectivity (Minimum)	HDMI x1, USB x1 or better	
25	Pen Type	Battery Free Pen	
26	Display Stand	Should support tilting and Table standing type	
27	Power Supply	12V DC	
28	Certifications	BIS certification is required for the display. The BIS certificate for the display must be registered in the name of the Podium's OEM	
29	System Details		
30	Processor	Intel Core i5 (10th Gen or better processor)	
31	In-Built Wi-Fi /Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
32	RAM	8 GB or higher	
33	Storage	256 GB SSD or better	
34	Ports (Min.)	HDMI x 1, USB ports x 4, LAN Port x 1	
35	Keyboard & Mouse	Wireless	
36	Operating System	Windows 11 Professional	
37	Certifications	BIS certification required for applicable electronic components such as display and computing device	
38	Controller		
39	Ports on front Panel of Controller (Minimum)	VGA, HDMI, USB3.0x2, Audio IN, RCA, Lan in/Out, RS232 or more	
40	Buttons on front Panel of Controller (Minimum)	Push buttons to control Volume Up& Down, Volume Mute and to switch sources of HDMI Visual Presenter, VGA Visual Presenter, HDMI Laptop, PC HDMI, VGA Laptop, VGA PC and Controller Power On/Off,	
41	Ports on Rear Panel of Controller (Minimum)	USB 3.0 X 2, VGA Input x 2, VGA Output x 2, RCA Audio IN X 1, RCA Audio Output x 2, HDMI Inputx2,HDMI Outputx2 ,	
42	Built in HDMI Repeater	Yes (HDMI Output port should support 15mtr HDMI cable)	
43	Controller Resolution Output	1980 X 1080 FULL HD	
44	Power	5 V DC (Suitable Adaptor should be supplied with controller)	
45	Built in devices		

46	Gooseneck Microphone	Gooseneck Microphone with XLR output. It should be Phantom powered so that there is no requirement of batteries thereby eliminating consumable cost. The gooseneck length should be at least 21.5 inch with ON/OFF switch and with LED light indicating ON/OFF status. The gooseneck microphone shall be permanently polarised condenser, highly directional featuring hyper cardioid /lobar directivity.	
47	Built in Amplifier Power	Amplifier: Class D Rated Power : 250 W or better Mic Input : Minimum 4 input or better Line Input : Minimum 2 input or better	
48	Speakers	Two speakers of Minimum 100 W each shall be a part of standard supply. Speaker Type : 2 Way drivers Effective frequency range : 100 Hz – 17 kHz Rated power : 100 watts Sensitivity : 90 dB or Better Impedance : 8Ω ohm LF transducer : 8-inch woofer or better HF transducer : 2-inch tweeter or better Mounting : With mounting bracket fixed by screw	
49	Wireless Microphone Units	Wireless Hand Held & Lapel microphone with receiver.	
50	Sliding Trays	Provision for keeping laptop and Keyboard & Mouse	
51	Power Supply	180 -240V, 50Hz, AC Supply	
52	Fans	Suitable cooling fans to be provided in the lower body.	
53	Logo	Should be provided with Acrylic logo	
54	Warranty	Three years warranty	

Item No. 38: Digital Podium with Front Display

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type/Mounting	Free Standing	

2	Construction	The Podium shall be wheel mounted capable of moving in all directions with a facility of lock them while the electronic podium is in use. The enclosure shall be made of Polymer Powder Coated Steel Body with wooden top panels, designed to work in suitable environmental conditions. The podium shall have lock and key and should have a sliding cover for opening/closing easily. The Podium should have housing and connectivity for Visual Presenter while the visualiser is in use and not in use. At the time of using the Visualiser, drawer can be opened and Visualiser can be used. The construction of the podium should be such that, while the podium is locked and not is use, there should not be any port exposed/ visible on the outer body for breakage/mishandling.	
3	Display	Built-in highly sensitive Interactive Panel with adjustable Motorized tilt & a mechanism to make the Panel stable so that it does not shake while writing with following minimum features -	
4	Display Size	21.5 inch or higher	
5	Panel Type	IPS Technology	
6	Active area(mm)	Active display area suitable for 21.5-inch or higher display	
7	Resolution	1920 x 1080 Full HD or better	
8	Light Source	LED	
9	Brightness	350 cd/m ² or higher	
10	Contrast Ratio	1200:1 or higher	
11	Colours	16.7M or better	
12	Aspect Ratio	16:09	
13	Response Time (Typical GTG)	8ms or better	
14	Operational Hours	30000 Hours or higher	
15	Viewing Angles	178° horizontal, 178° vertical	
16	Curvature	Flat	
17	Colour Gamut	72% or better	
18	Interactive Method	Pen-based interactive technology	
19	Touch Type	Pressure-sensitive, cordless, battery-free	
20	Touch Accuracy	±0.5mm(center); ±1mm(edge)	
21	Touch Response	First touch:30ms; Continuous touch:5ms	
22	Touch Screen	Multi-touch Points	
23	Control Buttons	Power, Menu, +/-, Auto or more	
24	Connectivity (Minimum)	HDMI x1, USB x1 or better	
25	Pen Type	Battery Free	
26	Display Stand	Should support tilting and Table standing type	
27	Power Supply	12V DC	
28	Certifications	BIS certification is required for the display. The BIS certificate for the display must be registered in the name of the Podium's OEM	

29	System Details		
30	Processor	Intel Core i5 (10th Gen or better processor)	
31	In-Built Wi-Fi /Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
32	RAM	8 GB	
33	Storage	256 GB SSD or better	
34	Ports (Min.)	HDMI x 1, USB ports x 4, LAN Port x 1	
35	Keyboard & Mouse	Wireless	
36	Operating System	Windows 11 Professional	
37	Certifications	BIS certification required for applicable electronic components such as display and computing device	
38	Controller		
39	Ports on front Panel of Controller (Minimum)	VGA, HDMI, USB3.0x2,Audio IN, RCA, Lan in/Out, RS232 or more or more	
40	Buttons on front Panel of Controller (Minimum)	Push buttons to control Volume Up& Down, Volume Mute and to switch sources of HDMI Visual Presenter, VGA Visual Presenter, HDMI Laptop, PC HDMI, VGA Laptop, VGA PC and Controller Power On/Off,	
41	Ports on Rear Panel of Controller (Minimum)	USB 3.0 X 2, VGA Input x 2, VGA Output x 2, RCA Audio IN X 1,RCA Audio Output x 2,HDMI Inputx2,HDMI Outputx2	
42	Built in HDMI Repeater	Yes (HDMI Output port should support 15mtr HDMI cable)	
43	Controller Resolution Output	, 1980 X 1080 FULL HD	
44	Power	5 V DC (Suitable Adaptor should be supplied with controller)	
45	Built in devices		
46	Gooseneck Microphone	Gooseneck Microphone with XLR output. It should be Phantom powered so that there is no requirement of batteries thereby eliminating consumable cost. The gooseneck length should be at least 21.5cm with ON/OFF switch and with LED light indicating ON/OFF status. The gooseneck microphone shall be permanently polarised condenser, highly directional featuring hyper cardioid /lobar directivity.	
47	Wireless Microphone Units	One Handheld and one Lapel Mic should be supplied.	
48	Sliding Trays	Provision for keeping laptop and Keyboard & Mouse	
49	Power Supply	180 -240V, 50Hz, AC Supply	
50	Fans	Suitable cooling fans to be provided in the lower body.	
51	Front Display	Minimum 32-inchHD IPS display with anti-glare coating and wide viewing angles (178°). The display shall support HDMI / VGA inputs and suitable operating conditions for indoor usage	

52	Display type	IPS with LED backlight	
53	Display size (diagonal)	32"	
54	Viewing angle	178° horizontal; 178° vertical	
55	Brightness	250 cd/m²	
56	Contrast ratio	5000:1	
57	Response Ratio	6ms	
58	Aspect ratio	16:09	
59	Native resolution	HD 1280 x 720 @ 30 Hz	
60	Resolutions supported	1024 x 768; 1280 x 1024; 1280 x 720; 1280 x 800; 1440 x 900; 1600 x 900; 1680 x 1050;; 640x 480; 720 x 400; 800 x 600	
61	Display features	Anti-glare; BrightView Panel; Language selection; LED Backlights; On-screen controls; Plug and Play; User programmable; Anti-static	
62	User controls	Brightness; Color Control; Contrast; Exit; Image Control; Information; Input Control; Language; Management; Menu; Power Control	
63	Input signal	DVI-D/ VGA/ HDMI, USB, LAN, AUDIO	
64	Environmental	Operating temperature: 5 to 40°C; Operating humidity: 20 to 80% RH	
65	Power	Input voltage: 100 to 240 VAC	
66	PC Specs for front Display		
67	Processor	Intel core i3	
68	System Memory	2 GB RAM	
69	Flash Memory	32 GB	
70	Graphic	Intel HD Graphics	
71	OS Supported	Windows 10 / Ubuntu / Android	
72	Interface	HDMI x 1 /VGA x 1	
73		1 xUSB 2.0	
74		1 xUSB 3.0	
75		Lan Port (10/100/1000) x 1	
76	Power	5V/2A	
77	Wireless Connectivity	On Board Wi-Fi /Bluetooth	
78	Digital Signage Software		
79	Content Creator	Integrated content control system where display handling, layout configuration, and content flow operate together as a single unified process	
80		Allow centralized control of multiple screens with each device uniquely identified and manageable from the admin interface, including the ability to remotely deactivate or detach any device when required.	
81		Support pre-built screen templates with automatic adjustment of content based on orientation and layout selection, while also providing a preview option to verify how the final output will appear before publishing.	
82		Content handling shall be seamless, allowing users to upload, organize, add, and remove media	

		such as images, videos, and documents, and combine them into playlists that can be assigned and controlled across devices.	
83	Content Player	Playback shall be governed through an integrated scheduling mechanism where content, playlists, and display behavior can be time-controlled and automated without manual intervention.	
84		On-screen elements such as scrolling text or information bars shall be optionally enabled, with customization in appearance and behavior, or replaced with live information feeds when required.	
85		A real-time clock display shall also be supported within these elements.	
86		User access shall follow a structured hierarchy where higher-level users can create and manage other users and administrators, with secure verification during account creation.	
87		The system shall function as a centralized yet flexible solution where device control, content management, scheduling, and user access are interconnected, ensuring smooth and controlled digital display operations.	
88	Warranty	Three years warranty	

Item No 39: 135 inch All in One LED Display

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Screen size	135" or higher	
2	Environment	Indoor	
3	Pixel Pitch	1.56 mm or better	
4	Resolution (pixel)	Full HD 1920x1080 or better	
5	Aspect Ration	16:09	
6	Brightness	800-1000 nits or Higher	
7	Brightness Uniformity	≥97 % or better	
8	Contrast Ratio	5000:1 or more	
9	Colour Temperature	2000-9600 Adjustable or better	
10	Acoustic Noise	Fan less operation	
11	Gap Between Modules	Seamless & zero bezel width	
12	Maintenance	Front Maintenance with COB Panels	
13	Display Type	All in One LED Display with Latest COB Technology	
14	Drive Mode	Constant Current Drive	
15	Viewing Angle	H: 160 degree; V: 160 degree	
16	Video Frame Rate	60Hz or better	
17	Refresh Rate	3840 Hz or better	
18	Viewing Distance	≥1.6 m or better	
19	High Dynamic Range	Supported	

20	Colour depth bit)	12 bit or higher	
21	Sound Bar	built in sound bar with 40 watt x 2 or better	
22	Audiovisual Interface	Input port: x HDMI 2.0 inputs, 1x USB 2.0, 2x USB 3.0, 2x RJ45 (Gigabit),	
23		Output Port 1x Line Out (3.5mm), 1x SPDIF,	
24	Operating System	Android 11 or latest	
25	Processor	Quad-core A73 + Quad-core A53 ARM	
26		processor or better	
27	RAM	8 GB RAM or better	
28	Storage	64 GB Internal Storage or better	
29	Control Buttons	Should have minimum: Volume +/-, Brightness +/-, Signal Switching & On/Off buttons on remote control	
30	Wireless Connectivity	Dual band wi-fi and Hotspot & Bluetooth 5.1 or better	
31	Magnetic Modules	Should have magnetically cabinets to allow rapid installations	
32	Heat dissipation	Should have Aluminium-made cabinets facilitate excellent heat dissipation for higher reliability	
33	Protection	Should have Fully-sealed back shell allows higher protection to run stably	
34	Remote control	Should have Remote control to operate the display	
35	Wireless screen sharing	Display should allow user to share/mirror the content of Laptop/Desktop and mobile device(Android) wirelessly and should have Screen Share software to show up to 4 Multiple screen at same time.	
36	Smart Eye Protection	Supports one-click eye protection mode	
37	Max Power Consumption	1550 Watt or better	
38	Average Power Consumption	520 Watt or better	
39	Input Voltage	100-240V AC, 50~60Hz	
40	Operating Temperature	-10 degree ~ + 45 degree or better	
41	Operating Humidity	10~80%RH	
42	LED Life Time	≥100,000 Hours or More	
43	Certification	BIS certification required, as per BIS manufacturing facility should be in India in name of OEM & Product catalogue should be available on OEM website	
44	Warranty	Three years warranty	

Item No 40: 162 inch All in One LED Display

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Screen size	162" or higher	
2	Environment	Indoor	

3	Pixel Pitch	1.87 mm or better	
4	Resolution (pixel)	Full HD 1920x1080 or better	
5	Aspect Ratio	16:09	
6	Brightness	800-1000 nits or Higher	
7	Brightness Uniformity	≥97 % or better	
8	Contrast Ratio	10000:1 or more	
9	Colour Temperature	2000-9600 Adjustable or better	
10	Acoustic Noise	Fan less operation	
11	Gap Between Modules	Seamless & zero bezel width	
12	Maintenance	Front Maintenance with COB Panels	
13	Display Type	All in One LED Display with Latest COB Technology	
14	Drive Mode	Constant Current Drive	
15	Viewing Angle	H: 170 degree; V 160 degree	
16	Video Frame Rate	60Hz or better	
17	Refresh Rate	3840 Hz or better	
18	Viewing Distance	≥1.9 m or better	
19	High Dynamic Range	Supported	
20	Colour depth bit)	12 bit or higher	
21	Sound Bar	built in sound bar with 40 watt x 2 or better	
22	Audiovisual Interface	Input port: 2x HDMI 2.0 inputs, 1x USB 2.0, 2x USB 3.0, 2x RJ45 (Gigabit),	
23		Output Port 1x Line Out (3.5mm), 1x SPDIF,	
24	Operating System	Android 11 or latest	
25	Processor	Quad-core A73 + Quad-core A53 ARM	
26		processor or better	
27	RAM	8 GB RAM or better	
28	Storage	64 GB Internal Storage or better	
29	Control Buttons	Should have minimum: Volume +/-, Brightness +/-, Signal Switching & On/Off buttons on remote control	
30	Wireless Connectivity	Dual band wi-fi and Hotspot & Bluetooth 5.1 or better	
31	Magnetic Modules	Should have magnetically cabinets to allow rapid installations	
32	Heat dissipation	Should have Aluminium-made cabinets facilitate excellent heat dissipation for higher reliability	
33	Protection	Should have Fully-sealed back shell allows higher protection to run stably	
34	Remote control	Should have Remote control to operate the display	
35	Wireless screen sharing	Display should allow user to share/mirror the content of Laptop/Desktop and mobile device(Android) wirelessly and should have Screen Share software to show up to 4 Multiple screen at same time.	
36	Smart Eye Protection	Supports one-click eye protection mode	
37	Max Power Consumption	1790 Watt or better	

38	Average Power Consumption	1032 Watt or better	
39	Input Voltage	100-240V AC, 50~60Hz	
40	Operating Temperature	-10 degree ~ + 45 degree or better or better	
41	Operating Humidity	10~80%RH	
42	LED Lifetime	≥100,000 Hours or More	
43	Certification	BIS certification required, as per BIS manufacturing facility should be in India in name of OEM & Product catalogue should be available on OEM website	
44	Warranty	Three years warranty	

Item No. 41: 8-Port Audio Digital Signal Processor

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Signal Processing	32-bit DSP processor suitable for professional audio processing	
2	Audio System Delay	< 1ms or better	
3	Digital-Analog Conversion	24-bit or better	
4	Sampling Rate	48KHz or better	
5	Input Channel	8-channel balanced inputs, Mic/line level	
6	Audio Interface	Phoenix / Euroblock type balanced audio connectors	
7	Input Impedance	≥10kΩ	
8	Maximum Input Level	12dBu/Line, -9dBu/Mic	
9	Phantom Power	+48VDC, 6.5mA, configured in each channel	
10	Output Channel	8-channel balanced outputs, line level	
11	Output Impedance	≤200Ω	
12	Frequency Response	20Hz-20kHz(+0.5dB)/Line 20Hz-20kHz(+1.5dB)/Mic	
13	Total harmonic distortion (THD+N)	-90dB (@12dBu, 1kHz, A-wt)/Line -86dB (@-7dBu, 1kHz, A-wt)/Mic	
14	Signal to Noise Ratio	105dB (@12dBu, 1kHz, A-wt)/Line 95dB (@-7dBu, 1kHz, A-wt)/Mic	
15	USB Port	USB interface for configuration and control, drive-free	
16	Serial communication port	1x RS232 Port, 1x RS485, or more	
17	GPIO Port	10 pin GPIO port	
18	TCP/IP Network Port	1x RJ-45 Port or more	
19	Indicator Light	Power, network, Link, +48V, input and output audio signal	
20	Menu selection button	Rotating button with selection function or	

		better	
21	Power Supply	AC100V---240V 50/60 Hz	
22	Input/output requirements	Should have minimum 8 channels audio input & 8 channels audio output should support microphone input and line input with easily switching function	
23	Level Sensitivity Adjustment	Adjustable microphone input sensitivity	
24	Phantom Power switching	Each input should have 48V phantom power switch	
25	Audio mixing	Device should have automatic mixing and matrix mixing functions for Audio Signals	
26	PEQ Adjustment	Device should have minimum 16 bands PEQ adjustment for input signal and 10 bands PEQ adjustment for output Signals	
27	PTZ camera control	Device should support PTZ camera Control to functionate voice tracking functionality	
28	Warranty	Three years warranty	

Item No. 42: 16-Port Audio Digital Signal Processor

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Signal Processing	32-bit DSP processor suitable for professional audio processing applications	
2	Audio System Delay	< 1ms or better	
3	Digital-Analog Conversion	24-bit or better	
4	Sampling Rate	48KHz or better	
5	Input Channel	16-channel balanced inputs, Mic/line level	
6	Audio Interface	Balanced audio connectors using Phoenix/Euroblock type terminals	
7	Input Impedance	$\geq 10k\Omega$	
8	Maximum Input Level	12dBu/Line, -7dBu/Mic	
9	Phantom Power	+48VDC, 6.5mA, configured in each channel	
10	Output Channel	16-channel balanced outputs, line level	
11	Output Impedance	$\leq 200\Omega$	
12	Frequency Response	20Hz-20kHz(+0.5dB)/Line 20Hz-20kHz(+1.5dB)/Mic, 20dB Gain	
13	Total harmonic distortion (THD+N)	-90dB (@12dBu, 1kHz, A-wt)/Line -86dB (@-7dBu, 1kHz, A-wt)/Mic, 20dB Gain	
14	Signal to Noise Ratio	105dB (@12dBu, 1kHz, A-wt)/Line 95dB (@-7dBu, 1kHz, A-wt)/Mic, 20dB	

		Gain	
15	USB Port	USB interface for configuration and control, drive-free	
16	Serial port communication	1x RS232 Port, 1x RS485, or more	
17	GPIO Port	10 pin GPIO port	
18	TCP/IP Network Port	1x RJ-45 Port or more	
19	Indicator Light	Power, Link, +48V, input and output audio signal	
20	Power Supply	AC100V---240V 50/60 Hz	
21	Input/output requirements	Should have minimum 16 channels audio input & 16 channels audio output should support microphone input and line input with easily switching function	
22	Eco cancelation Mode	Should have AEC echo cancellation and ANC noise cancellation function which should be suitable for Video conferencing requirement.	
23	Level Sensitivity Adjustment	Adjustable microphone input sensitivity	
24	Phantom Power switching	Each input should have 48V phantom power switch	
25	Inbuilt Feedback suspensor	Should Have inbuilt feedback suppressor with two levels adjustment with Each audio input	
26	Audio mixing	Device should have automatic mixing and matrix mixing functions for Audio Signals	
27	PEQ Adjustment	Device should have minimum 16 bands PEQ adjustment for input signal and 10 bands PEQ adjustment for output Signals	
28	PTZ camera control	Device should support integration with PTZ camera control systems for voice tracking functionality	
29	Warranty	Three years warranty	

Item No. 43: 8-Port Audio Digital Signal Processor with Inbuilt Amplifier and Wireless Microphone Set

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Signal Processing	32-bit DSP processor suitable for professional audio processing	
2	Audio System Delay	≤9ms or better	
3	Digital-Analog Conversion	24-bit or better	
4	Sampling Rate	48KHz or better	
5	Input Channel	8-channel balanced inputs, Mic/line level	

6	Audio Interface	3-Pin Phoenix connector for each input & Output	
7	Input Impedance (balance)	$\geq 10k\Omega$	
8	Maximum Input Level	18dBu	
9	Phantom Power	+48VDC, configured in each channel	
10	Output Channel	8-channel balanced outputs, line level	
11	Output Impedance	$\leq 200\Omega$	
12	Maximum Output Level	18dBu	
13	Frequency Response	20Hz-20kHz(+/-0.5dB)	
14	Total harmonic distortion (THD+N)	$\leq 0.003\% @ 1kHz, 4dBu$	
15	Analog to Digital Dynamic Range (A-weight)	120dB	
16	Digital to Analog Dynamic Range (A-weight)	114dB	
17	Signal-to-Noise Ratio	108dB	
18	Digital Amplifier Channels	2 x 150 Watt or better	
19	Wireless Microphone Channels	System should support wireless microphone integration (minimum two microphones to be supplied)	
20	Wireless Microphone	Device should be supplied with One Handheld and One Headband Microphone	
21	USB Port	1x USB interface for integration with video conferencing platforms	
22	Serial port communication	1x RS232 Port, 1x RS485, or more	
23	GPIO Port	8 pin GPIO port	
24	TCP/IP Network Port	1x RJ-45 Port or more	
25	Indicator Light	Power, network, Link, +48V, input and output audio signal	
26	Menu selection button	Rotating button with selection function or better	
27	Power Supply	AC100V---240V 50/60 Hz	
28	Input/output requirements	Should have minimum 8 channels audio input & 8 channels audio output should support microphone input and line input with easily switching function	
29	Level Sensitivity Adjustment	Adjustable microphone input sensitivity	
30	Phantom Power switching	Each input should have 48V phantom power switch	
31	Audio mixing	Device should have automatic mixing and matrix mixing functions for Audio Signals	
32	Inputs channel functionality	Device should have Preamplifier, Generator, Expander, Compressor, Auto Gain, 5-band parametric EQ for each input channel	
33	Output channel functionality	Device should have delay, crossover, limiter, 31-band graphic EQ for each output channel	
34	PTZ camera control	Device should support integration with PTZ camera systems for voice tracking functionality	

35	Advance Features	Device should have Test signal generator, sine wave, pink noise, white noise, frequency and level magnitude selectable;	
36	Audio Features	Device should have built-in automatic mixing console, including mixing and automatic mixing functions, but also has a mixing component control function; at the same time with AFC, AEC, ANS module	
37	Warranty	Three years warranty	

Item No. 44: 16-Port Audio Digital Signal Processor with Inbuilt Amplifier and Wireless Microphone Set

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Signal Processing	32-bit DSP processor suitable for professional audio processing	
2	Audio System Delay	$\leq 9\text{ms}$ or better	
3	Digital-Analog Conversion	24-bit or better	
4	Sampling Rate	48KHz or better	
5	Input Channel	16-channel audio inputs, Mic/line level	
6	Audio Interface	3-Pin Phoenix connector for each input & Output	
7	Input Impedance (balance)	$\geq 10\text{k}\Omega$	
8	Maximum Input Level	18dBu	
9	Phantom Power	+48VDC, configured in each channel	
10	Output Channel	16-channel audio outputs, line level	
11	Output Impedance	$\leq 200\Omega$	
12	Maximum Output Level	18dBu	
13	Frequency Response	20Hz-20kHz(+/-0.5dB)	
14	Total harmonic distortion (THD+N)	$\leq 0.003\% @ 1\text{kHz}, 4\text{dBu}$	
15	Analog to Digital Dynamic Range (A-weight)	120dB	
16	Digital to Analog Dynamic Range (A-weight)	114dB	
17	Signal-to-Noise Ratio	108dB	
18	Digital Amplifier Channels	2 x 150 Watt or better	
19	Wireless Microphone Channels	System should support wireless microphone integration. Minimum one handheld and one headband microphone should be supplied	
20	Wireless Microphone	Device should be supplied with One Handheld and One Headband Microphone	
21	USB Port	1x USB interface for integration with video conferencing platforms	
22	Serial port communication	1x RS232 Port, 1x RS485, or more	
23	GPIO Port	8 pin GPIO port	

24	TCP/IP Network Port	1x RJ-45 Port or more	
25	Indicator Light	Power, network, Link, +48V, input and output audio signal	
26	Menu selection button	Rotating button with selection function or better	
27	Power Supply	AC100V---240V 50/60 Hz	
28	Input/output requirements	Should have minimum 8 channels audio input & 8 channels audio output should support microphone input and line input with easily switching function	
29	Level Sensitivity Adjustment	Adjustable microphone input sensitivity	
30	Phantom Power switching	Each input should have 48V phantom power switch	
31	Audio mixing	Device should have automatic mixing and matrix mixing functions for Audio Signals	
32	Inputs channel functionality	Device should have Preamplifier, Generator, Expander, Compressor, Auto Gain, 5-band parametric EQ for each input channel	
33	Output channel functionality	Device should have delay, crossover, limiter, 31-band graphic EQ for each output channel	
34	PTZ camera control	Device should support PTZ camera Control to functionate voice tracking functionality	
35	Advance Features	Device should have Test signal generator, sine wave, pink noise, white noise, frequency and level magnitude selectable;	
36	Audio Features	Device should have built-in automatic mixing console, including mixing and automatic mixing functions, but also has a mixing component control function; at the same time with AFC, AEC, ANS module	
37	Warranty	Three years warranty	

Item No. 45: Information Kiosk with Integrated Camera

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Type/Mounting	Pedestal	
2	Construction base	The enclosure shall be of minimum 1.6 mm thick CRCA Steel, polymer powder coated designed to work in harsh conditions. The design shall be vandal resistant. Design must be sleek and attractive.	
3	Display Type:	Display with anti-glare toughened glass	
4	Display Size	21 inch or higher	
5	Panel Type	IPS Technology	
6	Active area(mm)	Active display area suitable for 21-inch or higher display	
7	Resolution	1920 x 1080 Full HD or better	
8	Light Source	LED	

9	Brightness	350 cd/m ² or higher	
10	Contrast Ratio	1200:1 or higher	
11	Colours	16.7M or better	
12	Aspect Ratio	16:09	
13	Response Time (Typical GTG)	8ms or better	
14	Operational Hours	30000 Hours or higher	
15	Viewing Angles	178° horizontal, 178° vertical	
16	Curvature	Flat	
17	Colour Gamut	72% or better	
18	Interactive Method	Pen-based interactive technology (EMR / Active Pen / equivalent)	
19	Touch Type	Pressure-sensitive, cordless, battery-free	
20	Resolution	High precision pen input with pressure sensitivity and accurate tracking suitable for writing/drawing applications	
21	Pressure levels		
22	Tracking speed		
23	Touch Accuracy	±0.5mm(center); ±1mm(edge)	
24	Touch Response	First touch:30ms; Continuous touch:5ms	
25	Touch Screen	Multi-touch Points	
26	Control Buttons	Power, Menu, +/-, Auto or more	
27	Connectivity (Minimum)	USB x 1, HDMI x 1, DVI x 1, VGA x 1 or better	
28	Pen Type	Battery Free EM Pen	
29	Pen Control	Two Key and Pen tip Control	
31	Power Supply	12V DC	
32	System Details:		
33	Form Factor	Small form factor industrial mini-PC	
34	CPU	Intel Core i5 (10 th Gen or better processor)	
35	RAM	8 GB RAM	
36	Storage	256 GB SSD or better	
37	In-Built Wi-Fi / Wireless LAN Card	Should have an inbuilt Wi-Fi / Wireless LAN Card	
38	Ports (Minimum)	HDMI/DP x 2, USB ports x 4, LAN Port x 1	
39	Keyboard & Mouse	Metal keyboard with track ball	
40	Operating System	Windows 10 or better	
41	Certification	Valid BIS registration for applicable electronic components (Mini PC / Webcam / Display) to be submitted	
42	Biometric fingerprint Reader	Solution should be supplied with Biometric fingerprint Reader	
43	Power Back up	Solution should be supplied with minimum 1 KVA offline UPS with inbuilt batteries with minimum 15-20 Minutes backup time.	
44	Camera		
45	Full HD Webcam	Solution should be supplied with Full HD Webcam with 78-degree FoV and dual inbuilt mic, USB Plug & Play output, BIS Certificate required for webcam	
46	Warranty	Three years warranty	

Item No 46: English Language Lab Software Solution

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Hybrid Learning Mode	Language Lab Solution should have provision of Hybrid Learning mode so that it can be accessed within classroom or outside the campus using internet.	
2	Intercom	Two-way intercom communication between Teacher & student. The communication should be through text, audio & Video.	
3	Broadcast	Provision for teacher to broadcast text message to one student or to a group of selected students.	
4	Audio Supervision	Provision for teacher to listen to any students recording & check their progress.	
5	Chat	Provision for teacher to send alerts to student through Text Chat.	
6	Assignments	Provision for Teacher to create assignments & broadcast to the class. Provision should be there to assign same/separate tasks to different group of students. There should also be provision to assign task to students with a start and expiry date.	
7	Reports & Analysis	The Teacher's Dashboard should have the following features: Details about all the classes assigned to the teachers, Students performance report both in text as well as Graphical for various tasks assigned to various classes. Provision for generating various reports to check & analyse progress of students. The language lab software should automatically generate reports giving details about each individual learner's activities performed, time spent on each such activity on a day-to-day basis. Each student's individual report should be available to the student as well as the teacher. The language lab software should also have reports that shows the usage of the software by each of the instructor/faculty/teacher. They should also be able to listen to the recorded exercises of the students. Teacher should be able to give remarks to students on their audio recorded exercises both in text & audio formats. A centralized report should be available to the Administrators/Governing Bodies on the usage of content by both the instructors and students for all the language lab software licenses procured under this project. This should be web based and available to various stakeholders of the project. Provide Management with password protected login, should have the option to view the reports of both teachers and students.	

8	AV Lessons	Provision for teacher to create personal audio video lesson contents. Provision for teacher to assign the pre-recorded lesson for future dates.	
9	E-exam	Paperless e-exam with automatic submission of answer sheets on completion of timelines.	
10	Audio modulation	Provision to automatically generate graphical representation on the recorded audio of the learner as against the originals for self-assessment and evaluation.	
11	Accent	The entire teaching - learning content should be in neutral accent.	
12	Secured Login	The Language Lab Software should have password protected login interface of teacher & students to enable a secure encrypted session with SSL Security to provide secure access of platform	
13	Management Login	Provide Management with password protected login and view various reports of centres, users, teacher , students, proctoring and graphical reports	
14	E-Books	The teacher should be able to upload PDF files (e-books) for the students to read and able to provide writing assignments to the students.	
15	External Media	Solution should have provision for teacher to use any external storage device (USB, CD/DVD) to play or display the content files.	
16	OS & Hardware Support	The Software should support on Windows, Linux, & Android. The software should seamlessly work on Desktop/Tablets	
17	Mobile Apps	The Language Lab Software should have Android & iOS supported Mobile App	
18	English Multimedia Content Learning Levels	The Language Lab Software should take into account the following features: - It should enhance the Communicative English skills of the students and have multiple level of learning ranging from Entrant, Competent & Proficient with substantial content to hone the learner skills. The content should be as per the Common European Framework of Reference (CEFR). Content should purely be multimedia based and comprise of graphics, audio, video and should be highly interactive in nature.	

19		The Language Lab Software should have content for strengthening all the four language skills: - Listening , Speaking, Reading & Writing (LSRW). It should have model Imitation that should facilitate the student to listen to the exact pronunciation of a word and then record one's own and then compare both of them, thereby helping the student to recognize the error and amend the differences. The software should have capabilities of Listening, Recording and Comparing of Speech patterns both via audio and visual. The software should have speech spectrograph for graphical visualization. The software should be based on neutral (Indian) accent and should not use foreign accent. It should have jaw and tongue movement animations for all the sounds to facilitate learning of proper articulation of sounds.	
20		The Language Lab Software should consist of a glossary of words with correct pronunciation in the Indian context. The English language lab software should have components to work on Intonation, Word stress & Syllables. The English language lab software should cater to the basics of English grammar using animated situations and related practice exercises. It should be user friendly so that faculty can take classes with minimal of technical knowledge.	
21	Teaching Pedagogy (Methodology)	The English language lab software should have the following features for proper teaching – learning of English language skills by both the faculty and the students. It should be based on the 'Blended Learning' mechanism, i.e. It should have Instructor Lead Teaching (ILT/ Classroom teaching) content as well as Computer Based Training (CBT/Lab practice) content. The software should have predefined lesson plans with detailed breakup of each session of approximately 30 minutes each. The Instructor/ Faculty / Teacher should be able to create tasks for students to perform in the language lab at a later time which can be pre-defined. The Instructor / Faculty / Teacher should have the option to assign the same task to all the students and/or different tasks to different students of the same batch.	
22	Vocabulary	The English language lab software should have a different section of Vocabulary with phonetics, meaning, usage of the word, which can also be referred as Glossary Of words. A provision of listening the expert voice and recording one's voice following by a Self Evaluation or a Manual Evaluation	

23	MTI Tool	Language lab software should have MTI Tool in each module	
24	Visual Jaw Movements	Language lab software should have Visual Jaw Movements in each module	
25	Idioms/Phrases	The Language Lab Software should have features like Homophone, Synonym, Antonym etc. are practiced in each chapter in Web Based Training (WBT), Idioms and Phrases shall be included in the chapters	
26	Grammar	Grammar topics should also given proper stress in each chapter	
27	Learning Flow	Should have Concept Video + Moral Story/Poems in each chapter introducing the topics in a fun way	
28	Social & Moral Learnings	Syllabus should designed in context of social and moral learnings for the initial classes - with last page of each chapter dedicatedly showing the outcomes.	
29	Gamification & Roleplay	Game page in Web Based Training (WBT) provides leaning with a video game feel along with the virtual roleplay	
30	Advance Content	Should have Separate Modules for Creative Writing, Calligraphy, IELTS, TOFL, Soft skills, Applied Grammar, Reading skills, Linguistics	
31	Sounds	The language software should provide proper articulation for all 44 sounds of English using animation.	
32	MTI	Should have a Mother Tongue Influence (MTI) removal tool	
33	Self-Assessment	Provision for self-assessment & send the exercise to teacher for evaluation at conclusion of every module / lesson plan.	
34	Pronunciation	Provide sample lessons, words, pronunciation sounds, videos, comparison & assessment tools for proficiency in English pronunciation.	
35	Comprehension	Provide lesson plan with focus on expressions, situational dialogues, comprehension, exercises with comparisons & assessment.	

36	Resource Material & Training	Training should be imparted for one day (6 hours) and training modules should include: - • Training on usage of all the features of the language lab software • Training on the various aspects of language on its teaching pedagogy Proper detailed trainer manuals to be provided for each level on the delivery mechanism. It should be in depth with minute-to-minute description of the teaching procedures. Classroom reference material in the form of Flash/ Cue Cards too should be made available for each session. In depth trainer videos should be made available in the software for the teacher to refer to. Students reference material / workbooks in accordance to the software should be made available.	
37	Student Material	Students material in the form work books for each level should be available. This material should be integrated with the content.	
38	Pre Recorded media	Provide Audio / Video recorded files from Poetry Masters, Writers, Speeches, Lectures, Documentary, Movies, News, etc. to improve comprehension of language.	
39	Licensed User Terminals	License to be provided for 20+1 terminals (Students & Teacher both included) with a validity of three years.	
40	Warranty	Three years warranty	

Item No 47: English, Hindi & Sanskrit Language Lab Software Solution

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Hybrid Learning Mode	Language Lab Solution should have provision of Hybrid Learning mode so that it can be accessed within classroom or outside the campus using internet.	
2	Intercom	Two-way intercom communication between Teacher & student. The communication should be through text, audio & Video.	
3	Broadcast	Provision for teacher to broadcast text message to one student or to a group of selected students.	
4	Audio Supervision	Provision for teacher to listen to any students recording & check their progress.	
5	Chat	Provision for teacher to send alerts to student through Text Chat.	

6	Assignments	Provision for Teacher to create assignments & broadcast to the class. Provision should be there to assign same/separate tasks to different group of students. There should also be provision to assign task to students with a start and expiry date.	
7	Reports & Analysis	The Teacher's Dashboard should have the following features: Details about all the classes assigned to the teachers, Students performance report both in text as well as Graphical for various tasks assigned to various classes. Provision for generating various reports to check & analyse progress of students. The language lab software should automatically generate reports giving details about each individual learner's activities performed, time spent on each such activity on a day-to-day basis. Each student's individual report should be available to the student as well as the teacher. The language lab software should also have reports that shows the usage of the software by each of the instructor/faculty/teacher. They should also be able to listen to the recorded exercises of the students. Teacher should be able to give remarks to students on their audio recorded exercises both in text & audio formats. A centralized report should be available to the Administrators/Governing Bodies on the usage of content by both the instructors and students for all the language lab software licenses procured under this project. This should be web based and available to various stakeholders of the project. Provide Management with password protected login, should have the option to view the reports of both teachers and students.	
8	AV Lessons	Provision for teacher to create personal audio video lesson contents. Provision for teacher to assign the pre-recorded lesson for future dates.	
9	E-exam	Paperless e-exam with automatic submission of answer sheets on completion of timelines.	
10	Audio modulation	Provision to automatically generate graphical representation on the recorded audio of the learner as against the originals for self-assessment and evaluation.	
11	Accent	The entire teaching - learning content should be in neutral accent.	
12	Secured Login	The Language Lab Software should have password protected login interface of teacher & students to enable a secure encrypted session with SSL Security to provide secure access of platform	
13	Management Login	Provide Management with password protected login and view various reports of centres, users, teacher, students, proctoring and graphical reports	

14	E-Books	The teacher should be able to upload PDF files (e-books) for the students to read and able to provide writing assignments to the students.	
15	External Media	Solution should have provision for teacher to use any external storage device (USB, CD/DVD) to play or display the content files.	
16	OS & Hardware Support	The Software should support on Windows, Linux, & Android. The software should seamlessly work on Desktop/Tablets	
17	Mobile Apps	The Language Lab Software should have Android & iOS supported Mobile App	
18	English Multimedia Content Learning Levels	The Language Lab Software should take into account the following features: - It should enhance the Communicative English skills of the students and have multiple level of learning ranging from Entrant, Competent & Proficient with substantial content to hone the learner skills. The content should be as per the Common European Framework of Reference (CEFR). Content should purely be multimedia based and comprise of graphics, audio, video and should be highly interactive in nature.	
19		The Language Lab Software should have content for strengthening all the four language skills: - Listening, Speaking, Reading & Writing (LSRW). It should have model Imitation that should facilitate the student to listen to the exact pronunciation of a word and then record one's own and then compare both of them, thereby helping the student to recognize the error and amend the differences. The software should have capabilities of Listening, Recording and Comparing of Speech patterns both via audio and visual. The software should have speech spectrograph for graphical visualization. The software should be based on neutral (Indian) accent and should not use foreign accent. It should have jaw and tongue movement animations for all the sounds to facilitate learning of proper articulation of sounds.	
20		The Language Lab Software should consist of a glossary of words with correct pronunciation in the Indian context. The English language lab software should have components to work on Intonation, Word stress & Syllables. The English language lab software should cater to the basics of English grammar using animated situations and related practice exercises. It should be user friendly so that faculty can take classes with minimal of technical knowledge.	

21	Teaching Pedagogy (Methodology)	The English language lab software should have the following features for proper teaching – learning of English language skills by both the faculty and the students. It should be based on the ‘Blended Learning’ mechanism, i.e. It should have Instructor Lead Teaching (ILT/ Classroom teaching) content as well as Computer Based Training (CBT/Lab practice) content. The software should have predefined lesson plans with detailed breakup of each session of approximately 30 minutes each. The Instructor/ Faculty / Teacher should be able to create tasks for students to perform in the language lab at a later time which can be pre-defined. The Instructor / Faculty / Teacher should have the option to assign the same task to all the students and/or different tasks to different students of the same batch.	
22	Vocabulary	The English language lab software should have a different section of Vocabulary with phonetics, meaning, usage of the word, which can also be referred as Glossary Of words. A provision of listening the expert voice and recording one's voice following by a Self-Evaluation or a Manual Evaluation	
23	MTI Tool	Language lab software should have MTI Tool in each module	
24	Visual Jaw Movements	Language lab software should have Visual Jaw Movements in each module	
25	Idioms/Phrases	The Language Lab Software should have features like Homophone, Synonym, Antonym etc. are practiced in each chapter in Web Based Training (WBT), Idioms and Phrases shall be included in the chapters	
26	Grammar	Grammar topics should also given proper stress in each chapter	
27	Learning Flow	Should have Concept Video + Moral Story/Poems in each chapter introducing the topics in a fun way	
28	Social & Moral Learnings	Syllabus should designed in context of social and moral learnings for the initial classes - with last page of each chapter dedicatedly showing the outcomes.	
29	Gamification & Roleplay	Game page in Web Based Training (WBT) provides leaning with a video game feel along with the virtual roleplay	
30	Advance Content	Should have Separate Modules for Creative Writing, Calligraphy, IELTS, TOFL, Soft skills, Applied Grammar, Reading skills, Linguistics	
31	Sounds	The language software should provide proper articulation for all 44 sounds of English using animation.	
32	MTI	Should have a Mother Tongue Influence (MTI) removal tool	
33	Self-Assessment	Provision for self-assessment & send the exercise to teacher for evaluation at conclusion of every module / lesson plan.	

34	Pronunciation	Provide sample lessons, words, pronunciation sounds, videos, comparison & assessment tools for proficiency in English pronunciation.	
35	Comprehension	Provide lesson plan with focus on expressions, situational dialogues, comprehension, exercises with comparisons & assessment.	
36	Resource Material & Training	Training should be imparted for one day (6 hours) and training modules should include: - • Training on usage of all the features of the language lab software • Training on the various aspects of language on its teaching pedagogy Proper detailed trainer manuals to be provided for each level on the delivery mechanism. It should be in depth with minute to minute description of the teaching procedures. Classroom reference material in the form of Flash/ Cue Cards too should be made available for each session. In depth trainer videos should be made available in the software for the teacher to refer to. Students reference material / workbooks in accordance to the software should be made available.	
37	Student Material	Students material in the form work books for each level should be available. This material should be integrated with the content.	
38	Pre Recorded media	Provide Audio / Video recorded files from Poetry Masters, Writers, Speeches, Lectures, Documentary, Movies, News, etc. to improve comprehension of language.	
39	Hindi Multimedia Content	Multimedia content covering Hindi Vowels and Consonants, Combination of letters, Commonly used Words, Greetings, etc.	
40	Hindi through English	Content for learning Hindi Alphabets, Pronunciation, Anuswara & Nasalization, Accent, Pronouns & Nouns, Adjectives & Verbs, Tenses, Adverbs, Conjunctions, Voice & Construction, Order of Words, Standard Devanagari Script, Standardisation of Hindi Spelling	
41	Hindi Literature	Content with reference to Hindi literature, poetry, poems, etc.	
42	Hindi Grammar	Content for covering all components of Hindi grammar like: Alankar, Chand, Pad Parichay, Vachay, Idioms, Synonyms, etc.	
43	Picture Gallery	Multimedia gallery in Hindi for relating to day to day things like: Animals, Body Parts, Colours, Communications, Costumes, Festivals, Musical Instruments, Professionals, Relations, Trees, Universe, etc.	
44	Knowledge bank on Indian Culture & Heritage	Knowledge bank having details on Indian culture & heritage, sharing knowledge about: Indian Geography, Economy, Vedas, Upanishad, Ramayana, Mahabharata, Shrimad Bhagavata Geeta, other Literatures, Dance, Music, Ayurveda, Yoga, Spirituality, Food, etc.	

45	Sanskrit language content concept	Software to help in learning Sanskrit from basics and go on to making simple sentences. Introduction to concepts, skills and a section to self -assess your learning. Self-paced, activity-based learning software, contains 250+ activities.	
46	Vocabulary Builder	Provide flash card based learning Should have multiple categories with 200+ words and synonyms. Categories should include Sanskrit words for Gods, Animals, Birds, Fruits, Vegetables, Parts of the body, Colours, Food, Relations, Professions, Emotions, Public Places, Sports, Grains, Computer, Musical Instruments, Time, Natural Occurrences and many more. Provide Brain Games for exercising Sanskrit.	
47	Sanskrit Language Lesson Plan	Lesson plan covering noun forms, 200+ Sanskrit words, Learning mode and the Practice mode. Covering Sanskrit Sandhis through animations, charts, tables, interactive exercises, examples and games. Practice the language skills (LSRW) Build your Vocabulary for using the language. Master your communication skills. Build and Re-inforce Foundation in grammar. Apply Language skills + Grammar through simple text and for school.	
48	Licensed User Terminals	License to be provided for 20+1 terminals (Students & Teacher both included) with a validity of three years.	
49	Warranty	Three years warranty	

Item No 48: English, Hindi, Sanskrit, French & Spanish Language Lab Software Solution

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Hybrid Learning Mode	Language Lab Solution should have provision of Hybrid Learning mode so that it can be accessed within classroom or outside the campus using internet.	
2	Intercom	Two way intercom communication between Teacher & student. The communication should be through text, audio & Video.	
3	Broadcast	Provision for teacher to broadcast text message to one student or to a group of selected students.	
4	Audio Supervision	Provision for teacher to listen to any students recording & check their progress.	
5	Chat	Provision for teacher to send alerts to student through Text Chat.	
6	Assignments	Provision for Teacher to create assignments & broadcast to the class. Provision should be there to assign same/separate tasks to different group of students. There should also be provision to assign task to students with a start and expiry date.	

7	Reports & Analysis	The Teacher's Dashboard should have the following features: Details about all the classes assigned to the teachers, Students performance report both in text as well as Graphical for various tasks assigned to various classes. Provision for generating various reports to check & analyse progress of students. The language lab software should automatically generate reports giving details about each individual learner's activities performed, time spent on each such activity on a day-to-day basis. Each student's individual report should be available to the student as well as the teacher. The language lab software should also have reports that shows the usage of the software by each of the instructor/faculty/teacher. They should also be able to listen to the recorded exercises of the students. Teacher should be able to give remarks to students on their audio recorded exercises both in text & audio formats. A centralized report should be available to the Administrators/Governing Bodies on the usage of content by both the instructors and students for all the language lab software licenses procured under this project. This should be web based and available to various stakeholders of the project. Provide Management with password protected login, should have the option to view the reports of both teachers and students.	
8	AV Lessons	Provision for teacher to create personal audio video lesson contents. Provision for teacher to assign the pre-recorded lesson for future dates.	
9	E-exam	Paperless e-exam with automatic submission of answer sheets on completion of timelines.	
10	Audio modulation	Provision to automatically generate graphical representation on the recorded audio of the learner as against the originals for self-assessment and evaluation.	
11	Accent	The entire teaching - learning content should be in neutral accent.	
12	Secured Login	The Language Lab Software should have password protected login interface of teacher & students to enable a secure encrypted session with SSL Security to provide secure access of platform	
13	Management Login	Provide Management with password protected login and view various reports of centres, users, teacher, students, proctoring and graphical reports	
14	E-Books	The teacher should be able to upload PDF files (e-books) for the students to read and able to provide writing assignments to the students.	
15	External Media	Solution should have provision for teacher to use any external storage device (USB, CD/DVD) to play or display the content files.	

16	OS & Hardware Support	The Software should support on Windows, Linux, & Android. The software should seamlessly work on Desktop/Tablets	
17	Mobile Apps	The Language Lab Software should have Android & iOS supported Mobile App	
18	English Multimedia Content Learning Levels	The Language Lab Software should take into account the following features: - It should enhance the Communicative English skills of the students and have multiple level of learning ranging from Entrant, Competent & Proficient with substantial content to hone the learner skills. The content should be as per the Common European Framework of Reference (CEFR). Content should purely be multimedia based and comprise of graphics, audio, video and should be highly interactive in nature.	
19		The Language Lab Software should have content for strengthening all the four language skills: - Listening, Speaking, Reading & Writing (LSRW). It should have model Imitation that should facilitate the student to listen to the exact pronunciation of a word and then record one's own and then compare both of them, thereby helping the student to recognize the error and amend the differences. The software should have capabilities of Listening, Recording and Comparing of Speech patterns both via audio and visual. The software should have speech spectrograph for graphical visualization. The software should be based on neutral (Indian) accent and should not use foreign accent. It should have jaw and tongue movement animations for all the sounds to facilitate learning of proper articulation of sounds.	
20		The Language Lab Software should consist of a glossary of words with correct pronunciation in the Indian context. The English language lab software should have components to work on Intonation, Word stress & Syllables. The English language lab software should cater to the basics of English grammar using animated situations and related practice exercises. It should be user friendly so that faculty can take classes with minimal of technical knowledge.	

21	Teaching Pedagogy (Methodology)	The English language lab software should have the following features for proper teaching – learning of English language skills by both the faculty and the students. It should be based on the ‘Blended Learning’ mechanism, i.e. It should have Instructor Lead Teaching (ILT/ Classroom teaching) content as well as Computer Based Training (CBT/Lab practice) content. The software should have predefined lesson plans with detailed breakup of each session of approximately 30 minutes each. The Instructor/ Faculty / Teacher should be able to create tasks for students to perform in the language lab at a later time which can be pre-defined. The Instructor / Faculty / Teacher should have the option to assign the same task to all the students and/or different tasks to different students of the same batch.	
22	Vocabulary	The English language lab software should have a different section of Vocabulary with phonetics, meaning, usage of the word, which can also be referred as Glossary Of words. A provision of listening the expert voice and recording one's voice following by a Self Evaluation or a Manual Evaluation	
23	MTI Tool	Language lab software should have MTI Tool in each module	
24	Visual Jaw Movements	Language lab software should have Visual Jaw Movements in each module	
25	Idioms/Phrases	The Language Lab Software should have features like Homophone, Synonym, Antonym etc. are practiced in each chapter in Web Based Training (WBT), Idioms and Phrases shall be included in the chapters	
26	Grammar	Grammar topics should also given proper stress in each chapter	
27	Learning Flow	Should have Concept Video + Moral Story/Poems in each chapter introducing the topics in a fun way	
28	Social & Moral Learnings	Syllabus should designed in context of social and moral learnings for the initial classes - with last page of each chapter dedicatedly showing the outcomes.	
29	Gamification & Roleplay	Game page in Web Based Training (WBT) provides leaning with a video game feel along with the virtual roleplay	
30	Advance Content	Should have Separate Modules for Creative Writing, Calligraphy, IELTS, TOFL, Soft skills, Applied Grammar, Reading skills, Linguistics	
31	Sounds	The language software should provide proper articulation for all 44 sounds of English using animation.	
32	MTI	Should have a Mother Tongue Influence (MTI) removal tool	

33	Self-Assessment	Provision for self-assessment & send the exercise to teacher for evaluation at conclusion of every module / lesson plan.	
34	Pronunciation	Provide sample lessons, words, pronunciation sounds, videos, comparison & assessment tools for proficiency in English pronunciation.	
35	Comprehension	Provide lesson plan with focus on expressions, situational dialogues, comprehension, exercises with comparisons & assessment.	
36	Resource Material & Training	Training should be imparted for one day (6 hours) and training modules should include: - • Training on usage of all the features of the language lab software • Training on the various aspects of language on its teaching pedagogy Proper detailed trainer manuals to be provided for each level on the delivery mechanism. It should be in depth with minute-to-minute description of the teaching procedures. Classroom reference material in the form of Flash/ Cue Cards too should be made available for each session. In depth trainer videos should be made available in the software for the teacher to refer to. Students reference material / workbooks in accordance to the software should be made available.	
37	Student Material	Students material in the form work books for each level should be available. This material should be integrated with the content.	
38	Pre Recorded media	Provide Audio / Video recorded files from Poetry Masters, Writers, Speeches, Lectures, Documentary, Movies, News, etc. to improve comprehension of language.	
39	Hindi Multimedia Content	Multimedia content covering Hindi Vowels and Consonants, Combination of letters, commonly used Words, Greetings, etc.	
40	Hindi through English	Content for learning Hindi Alphabets, Pronunciation, Anuswara & Nasalization, Accent, Pronouns & Nouns, Adjectives & Verbs, Tenses, Adverbs, Conjunctions, Voice & Construction, Order of Words, Standard Devanagari Script, Standardisation of Hindi Spelling	
41	Hindi Literature	Content with reference to Hindi literature, poetry, poems, etc.	
42	Hindi Grammar	Content for covering all components of Hindi grammar like: Alankar, Chand, Pad Parichay, Vachay, Idioms, Synonyms, etc.	
43	Picture Gallery	Multimedia gallery in Hindi for relating to day to day things like: Animals, Body Parts, Colours, Communications, Costumes, Festivals, Musical Instruments, Professionals, Relations, Trees, Universe, etc.	

44	Knowledge bank on Indian Culture & Heritage	Knowledge bank having details on Indian culture & heritage, sharing knowledge about: Indian Geography, Economy, Vedas, Upanishad, Ramayana, Mahabharata, Shrimad Bhagavata Geeta, other Literatures, Dance, Music, Ayurveda, Yoga, Spirituality, Food, etc.	
45	Sanskrit language content concept	Software to help in learning Sanskrit from basics and go on to making simple sentences. Introduction to concepts, skills and a section to self -assess your learning. Self-paced, activity based learning software, contains 250+ activities.	
46	Vocabulary Builder	Provide flash card based learning Should have multiple categories with 200+ words and synonyms. Categories should include Sanskrit words for Gods, Animals, Birds, Fruits, Vegetables, Parts of the body, Colours, Food, Relations, Professions, Emotions, Public Places, Sports, Grains, Computer, Musical Instruments, Time, Natural Occurrences and many more. Provide Brain Games for exercising Sanskrit.	
47	Sanskrit Language Lesson Plan	Lesson plan covering noun forms, 200+ Sanskrit words, Learning mode and the Practice mode. Covering Sanskrit Sandhis through animations, charts, tables, interactive exercises, examples and games. Practice the language skills (LSRW) Build your Vocabulary for using the language. Master your communication skills. Build and Re-inforce Foundation in grammar. Apply Language skills + Grammar through simple text and for school.	
48	Integration of Foreign Language	Platform should be capable to integrate Foreign Language like Spanish & French with its modules & content if required in future with additional licencing cost.	
49	Licensed User Terminals	License to be provided for 20+1 terminals (Students & Teacher both included) with a validity of three years.	
50	Warranty	Three years warranty	

Item No 49: Student Response System (25 +1 Clicker Set)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Student's Clicker		
2	RFID Module	Wireless RF communication operating in 2.4 GHz band	
3	Power Function	Power button for Power ON/OFF	
4	Response Function	0-9, A-F, Yes/No Input and automatic switching	
5	Material	ABS with Polycarbonate	
6	Display	ID, Signal Intensity, Battery, Operation Instructions	
7	Backup	More than 60,000 of Answering or up to 12 months or more	

8	Communication Range	Up to 100 meters or more	
9	No. of clickers	25	
10	Teacher's Clicker		
11	Material	ABS+ Polycarbonate	
12	Response function	Page up/down, A-D, OK	
13	Display	ID, Signal Intensity, Battery, Operation Instructions	
14	RFID Module	2.4 GHz	
15	Communication Distance	Minimum 30 meters or better	
16	Next and Back Question change Support	Yes	
17	Lifeline Option Support	Yes	
18	Question Start and End Support	Yes	
19	No. of Clickers	1	
20	Wireless Receiver Module		
21	RFID Module	2.4 GHz	
22	Antenna	Dual Omnidirectional External Antenna	
23	Indicator Light	Red and Green indicator Lights	
24	Wireless Range	Minimum 30 meters or more	
25	Material	ABS	
26	Data Interface	USB Type B	
27	Power	USB Power supply	
28	Required Operational features	Below mentioned features should be operational with android 7, 8, 9, 10, 11 & latest android version as available in Interactive panel	
29	General Features	SRS software should support integration with commonly used presentation and office applications	
30		User should be able to upload excel sheet for large no. users binding/ pairing at once	
31		SRS should support configurable binding/ unbinding of keypads as per user with Participants ID and name	
32		System should support quick pairing of clickers with users	
33		System should support Offline only Mode	
34		User should be able to Add/ Edit/ Delete Questions	
35		System should support Single Choice and Multiple Choice Questions	
36		System should support Yes/No Questions	
37		System should support Audience Polling (Yes/ No)	
38		SRS should support Voting Response	
39		SRS should Support Lifeline Response features	
40		System should support scoring feature	
41		Present controlled participation Time	
42		Support quiz in Pdf/slide-show related software's	
43		Fastest responder with correct Answer	
44		Negative marking for questions	
45		Option to set time, options and marks for each	

		question	
46		Report generation within software	
47		System should automatically shows the winner podium with their names and download image option	
48		System should have provision to set count down time	
49		System should have provision to change question automatically once every users submitted their answers	
50		System should have provision to control quiz via teachers clicker	
51		System should have provision to set the delay time of Question start in seconds	
52		System should have provision of class management	
53		System should have provision of Student management	
54		SRS should have option of automatic attendance marking	
55		System should have provision to start quiz from current and beginning slide	
56		Dashboard should have provision of Total user, Voted and Not voted user	
57		System should have provision to display the name of users, those who have submitted their answers	
58		System should have provision to switch between 2D and 3D graph	
59	Reports	Report question-wise	
60		Report Overall-wise	
61		Report Summary in the form of statistics	
62		Report Availability on Bar-chart format	
63		Report Availability in Pie- chart format	
64		Report Availability with Student attendance	
65		Report Availability in percentage format	
66		Report Availability in Numeric format	
67		Report Availability of Attendance	
68		Reports should be professional with proper cover page, correct answer, graph, timing and ranking	
69		Report availability in excel and pdf format	
70	Compatibility	Hardware and software should be fully compatible and supplied as an integrated solution	
71	Warranty	Three years warranty	

Item No 50: Student Response System (50 +1 Clicker Set)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Student's Clicker		
2	RFID Module	Wireless RF communication operating in 2.4 GHz band	

3	Power Function	Power button for Power ON/OFF	
4	Response Function	0-9, A-F, Yes/No Input and automatic switching	
5	Material	ABS with Polycarbonate	
6	Display	ID, Signal Intensity, Battery, Operation Instructions	
7	Backup	More than 60,000 of Answering or up to 12 months or more	
8	Communication Range	Up to 100 meters or more	
9	No. of clickers	50	
10	Teacher's Clicker		
11	Material	ABS+ Polycarbonate	
12	Response function	Page up/down, A-D, OK	
13	Display	ID, Signal Intensity, Battery, Operation Instructions	
14	RFID Module	2.4 GHz	
15	Communication Distance	Minimum 30 meters or better	
16	Next and Back Question change Support	Yes	
17	Lifeline Option Support	Yes	
18	Question Start and End Support	Yes	
19	No. of Clickers	1	
20	Wireless Receiver Module		
21	RFID Module	2.4 GHz	
22	Antenna	Dual Omnidirectional External Antenna	
23	Indicator Light	Red and Green indicator Lights	
24	Wireless Range	Minimum 30 meters or more	
25	Material	ABS	
26	Data Interface	USB Type B	
27	Power	USB Power supply	
28	Required Operational features	Below mentioned features should be operational with android 7, 8, 9, 10, 11 & latest android version as available in Interactive panel	
29	General Features	SRS software should support integration with commonly used presentation and office applications	
30		User should be able to upload excel sheet for large no. users binding/ pairing at once	
31		SRS should support configurable binding/ unbinding of keypads as per user with Participants ID and name	
32		System should support quick and easy pairing of clickers with users	
33		System should support Offline only Mode	
34		User should be able to Add/ Edit/ Delete Questions	
35		System should support Single Choice and Multiple Choice Questions	
36		System should support Yes/No Questions	
37		System should support Audience Polling (Yes/	

		No)	
38		SRS should support Voting Response	
39		SRS should Support Lifeline Response features	
40		System should support scoring feature	
41		Present controlled participation Time	
42		Support quiz in Pdf/slide-show related software's	
43		Fastest responder with correct Answer	
44		Negative marking for questions	
45		Option to set time, options and marks for each question	
46		Report generation within software	
47		System should automatically shows the winner podium with their names and download image option	
48		System should have provision to set count down time	
49		System should have provision to change question automatically once every users submitted their answers	
50		System should have provision to control quiz via teachers clicker	
51		System should have provision to set the delay time of Question start in seconds	
52		System should have provision of class management	
53		System should have provision of Student management	
54		SRS should have option of automatic attendance marking	
55		System should have provision to start quiz from current and beginning slide	
56		Dashboard should have provision of Total user, Voted and Not voted user	
57		System should have provision to display the name of users, those who have submitted their answers	
58		System should have provision to switch between 2D and 3D graph	
59	Reports	Report question-wise	
60		Report Overall-wise	
61		Report Summary in the form of statistics	
62		Report Availability on Bar-chart format	
63		Report Availability in Pie- chart format	
64		Report Availability with Student attendance	
65		Report Availability in percentage format	
66		Report Availability in Numeric format	
67		Report Availability of Attendance	
68		Reports should be professional with proper cover page, correct answer, graph, timing and ranking	
69		Report availability in excel and pdf format	

70	Compatibility	Hardware and software should be fully compatible and supplied as an integrated solution by a single bidder	
71	Warranty	Three years warranty	

Item No 51: Lecture Capturing & Streaming System

Sr. No .	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Interactive Panel (Size)	Built-in touchscreen display of minimum 10 inches for device control	
2	HDMI Inputs	2 x HDMI In or more	
3	HDMI Output	1 x HDMI Out for Local Display	
4	Audio Inputs	1 x Line In and 1 x MIC In (unbalanced)	
5	Audio Output	1 x Line Out	
6	USB port	Minimum 1 x USB port (USB 3.0 or higher)	
7	Storage	1TB (Internal) or more	
8	Video Compression	H.264 or better	
9	Bitrate	300kbps to 16 Mbps or better	
10	Resolution	Up to Full HD (1920×1080), with selectable resolutions	
11	Video Switching	During Live Streaming and recording via the touch screen or Web UI	
12	Video Layout	PIP, POP, Single video	
13	Encoded Streams	Minimum dual stream encoding capability (Full HD)	
14	Audio Encoding	AAC (Sampling @ 48 khz) up to 320kbps	
15	Network	1 x 1000 Ethernet port (RJ45)	
16	Video Format	MP4, 1080p	
17	Controls	Web UI Panel, 10.1' touch screen, RS232 or IP-based control interface	
18	Power Consumption	Maximum power consumption ≤30W	
19	Additional Component	Power On/ Off Switch, Reset Button	
20	10.1" Touchscreen	Should have user friendly touchscreen and web interface makes switching easy between your connected sources or layouts	
21	Audio Support	Mic and line-level audio input with gain control	
22	Stream to View Everywhere	Should have capability of live stream to YouTube/ Facebook or web browsers locally over RTMP or RTMPS	
23	Integration	Device should have capability to Integrates with 3rd Party central control systems	
25	Local Video Output	Should able to view content to a larger display through the local HDMI video output. Configure to share all input sources or switched program output	
26	Full HD Recording	Should supports 1080p Full HD recording	
27	Table Mount	Table mount stand should be supplied to mount the streaming device	

28	Certifications	Valid BIS certification for the product as applicable. Product catalogue/datasheet should be available on OEM website	
29	Warranty	Three years warranty	

Item No 52: Room Controlling Device with 10” Display, Light & power sequencer

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Technical Specifications of Room Controlling Device		
2	CPU	ARM Cortex-A7 or better	
3	Operating system	Embedded latest Linux-based operating system	
4	Memory	512 MB or higher	
5	Connectivity Ports	4x Digital I/O input, 1x RJ45 or more	
6	Controlling port	Configurable control ports using industry-standard connectors	
7	Relay Port	8x relay or more	
8	Infrared Port	Infrared ports or serial communication ports (RS232) for device control	
9	System LED Indicator	3x LED system status indicator or more	
10	Cloud Programming	Cloud programming without installing software	
11	Network Control	Supports various network control protocols (TCP/UDP/Telnet/Http)	
12	Debugging	Remote debugging	
13	Power Supply	24VDC 1A	
14	Operational Temperature	0°C ~50°C	
15	Operational Humidity	10% to 90%	
16	Technical Specifications of Wall Mount controller Screen		
17	Size	10" or higher	
18	Display Technology	IPS	
19	Resolution	1024 x 600 or better	
20	Connectivity Ports	1x RJ 45 PoE, 2x USB ports (USB ports for data transfer and system updates), 1x RS232 or more	
21	Touch Panel	Capacitive Touch Panel	
22	Touch points	5 points or better	
23	CPU	Quad core A53 or better	
24	Inbuilt OS	Android 10 or higher	
25	RAM	1 GB or more	
26	Storage	8 GB or more	
27	Mount	Wall mounted	
28	Feature	Support APP remote control and install, Support working with the third party control devices	
29	Technical Specifications of 8-channel Power sequencer		
30	Control Display	2-inch LCD display for Voltage information	
31	Power Port	8 switch channel outputs, the delay on and off time of each channel can be set freely	
32	Logic Switch	Support programmable definition of various logic switches	

33	Controlling Data Interface	Support standard RS232 data interface and open control protocol	
34	Alarm	Undervoltage, overvoltage detection and alarm.	
35	Lock	Support panel Lock function to prevent misuse.	
36	Group Management	9 groups of scenes save/recall, scene management application is simple and convenient	
37	Power supply	AC 220V 50/60Hz, 30A	
38	Power output	8-way,30A	
39	Technical Specifications of 8-channel Light sequencer		
40			
41	Communication Ports	1x USB, 1x RS232, 1x RS485, 1x RJ45 network control or more	
42	Relay port	8x Relay or more	
43	Loading Capacity	20A Single channel or better	
44	Logic Switch	Support programmable definition of various logic switches	
45	Controlling Data Interface	Support standard RS232 & RS485 data interface and open control protocol	
46	USD Data	Support standard USB data interface, more convenient to connect with PC.	
47	Lock	Support keyboard lock (LOCK) function	
48	Power supply	AC 220V 50/60Hz, 30A	
49	Power output	8-way,30A	
50	Integration	All components should be fully compatible and supplied as an integrated solution by a single bidder	
51	Warranty	Three years warranty	

Item No 53: Learning Management System with (50+1 Students)

Sr. No.	Feature	Specifications	Compliance Yes/No Model No.
1.	Industry Standard Integration capabilities	LMS Should support Sharable Content Object Reference Model (SCORM), should support API integration with major LMS's. like Moodle that allows Moodle courses to show up as folders within the LMS solution and data should be Imported/exported to and from LMS platform.	
2.	Mobile Application	The LMS should have Android & iOS supported Mobile App where Teacher can assign activities, Student can join live class, do the assignments and Teacher can evaluate it.	
3.	Secure platform access	LMS should have should be used a secure encrypted session with SSL Security to provide secure access of platform.	
4.	Language Support	LMS should support Hindi & English Language	
5.	User Interface	LMS should be optimized for desktop, tablet, and mobile user experience, navigation bar and a simplified process for managing favorites sites, screen-reader compatibility & in-built font libraries	

6.	Reporting	LMS should have Individual student Grade Summary with integrated Teacher Review Mode, Simplified and consolidated Import/Export process of reports, student competency module, live log reports & automated scorecard, Session attendance of Students	
7.	Lesson tools	LMS should have Menu bar with categorized menu items with separate tabs to organize a defined lesson	
8.	User notification system	LMS should have rich text pop-up notifications for users	
9.	Online Assessment	LMS should have reporting capabilities, including the ability to see all assessment submissions of individual students, Sections, groups with specific timelines (e.g., due date, time to complete the assessment, etc.)	
10.		LMS should have online Proctored test provision to Conduct Highly Secure online examinations to identify any suspicious behavior detected during the test	
11.		LMS should have question bank, question & answer shuffling option, select random question, multiple choice, true false, drag and drop, marker, calculations, objective and subjective type questions, numerical questions & select missing word.	
12.	Instruction Design	LMS should be able to create online assignments, Organize text, resources, quizzes, tests, organize interactive lesson using media and other content onto a single page to fit the needs of a given lesson, post a summary outline of course requirements, Create and manage online assessments using robust toolset: closed and open-ended questions, matching, question pools, set point value, auto-grading, statistics & timed assessments with high level of encryption.	
13.	Communication Tools	LMS should be able to schedule and maintain time deadlines, activities and events related to a course, project and connect to web link related to announcements, assignments, assessments, materials, etc. should supports Online chat tool, built in Online discussion forum for participants, Create and manage email list for invites, messaging to individual/groups etc.	
14.	Live Video Collaboration	LMS solution should have Live Video & Audio Collaboration feature with two-way communication between Teacher and Students in Live Classroom and should have feature to manage resolution for effective bandwidth utilization.	
15.		LMS solution should be capable to connect up to 100 Learners in a live classroom. By rotation, any participant should be able to be brought on main screen for everyone else to view up to 20 speaker videos simultaneously. there should be provision for room chats, private chat, raise hand, participants mute/unmute, video enable/disable, Lecture capturing/ session recording and breakout rooms.	
16.		Should have Inbuilt Whiteboard with options like pen, eraser, Highlighter, Text input, Shapes, Live picture input etc. Should have Inbuilt locking tool for live classroom	
17.		Should have Instant recording on cloud: Recording saved once live class is finished. Should have In-Built Video editing Tool. Should have Inbuilt device management tool to manage webcam, mic and speaker in live class	

18.		Should have YouTube Integration and Host can create the playlist via YouTube. (Integrated YouTube search to find public and unlisted YouTube videos and share them in class for synchronous playback).	
19.		The LMS platform should have Inbuilt Breakout Room option: User can create breakout rooms during the Live class and manually assign Learners to rooms. Should have option for Host to turn on and off microphone & camera of all the participants at the same time. Should have option for Host to turn on/off only microphone/camera of any Learners, option for Host to hide the learners webcam in live classroom, option for Instructors to allow participants to share their screens, writing controls, chat, Notes, play shared files, option to Create & import the quizzes in live classroom, should have Full screen mode for learner & Host	
20.	Admin Interface	LMS should be able to define groups for the purposes of communication, grading, permissions, collaboration, assigning work or assessments, delegate administrative controls to staff members, grant site access and privileges to users. Ability to Manage approval of registration, Create Teacher/ Admin Accounts, send notifications, create courses, create learning material badges/certificates for learner/teacher appreciation, Track learners' performance, Upload and view course content, Content Type can be video, audio, document (ppt, pdf, word, text, ppt) and weblink. Solution should have the option to upload bulk database of Students & Teachers.	
21.	Teacher Interface	LMS should be able to produce and manage lesson plans, upload and view course content, upload and play HTML file, track learners performance, view / edit profile, add videos, send/check notification for upcoming events, maintain tasking, get information about course statistics and progress, publishing events in calendar, use dynamic calendar where user can view all the activities at a glance, design and set quiz tests and view online activities.	
22.		Teacher should be able to publish the lesson to class once prepared. Once the lesson is published any changes made to the lessons by the teacher should be automatically reflected to the students. Entire class should get notification and be able to access the lessons published by the teacher on their devices or on browser.	
23.	Parents Interface	LMS should have the capability to track the attendance and progress of students.	
24.	Cloud Storage	LMS platform should be provided with up to 15GB of cloud storage for each license and with a validity of three years for the platform.	
25.	Warranty	Three years warranty	

Item No 54: Device Management Software

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Device Management Software	*Software should shows Device Usage Time Duration for which a Interactive Panel was On and Off– Daily, weekly and monthly basis *Details of Online, offline (Interactive Panel) should be visible on Dashboard *Platform should have provision to install application as well as details of installed application & Provision to uninstall application *Centralized Reports should be generated school wise, district wise, Block wise and state wise (fields should be customizable according to user) *Usage tracking application shall Sync the usage details to cloud based application over internet *In absence of internet connectivity, the usage tracking application shall store the logs locally & shall send the details to cloud based application once the internet connectivity is available. *The access to cloud-based application for usage tracking shall be provided in the form of user ID & password for secure access *Details of Applications used/run on IFPD with Start time, end time and duration and application name the reports should be in graphical form *Platform and application should have provision to fetch the location where IFPD is running *Notification alert should be given if any IFPD Not functioning properly, if someone install/uninstall the application etc. *Platform should have provision to export reports in excel *Platform should show push notification to be displayed, when the system is On line *Role management and assignment of Users should be available in the Platform. The Software should be of the same OEM as Interactive Display to avoid any compatibility issues.	
2	Warranty	Three years warranty	

Item No 55: Digital Audio-Conferencing System – Wired Based Chairman Unit option 1

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Priority Control	Chairman Unit should have functionality to override over other mic central control to mute all other microphone	
2	Touch Buttons	Should have Two touch enable button with LED Indication	
3	Microphone type	Electret condenser microphone	
4	Microphone directionality	Cardioid directionality	
5	Frequency response	80Hz~16KHz or better	

6	Microphone input impedance	Suitable microphone input impedance	
7	Sensitivity	High sensitivity suitable for speech applications	
8	Maximum SPL	High maximum SPL suitable for conference environments	
9	SNR	>80dB(A) or better	
10	THD	Low distortion audio performance	
11	Headphone load	16-32Ω	
12	Maximum headphone volume	40mW	
13	Headphone jack	3.5mm	
14	Maximum power consumption	≤3W	
15	LED indication for Mute/Unmute	Supported	
16	Inter Connectivity	Digital Loop-In/Loop-Out	
17	Connector	2x RJ45 Connector for digital connectivity	
18	Power supply	Controller power supply	
19	Installation	Desktop	
20	Mic Button	Touch Button to enable/disable microphone	
21	Priority Button	Should have Touch Button for priority function to turn off all delegate units that are speaking	
22	Built-in DSP	Built-in DSP for echo suppression, noise reduction, and clear audio output	
23	Built in Speakers	Built-in speaker with automatic mute during microphone activation to prevent feedback	
24	Audio Output	Should have 3.5 mm output sockets with Volume adjustment slider	
25	Warranty	Three years warranty	

Item No 56: Digital Audio-Conferencing System – Wired Based Delegate Unit option 2

Sr. No	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Microphone type	Electret condenser microphone	
2	Microphone directionality	Cardioid directionality	
3	Frequency response	80 Hz – 16 kHz or better	
4	Microphone input impedance	Suitable microphone input impedance	
5	Sensitivity	High sensitivity suitable for speech applications	
6	Maximum SPL	High maximum SPL suitable for conference applications	
7	SNR	≥80 dB(A)	
8	THD	Low distortion audio performance	
9	Headphone load	16-32Ω	
10	Maximum headphone volume	40mW	
11	Headphone jack	3.5mm	
12	Maximum power consumption	3 W or better	
13	LED indication for Mute/Unmute	Supported	

14	Inter Connectivity	Digital Loop-In/Loop-Out	
15	Connector	2x RJ45 Connector for digital connectivity	
16	Power supply	Controller power supply	
17	Installation	Desktop	
18	Mic Button	Touch Button to enable/disable microphone	
19	Built-in DSP	Built-in DSP for echo suppression, noise reduction, and clear audio output	
20	Built in Speakers	Built-in speaker with volume control and feedback suppression; speaker should automatically mute when microphone is active.	
21	Audio Output	Should have 3.5 mm output sockets with Volume adjustment slider	
22	Warranty	Three years warranty	

Item No 57: Digital Audio-Conferencing System – Central Conference Control Unit

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Microphone capacity	Should support large-scale conference systems with expandable architecture, capable of supporting minimum 1000 wired microphone units or higher, with provision for wireless integration	
2	Number of Channels	Minimum 16-channel audio processing or equivalent matrix capability	
3	DSP functionality	Built-in DSP with audio matrix processing, feedback suppression, equalization (EQ), volume control, delay adjustment and other standard audio processing features	
4	USB Recording	Should support direct audio recording and playback via USB storage device	
5	Microphone management modes	Support for multiple microphone management modes such as FIFO, Normal, Voice Activation and Apply mode or equivalent	
6	Open Microphone	Configurable number of simultaneous open microphones, minimum 8 or more	
7	Frequency Response	80 Hz – 20 kHz or better	
8	SNR	≥ 85 dB(A)	
9	Dynamic Range	≥ 80 dB	
10	Total Harmonic Distortion	$\leq 0.05\%$	
11	Audio Input	2x Balance Phoenix terminal, 1x XLR LINE In, 1 x RCA line In or more	
12	Audio Output	16x Balance Phoenix terminal, 1x XLR LINE out, 1 x RCA line out or more	
13	Output Load	$>1K\Omega$ or better	
14	Control Display	Device should have inbuilt 4.3-inch TFT colourful touch screen to control the device.	

15	Control Port	1x Alarm, 1x RS485, 1x RJ45 PC control, 1x RJ45 Dante, 1x RJ45 Extension Port, 1x RJ45 WiFi port, 2x RS232 Serial Port or more	
16	LAN Interface	1xRJ45 Network Port	
17	Delegate interconnectivity	4 Nos of 6-pin aviation connector	
18	Extension Port	Should Have 1 RJ 45 Extension port to Connect to the extension controller	
19	USB interface	USB x1 for Record/playback	
20	Amplifier Output	2x25W/4Ω or better	
21	Static power consumption	30W or less	
22	Output power consumption	320W or less	
23	PTZ Camera control	Should supported PTZ camera controlling for Voice tracking functionality	
24	Warranty	Three years warranty	

Item No 58: Digital Audio-Conferencing System – Wireless Based Chairman Unit

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Priority Control	Chairman Unit should have functionality to override over other mic central control to mute all other microphone	
2	Push Buttons	Should have Two push enable button for microphone on/off & Priority	
3	Touch Display	Should have 4" Touch Screen	
4	Microphone type	Short gun square microphone stem with voice pickup function	
5	Microphone directionality	Unidirectional Super cardioid	
6	Frequency response	60Hz~18KHz	
7	Microphone input impedance	1KΩ	
8	Sensitivity	-43dBV/Pa	
9	Maximum SPL	105dB (THD>3%)	
10	SNR	>80dB(A) or better	
11	THD	<0.1% or better	
12	Crosstalk	>70dB or better	
13	Interface	3.5mm, USB Type-C, USB Type-A	
14	Maximum power consumption	3 W or better	
15	LED indication for Mute/Unmute	Supported	
16	Wireless Frequency	5 GHZ or better	
17	Power supply	Rechargeable Li-ion battery power supply	
18	Battery Capacity	5200mAh or better	
19	Backup Time	Up to 7 Hours or better	
20	Installation	Desktop	
21	Mic Button	Touch Button to enable/disable microphone	
22	Built-in DSP	Should have built-in DSP audio processor with 48KHZ sampling rate to provide clear and	

		bright sound	
23	Audio Output	Should have 3.5 mm output sockets	
24	Inbuilt Touch Display	Should have inbuilt 4-inch display for conference process information, which should be displayed: speaking mode, speaking time, speaker information.	
25	Encryption technology	should support 128-bit AES encryption technology, with WPA/WPA2 wireless security technology, prevent eavesdropping and unauthorised access, provide higher confidentiality of the conference system	
26	Intelligent fault detection	Should have Intelligent fault detection function, prompting the user AP failure, host communication failure, signal strength is too low and so on	
27	Warranty	Three years warranty	

Item No 59: Digital Audio-Conferencing System – Wireless Based Delegate Unit

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Push Buttons	Should have Two push enable button for microphone On/off	
2	Touch Display	Should have 4" Touch Screen or better	
3	Microphone type	Short gun square microphone stem with voice pickup function	
4	Microphone directionality	Unidirectional Super cardioid	
5	Frequency response	60Hz~18KHz	
6	Microphone input impedance	1K Ω	
7	Sensitivity	-43dBV/Pa	
8	Maximum SPL	105dB (THD>3%)	
9	SNR	>80dB(A) or better	
10	THD	<0.1% or better	
11	Crosstalk	>70dB or better	
12	Interface	3.5mm, USB Type-C, USB Type-A	
13	Maximum power consumption	3 W or better	
14	LED indication for Mute/Unmute	Supported	
15	Wireless Frequency	5 GHZ or better	
16	Power supply	Rechargeable Li-ion battery power supply	
17	Battery Capacity	5200mAh or better	
18	Backup Time	Up to 7 Hours or better	
19	Installation	Desktop	
20	Mic Button	Touch Button to enable/disable microphone	
21	Built-in DSP	Should have built-in DSP audio processor with 48KHZ sampling rate to provide clear and bright sound	
22	Audio Output	Should have 3.5 mm output sockets	

23	Inbuilt Touch Display	Should have inbuilt 4-inch display for conference process information, which should be displayed: speaking mode, speaking time, speaker information.	
24	Encryption technology	should support 128-bit AES encryption technology, with WPA/WPA2 wireless security technology, prevent eavesdropping and unauthorised access, provide higher confidentiality of the conference system	
25	Intelligent fault detection	Should have Intelligent fault detection function, prompting the user AP failure, host communication failure, signal strength is too low and so on	
26	Warranty	Three years warranty	

Item No 60: Digital Audio-Conferencing System – Central Conference Control Unit for Wireless System

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Microphone capacity	Device Should Support minimum up to 4000 Wired Microphone Unit and 300 wireless Units	
2	Number of Channels	60CH or better	
3	DSP functionality	Should have inbuilt DSP with audio matrix, EQ, volume, delay and other adjustment functions	
4	USB Recording	Device should support audio recording with additional USB Disk/Pen drive with On panel physical button and LED indication.	
5	Microphone management modes	FIFO mode, NORMAL Mode, VOICE (voice-activated mode), APPLY (application mode)	
6	Open Microphone	Should supports up to 8 wired microphones & 6 wireless microphone opened at the same time	
7	Frequency Response	80Hz~16KHz	
8	SNR	>85dB(A) or better	
9	Dynamic Range	>80dB or better	
10	Total Harmonic Distortion	<0.05% or better	
11	Audio Input	2x Balance Phoenix terminal, 1 x RCA line In or more	
12	Audio Output	1x XLR LINE Out, 1 x RCA line Out or more	
13	Output Load	>1K Ω or better	
14	Control Display	Device should have inbuilt 4.3-inch TFT colourful touch screen to control the device.	
15	Front interface	Headphone x 1, USB x1 for Record/playback	
16	Rear Interface	1x Alarm, 1x RJ45 PC control, 1x RJ45 Dante, 1x RJ45 Extension Port, 1x RJ45 Wi-Fi port, 2x RS232 Serial Port or more	

17	Delegate interconnectivity	4 Nos of 7-pin aviation connector	
18	Extension Port	Should Have 1 RJ 45 Extension port to Connect to the extension controller	
19	Static power consumption	30W or less	
20	Output power consumption	150W or less	
21	PTZ Camera control	Should supported PTZ camera controlling for Look at me tracking functionality	
22	Warranty	Three years warranty	

Item No 61: Digital Audio-Conferencing System – Wireless Access Point

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Status Indicator	Should be available for different system operations indications	
2	Ethernet port	1 Gigabit Ethernet Port or better	
3	Console port	1 RJ45 port	
4	Antenna	Built-in matrix smart antenna or better	
5	PoE	Support 802.3at/bt Power over Ethernet standard	
6	Transmit power	≤ 20dBm or better	
7	Adjustable power granularity	1dBm	
8	Adjustable power range	1dBm~corresponding national regulations	
9	Power consumption	<15W or better	
10	Warranty	Three years warranty	

Item No 62: Digital Audio-Conferencing System – Charging Station

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Charging ports	Minimum 10 USB Charging ports in single unit should be available	
2	Total rate power	200-Watt 40 Amp. Or better	
3	Input voltage	220V AC 50/60Hz	
4	Output voltage	5 Volt 2 Amp from each port or better	
5	Voltage indication display	Should available	
6	Warranty	Three years warranty	

Item No 63: Flush Mount Boundary Layer Microphone

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Microphone type	Should have push enable pop-up microphone design	
2	Touch Button	Should have Touch enable button for Mic on/off with LED status indicator	
3	Microphone directionality	Cardioid pattern	
4	Frequency response	40Hz~18KHz	

5	Microphone input impedance	200 Ω	
6	Sensitivity	-40dBV/Pa	
7	Maximum SPL	142dB (THD>3%)	
8	SNR	>65dB(A) or better	
9	Interface	3-Pin XLR	
10	LED indication for Mute/Unmute	Supported	
11	Power supply	DC 11-52V Phantom power	
12	Installation	Table Flush Mount	
13	Maximum Product Dimensions	86 mm Length, 40mm Diameter & 50 mm width or less	
14	Warranty	Three years warranty	

Item No 64: Cascade Device for Flush Mount Boundary Layer Microphone

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Voltage supply	48V DC	
2	Static power consumption	1W	
3	Frequency Response	20Hz ~ 20KH	
4	Noise ratio (S / N)	> 80dB or better	
5	Total harmonic distortion	<0.05%	
6	Channel Crosstalk	> 80dB	
7	Connectors	2xRJ45 port, 2xBoundary condenser mic phoenix, 2xSwitch for MIC/48V option, 2xGain adjust knob, 2x Group phoenix connector, 2x Group phoenix connectors including: Ground Mic button for microphone ON/OFF, 2x 5 pin phoenix connector for speaker and headphone	
8	LED Power	5 V, max. 40 mA	
9	Headphone Output impedance	16 Ohm	
10	Speaker Output impedance	8 Ohm	
11	Warranty	Three years warranty	

Item No 65: Central Conference Controller for Flush Mount Microphone

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Number of Channels	60CH or better	
2	DSP functionality	Should have inbuilt DSP with audio matrix, EQ, volume, delay and other adjustment functions	
3	USB Recording	Device should support audio recording with additional USB Disk/Pen drive with On panel physical button and LED indication.	
4	Microphone management modes	Open mode, NORMAL Mode, VOICE Mode, FIFO Mode	

5	Open Microphone	Should supports up to 8 wired microphones & 6 wireless microphone opened at the same time	
6	Frequency Response	20Hz~20KHz	
7	SNR	>85dB(A) or better	
8	Dynamic Range	>90dB or better	
9	Total Harmonic Distortion	<0.05% or better	
10	Audio Input	2x Balance Phoenix terminal, 1 x RCA line In or more	
11	Audio Output	1x XLR LINE Out, 1 x RCA line Out or more	
12	Output Load	>1K Ω or better	
13	Control Display	Device should have inbuilt LCD Display with 4-Way button for menu operate and Master volume control knob	
14	Front interface	Headphone x 1, USB x1 for Record/playback	
15	Rear Interface	1x RJ45 PC control, 1x RCA audio input, 1x XLR audio input, 1x RCA audio output, 1x XLR audio output, 6x Phoenix connector audio output, 1x RJ45 for wireless AP, 2x RS232 for Control, 1x phoenix connector for camera control keyboard or more	
16	Interconnectivity	2x RJ45 digital audio connection, 2x RJ45 for chairman unit, delegate unit, unit translators and other connection	
17	Static power consumption	30W or less	
18	Output power consumption	150W or less	
19	PTZ Camera control	Should supported PTZ camera controlling for Look at me tracking functionality	
20	Warranty	Three years warranty	

Item No 66: Retractable Chairman Display (15 inch)

Sr. No.	Feature	Minimum Technical Specification	Compliance (Yes/ No)
1	Main Scree Size	15.6 inch or better	
2	Touch Screen	Support	
3	Lifting Time	28 sec or better	
4	Elevation Angle	0-30° or more	
5	Resolution	Full HD (1920x1080) or better	
6	Brightness	250cd/m ² or better	
7	Contrast	600:1 or better	
8	Display thickness	9.7mm or less	
9	Video Port	1 VGA,1 HDMI	
10	Brightness	220cd/m ² or better	
11	Resolution	WXGA (1366×768) or better	
12	USB Support	Desktop panel should have USB interface to browse or upload the files using USB Drive	

13	Device Structure	The device should be made up of all-aluminium structure with high-quality aluminium material and CNC engraving processing treatment the overall display frame and the cabinet should be of aluminium alloy	
14	Screen Transmission	The transmission structure should be specially treated to minimize the noise with high-quality stretch-resistant belts, high-precision sliding guide rail and linear bearings, and AC gear motor as the driving power; the central control protocol, with strong compatibility, should be compatible with all computer controllers. The screen to be powered on when turning up, and powered off when turning down automatically	
15	Power Supply	AC 220V 50-60/HZ	
16	Power Consumption	25W or better	
17	Warranty	Three years warranty	

Item No 67: e-Sign Cards (Dual Side Display)

Sr. No.	Specifications		Compliance (Yes/No)
1	Display Sizes (Inches)	4.2" & 7.5"	
2	Orientation	Horizontal	
3	Display Technology	E - Ink	
4	Panel	Dual	
5	Display Colour	BWRY (Black, White, Red, Yellow)	
6	Power Input	Battery Powered	
7	Connectivity	BLE 5.1	
8	Features	Web Application for Customer and Store Management	
9		Mobile Application with store login for publishing content to the H/W devices	
10		Template Manager for creating and Managing content	
11		Tag grouping for mapping templates to Tag groups	
12		User Management - assign independent Roles to users	
13		Cloud based solution	
14		Bulk update Capabilities - through mobile application	
15	Battery Life (With 4 content changes a day)	3 years	

Item No 68: e-Sign Cards (Single Side Display)

Sr. No	Specifications		Compliance (Yes/No)
1.	Display Size	4.2" & 7.5"	

	(Inches)		
2.	Orientation	Horizontal	
3.	Display Technology	E - Ink	
4.	Panel	Single	
5.	Display Colour	BWRY (Black, White, Red, Yellow)	
6.	Power Input	Battery Powered	
7.	Connectivity	BLE 5.1	
8.	Features	Web Application for Customer and Store Management	
9.		Mobile Application with store login for publishing content to the H/W devices	
10.		Template Manager for creating and Managing content	
11.		Tag grouping for mapping templates to Tag groups	
12.		User Management - assign independent Roles to users	
13.		Cloud based solution	
14.		Bulk update Capabilities - through mobile application	
15.	Battery Life (With 4 content changes a day)	3 years	

Item No 69: 65-inch Interactive Flat Panel Display

Sr. No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
1.	Display Size	65-inch (±2") Interactive Flat Panel Display	
2.	Display Technology	Direct LED, DLED or better	
3.	Resolution	3840 × 2160 (4K UHD)	
4.	Refresh Rate	Minimum 60 Hz	
5.	Brightness	Minimum 400 nits	
6.	Contrast Ratio	Minimum 1200:1	
7.	Viewing Angle	178° H/V	
8.	Surface	Anti-glare, Anti-fingerprint, Toughened Glass (7H hardness)	
9.	Protection Glass	Minimum 3.2 mm tempered glass with zero air gap or equivalent	
10.	Touch Technology	IR/Hybrid IR/equivalent	
11.	Touch Points	Minimum 40	
12.	Touch Accuracy	±1 mm or better	

13.	Touch Response	≤8 ms	
14.	Writing Latency	≤40 ms	
15.	Stylus	Minimum two passive stylus pens	
16.	Recognition	Automatic pen, finger and palm recognition	
17.	Operating System	Android 15 or higher with Google EDLA Certification	
18.	Processor	Octa-core or better	
19.	RAM	Minimum 8 GB	
20.	Storage	Minimum 64 GB	
21.	Audio	Built-in speakers, minimum 30 W total	
22.	HDMI	Minimum 3 HDMI inputs and 1 HDMI output	
23.	USB	Minimum 5 USB ports including 2×USB 3.0	
24.	USB-C	Video, audio, touch & minimum 65W PD	
25.	OPS	Intel OPS compliant	
26.	LAN	10/100/1000 RJ45	
27.	Wireless	Wi-Fi 6 or higher	
28.	Bluetooth	5.2 or higher	
29.	Screen Sharing	Native casting from Windows, Android, macOS, ChromeOS & iOS	
30.	Whiteboard	Unlimited canvas, annotation, QR sharing, recording	
31.	Power	100–240V AC, 50/60Hz	
32.	Power Consumption	≤450 W	
33.	Standby	≤0.5 W	
34.	Certifications	Google EDLA Certified, BIS, IEC 62368-1, CE, FCC, RoHS, REACH, Energy Star 8.0 or latest, ISO 9001, ISO 14001, ISO 27001, ISO 45001, Front Panel IP5X or higher, Intel OPS Compliance	
35.	Warranty	3 Years comprehensive onsite OEM warranty	

Item No 70: 75-inch Interactive Flat Panel Display

Sr.No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
1.	Display Size	75-inch (±2") Interactive Flat Panel Display	
2.	Display Technology	Direct LED, DLED or better	
3.	Resolution	3840 × 2160 (4K UHD)	
4.	Refresh Rate	Minimum 60 Hz	
5.	Brightness	Minimum 400 nits	
6.	Contrast Ratio	Minimum 1200:1	
7.	Viewing Angle	178° H/V	
8.	Surface	Anti-glare, Anti-fingerprint, Toughened Glass	

		(7H hardness)	
9.	Protection Glass	Minimum 3.2 mm tempered glass with zero air gap or equivalent	
10.	Touch Technology	IR/Hybrid IR/equivalent	
11.	Touch Points	Minimum 40	
12.	Touch Accuracy	±1 mm or better	
13.	Touch Response	≤8 ms	
14.	Writing Latency	≤40 ms	
15.	Stylus	Minimum two passive stylus pens	
16.	Recognition	Automatic pen, finger and palm recognition	
17.	Operating System	Android 15 or higher with Google EDLA Certification	
18.	Processor	Octa-core or better	
19.	RAM	Minimum 8 GB	
20.	Storage	Minimum 64 GB	
21.	Audio	Built-in speakers, minimum 30 W total	
22.	HDMI	Minimum 3 HDMI inputs and 1 HDMI output	
23.	USB	Minimum 5 USB ports including 2×USB 3.0	
24.	USB-C	Video, audio, touch & minimum 65W PD	
25.	OPS	Intel OPS compliant	
26.	LAN	10/100/1000 RJ45	
27.	Wireless	Wi-Fi 6 or higher	
28.	Bluetooth	5.2 or higher	
29.	Screen Sharing	Native casting from Windows, Android, macOS, ChromeOS & iOS	
30.	Whiteboard	Unlimited canvas, annotation, QR sharing, recording	
31.	Power	100–240V AC, 50/60Hz	
32.	Power Consumption	≤550 W	
33.	Standby	≤0.5 W	
34.	Certifications	Google EDLA Certified, BIS, IEC 62368-1, CE, FCC, RoHS, REACH, Energy Star 8.0 or latest, ISO 9001, ISO 14001, ISO 27001, ISO 45001, Front Panel IP5X or higher, Intel OPS Compliance	
35.	Warranty	3 Years comprehensive onsite OEM warranty	

Item No 71: 86-inch Interactive Flat Panel Display

Sr.No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
1.	Display Size	86-inch (±2") Interactive Flat Panel Display	
2.	Display Technology	Direct LED, DLED or better	

3.	Resolution	3840 × 2160 (4K UHD)	
4.	Refresh Rate	Minimum 60 Hz	
5.	Brightness	Minimum 400 nits	
6.	Contrast Ratio	Minimum 1200:1	
7.	Viewing Angle	178° H/V	
8.	Surface	Anti-glare, Anti-fingerprint, Toughened Glass (7H hardness)	
9.	Protection Glass	Minimum 3.2 mm tempered glass with zero air gap or equivalent	
10.	Touch Technology	IR/Hybrid IR/equivalent	
11.	Touch Points	Minimum 40	
12.	Touch Accuracy	±1 mm or better	
13.	Touch Response	≤8 ms	
14.	Writing Latency	≤40 ms	
15.	Stylus	Minimum two passive stylus pens	
16.	Recognition	Automatic pen, finger and palm recognition	
17.	Operating System	Android 15 or higher with Google EDLA Certification	
18.	Processor	Octa-core or better	
19.	RAM	Minimum 8 GB	
20.	Storage	Minimum 64 GB	
21.	Audio	Built-in speakers, minimum 40 W total	
22.	HDMI	Minimum 3 HDMI inputs and 1 HDMI output	
23.	USB	Minimum 5 USB ports including 2×USB 3.0	
24.	USB-C	Video, audio, touch & minimum 65W PD	
25.	OPS	Intel OPS compliant	
26.	LAN	10/100/1000 RJ45	
27.	Wireless	Wi-Fi 6 or higher	
28.	Bluetooth	5.2 or higher	
29.	Screen Sharing	Native casting from Windows, Android, macOS, ChromeOS & iOS	
30.	Whiteboard	Unlimited canvas, annotation, QR sharing, recording	
31.	Power	100–240V AC, 50/60Hz	
32.	Power Consumption	≤650 W	
33.	Standby	≤0.5 W	
34.	Certifications	Google EDLA Certified, BIS, IEC 62368-1, CE, FCC, RoHS, REACH, Energy Star 8.0 or latest, ISO 9001, ISO 14001, ISO 27001, ISO 45001, Front Panel IP5X or higher, Intel OPS Compliance	
35.	Warranty	3 Years comprehensive onsite OEM warranty	

Item No. 72: 10 – 20 Seaters (Option 1)

Sr. No.	Parameter	Minimum Specification	Compliance (Yes/No)
1	Sensor	CMOS image sensor of 1/2.8-inch or larger, at least 2 effective megapixels, with progressive scanning.	
2	Resolution Support	Minimum output resolution of 1920×1080 at 30 fps; higher frame rates may be offered.	
3	Dual Stream Support	USB/UVC output supporting at least two standard formats from YUY2, MJPEG and H.264/H.265. Simultaneous streams/formats shall be supported where required by the VC application.	
4	Optical Zoom	At least 10x optical zoom.	
5	Digital Zoom	At least 10x digital zoom; higher zoom may be offered.	
6	Field of View (H/V/D)	At the widest position: diagonal FOV at least 65° and horizontal FOV at least 55°. Vertical FOV and tele-end FOV shall be declared.	
7	Focal Length	OEM-standard motorised zoom lens providing at least 10x optical zoom, with wide-end aperture of F2.0 or better. Focal-length/aperture range shall be declared.	
8	Shutter Speed	Electronic shutter range covering at least 1/30 second to 1/10,000 second, or wider.	
9	Minimum Illumination	Minimum illumination of 0.5 lux or lower at the widest available aperture with AGC enabled; test conditions shall be declared.	
10	White Balance	Automatic and manual white balance, with one-push and/or indoor/outdoor presets or equivalent scene modes.	
11	Backlight Compensation	Backlight compensation shall be supported.	
12	Auto Focus / Flicker / Color Optim.	Auto focus and anti-flicker shall be supported, together with automatic colour optimisation or an equivalent image-processing function.	
13	Digital Noise Reduction	2D and/or 3D digital noise reduction, or equivalent OEM image-noise-reduction technology.	
14	Video S/N Ratio	Video signal-to-noise ratio of at least 50 dB.	

15	Pan Range	Horizontal pan range of at least $\pm 170^\circ$.	
16	Tilt Range	Vertical tilt range from at least -30° to $+90^\circ$, or wider.	
17	Pan Speed	Variable pan speed with a maximum speed of at least $30^\circ/\text{second}$; complete range shall be declared.	
18	Tilt Speed	Variable tilt speed with a maximum speed of at least $25^\circ/\text{second}$; complete range shall be declared.	
19	Flip Image (H/V)	Horizontal and/or vertical image flip shall be supported for the proposed mounting arrangement.	
20	Preset Support	At least 100 programmable PTZ presets, with repeatability/accuracy of 0.5° or better.	
21	Control Interface	At least one industry-standard camera-control interface using RS-232, RS-485 and/or IP. VISCA, Pelco-D/P or equivalent documented protocol shall be accepted.	
22	Remote Control	IR, RF or Bluetooth remote control shall be supplied.	
23	USB Interface	USB 2.0 or higher interface supporting UVC. Type-B, Type-C or Type-A is acceptable with the required cable/adaptor supplied.	
24	Power Supply	Operation through OEM-supplied DC power and/or USB power; all necessary power supplies and cables shall be included.	
25	Power Consumption	Maximum power consumption shall be declared and shall not exceed 12 W under normal operation.	
26	Dimensions	Compact tabletop/wall-mountable form factor suitable for the proposed room. Exact dimensions shall be declared and verified against the approved installation layout.	
27	Weight	Net weight not exceeding 2 kg, excluding mounting accessories; actual weight shall be declared.	
28	Accessory	USB cable, required power adaptor, remote control, suitable wall-mount kit and user documentation shall be supplied.	

29	Warranty	Minimum one-year comprehensive OEM/manufacture warranty; a longer project warranty may be stipulated separately.	
30	Certification	BIS/Indian-standard compliance wherever legally applicable under prevailing Indian regulations; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC, CB or equivalent may be accepted as supporting evidence.	
31	Device Type	USB audio conference speakerphone suitable for a 10–20 seat room, supporting full-duplex conferencing and extension microphones.	
32	Microphones	OEM-designed microphone array providing 360° pickup. Microphone count and directional arrangement shall be declared but shall not be used as the sole performance criterion.	
33	Microphone Pickup Range	Effective pickup radius of at least 3 metres, extendable to at least 5 metres using the supplied extension microphones.	
34	Extended Coverage	Two extension microphones shall be supplied from day one and shall provide total table coverage of at least 7 metres. OEM-standard cables/connectors are acceptable.	
35	Speaker Output	Speaker output of at least 85 dBA at the OEM-declared measurement distance, suitable for a 10–20 seat room.	
36	Noise Reduction	Digital noise suppression providing at least 15 dB attenuation or demonstrably equivalent ambient-noise reduction.	
37	Audio Technology	DSP-based acoustic echo cancellation with an echo tail of at least 300 ms, or a proven equivalent suitable for the proposed room.	
38	Audio Features	Acoustic echo cancellation, automatic gain control, noise suppression, full-duplex operation and non-linear processing or equivalent functions.	
39	Interface Ports	USB connection, at least two extension-microphone ports and the required power input. Connector types shall be declared and all cables supplied.	
40	USB Type	USB 2.0 or higher; Type-B, Type-C or Type-A connection is acceptable with the required cable supplied.	
41	User Interface	Physical or touch controls for call answer/end, microphone mute, speaker mute and volume adjustment, with clear status indication.	

42	Frequency Range	Audio frequency response covering at least 100 Hz–20 kHz, or wider.	
43	Power Supply	Universal 100–240 V AC, 50/60 Hz power input through the supplied adaptor, and/or USB bus power where supported.	
44	Power Consumption	Maximum power consumption not exceeding 10 W under normal operation.	
45	Operating Temperature	Operating temperature range of at least 0°C to 40°C.	
46	Environmental Humidity	Operating relative humidity range of at least 10%–85%, non-condensing.	
47	Dimensions (L x W x H)	Tabletop form factor suitable for the proposed room and furniture. Dimensions shall be declared; exact catalogue dimensions shall not be mandatory.	
48	Certifications	BIS/Indian-standard compliance wherever legally applicable; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC, CB or equivalent may be accepted as supporting evidence.	

Item No. 73: 10 – 20 Seaters (Option 2)

Sr. No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
1	Package	All-in-one video bar integrating a 4K camera, microphone array and speakers in a single enclosure.	
2	Camera Sensor	CMOS image sensor of 1/2.8-inch or larger with at least 8 effective megapixels and native 4K output.	
3	Resolution	Minimum resolution of 3840×2160 at 30 fps, with support for 1920×1080 and 1280×720.	
4	Field of View	At the widest position: diagonal FOV at least 110°, horizontal FOV at least 100° and vertical FOV at least 65°.	
5	Zoom Capability	At least 5x digital/electronic zoom.	

6	PTZ	Electronic PTZ or mechanical-plus-electronic PTZ capable of framing participants across the intended 10–20 seat room. Effective pan/tilt range shall be declared.	
7	Noise Reduction	2D and/or 3D digital noise reduction, or equivalent OEM image-enhancement technology.	
8	Backlight Compensation	Backlight compensation shall be supported.	
9	Signal-to-Noise Ratio (SNR)	Video signal-to-noise ratio of at least 50 dB.	
10	Microphone Type	Built-in beamforming microphone array providing full-duplex voice pickup.	
11	Number of Microphones	Microphone-array architecture shall be OEM-designed; it must meet the stipulated pickup distance and 360°/room coverage performance. Element count shall be declared.	
12	Microphone Pickup Range	Effective voice-pickup range of at least 5 metres under OEM-declared test conditions.	
13	External Mic Support	Support for at least one OEM-compatible external/extension microphone where additional room coverage is required.	
14	Audio Processing	Built-in acoustic echo cancellation, automatic gain control and noise suppression, with full-duplex communication or equivalent 3A processing.	
15	Speaker Type	Integrated full-range loudspeaker system suitable for a 10–20 seat room.	
16	Speaker Output	Total speaker power of at least 5 W and sound-pressure output of at least 90 dB SPL at the OEM-declared measurement distance.	
17	USB Interface	At least one USB 3.0 or higher UVC/UAC interface. Type-C, Type-B or Type-A is acceptable with supplied cables; additional USB host ports may be offered.	
18	Video Compression Format	H.264 and MJPEG video compression, plus YUY2, NV12 or equivalent UVC-compatible uncompressed format.	
19	Frequency Response	Speaker frequency response covering at least 100 Hz–20 kHz; microphone response shall be declared separately.	

20	Audio over USB	UAC 1.0 or later, with audio sampling rate of at least 32 kHz.	
21	Video over USB Protocol	UVC 1.1 or later.	
22	HDMI Output	At least one HDMI output supporting 4K video. HDMI 1.4 or later is acceptable if it supports the required format.	
23	Bluetooth	Bluetooth 5.0 or later.	
24	Wireless Connectivity	Wi-Fi shall be provided where required for wireless content sharing/BYOM. Infrared or RF connectivity may be used for remote control.	
25	Control Method	Remote control shall be supplied using IR, RF/2.4 GHz or Bluetooth technology.	
26	AI Capabilities	AI-based auto/group framing and speaker/presenter tracking. Automatic view switching or equivalent framing logic shall be acceptable.	
27	Plug & Play Support	USB plug-and-play operation with supported PCs/displays, without proprietary camera/audio drivers.	
28	Installation Options	Suitable hardware for desktop, wall and display/TV mounting shall be available; the selected mounting kit shall be supplied.	
29	Security	Kensington lock slot or an equivalent physical anti-theft provision.	
30	Software Compatibility	Compatible with standard UVC/UAC applications including Microsoft Teams, Zoom, Google Meet and Webex, without being restricted to any proprietary VC application.	
31	Certifications	BIS/Indian-standard compliance wherever legally applicable; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC or equivalent may be accepted as supporting evidence.	

Item No. 74: 20 – 30 Seaters (Option 1)

Sr. No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
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1	Speakerphone Type	All-in-one full-duplex speakerphone with USB wired and Bluetooth wireless connectivity, together with a supplied extension speakerphone/microphone unit suitable for a 20–30 seat room.	
2	Sampling Rate & Echo Cancellation	Audio sampling rate of at least 48 kHz and acoustic echo cancellation suitable for the room; echo-tail performance of 300 ms or higher, or proven equivalent.	
3	Microphone Coverage	Internal 360° pickup radius of at least 4 metres, with the supplied extension unit providing total effective coverage of at least 6 metres.	
4	Battery	Built-in rechargeable battery providing at least 15 hours of talk time and 30 days of standby under OEM-declared test conditions. Capacity shall be declared.	
5	Intelligent Features	Beamforming/direction identification and automatic gain control, or equivalent intelligent microphone-processing functions.	
6	Controls	Dedicated controls for microphone mute, speaker mute/volume and Bluetooth/call operation, with clear status indication. Echo cancellation may operate automatically.	
7	Bluetooth Version	Bluetooth 5.0 or later.	
8	Call Merging Capability	Support call bridging/mixing between a USB-connected PC conference call and one mobile connection through Bluetooth and/or 3.5 mm audio.	
9	Power Source	Operation through USB bus power and/or rechargeable battery. USB-C, Type-B or Type-A is acceptable with the required cable supplied; no separate adaptor shall be needed during normal USB use.	
10	External Speakerphone	One compatible extension speakerphone/microphone unit shall be supplied, providing speaker output of at least 80 dBA and the required additional pickup coverage. OEM-standard cable/interface is acceptable.	
11	Mobile Call Support	Mobile-device calling through Bluetooth 5.0 or later and/or 3.5 mm audio. A 3.5 mm interface shall be mandatory only if analog call bridging is operationally required.	
12	Certifications	BIS/Indian-standard compliance wherever legally applicable; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC or equivalent may be accepted as supporting evidence.	
13	Sensor	CMOS image sensor of 1/2.8-inch or larger, with at least 8 effective megapixels and native 4K output capability.	

14	Lens	OEM-standard motorised lens providing at least 12x optical zoom, with wide-end aperture of F1.8 or better. Focal-length/aperture range shall be declared.	
15	Field of View (FOV)	Diagonal field of view of at least 75° at the widest position; horizontal and vertical FOV shall be declared.	
16	Video Format	Through USB/UVC, support 4K at a minimum of 30 fps using MJPEG and/or H.264/H.265; YUY2 or equivalent uncompressed output shall be supported at applicable resolutions.	
17	Optical Zoom	At least 12x optical zoom.	
18	Digital Zoom	At least 12x digital zoom; higher zoom may be offered.	
19	AI Features	AI-based auto/group framing and presenter or subject tracking. Equivalent OEM terminology and additional tracking modes shall be accepted.	
20	Minimum Illumination	Minimum illumination of 0.5 lux or lower at the widest available aperture with AGC enabled; test conditions shall be declared.	
21	Shutter	Electronic shutter range covering at least 1/30 second to 1/10,000 second, or wider.	
22	White Balance	Automatic and manual white balance, including one-push and indoor/outdoor presets or equivalent modes.	
23	Backlight Compensation	Backlight compensation shall be supported.	
24	Digital Noise Reduction	2D and/or 3D digital noise reduction, or equivalent OEM image-noise-reduction technology.	
25	Signal-to-Noise Ratio (SNR)	Video signal-to-noise ratio of at least 50 dB.	
26	Pan Angle	Horizontal pan range of at least $\pm 170^\circ$.	
27	Tilt Angle	Vertical tilt range from at least -30° to $+90^\circ$, or wider.	

28	Pan Speed	Variable pan speed with a maximum speed of at least 30°/second; complete range shall be declared.	
29	Tilt Speed	Variable tilt speed with a maximum speed of at least 25°/second; complete range shall be declared.	
30	Image Flip	Horizontal and/or vertical image flip shall be supported for the proposed mounting arrangement.	
31	Preset Positions	At least 100 programmable PTZ preset positions.	
32	Video Compression	H.264 and MJPEG compression shall be supported; H.265 or a later industry-standard codec may be offered additionally.	
33	Video Stream	At least two independently configurable IP video streams.	
34	First Stream Resolution	Primary stream shall support 3840×2160 and configurable lower resolutions including 1920×1080 and 1280×720.	
35	Second Stream Resolution	Secondary stream shall support 1920×1080 and/or 1280×720, with additional lower resolutions as per OEM design.	
36	Video Bit Rate	Configurable video bit rate with an upper limit of at least 20 Mbps; full supported range shall be declared.	
37	Frame Rate	Configurable frame rate up to at least 25 fps in 50 Hz mode and 30 fps in 60 Hz mode, including 4K at 30 fps.	
38	Audio Compression	AAC and/or another widely supported audio codec such as G.711/G.722, compatible with the proposed VC/streaming system.	
39	Audio Bit Rate	Configurable audio bit rate appropriate to the offered codec; for AAC, support shall include at least 96–256 kbps or equivalent quality.	
40	Protocols	Mandatory: TCP/IP, HTTP/HTTPS, RTSP, RTMP/RTMPS, DHCP and ONVIF. SRT, NDI, GB/T 28181 and multicast shall be required only where used by the approved architecture; optional licences shall be identified.	
41	USB Interface	At least one USB 3.0 or higher UVC interface. Type-C, Type-B or Type-A is acceptable with required cable/adaptor supplied.	

42	HD Output	At least one HDMI output supporting 4K at 30 fps or higher.	
43	Network Interface	At least one RJ45 Ethernet interface supporting 10/100 Mbps or higher. Gigabit and PoE/PoE+ shall be specified separately only where required by the network design.	
44	Audio Interface	At least one line/microphone audio input; 3.5 mm or an equivalent professional connector is acceptable.	
45	Control Interface	At least one industry-standard control interface using RS-232, RS-485 and/or IP. VISCA, Pelco-D/P or an equivalent documented protocol shall be acceptable; required cables shall be supplied.	
46	Power Interface	Power through OEM-supplied DC input and/or PoE/USB as supported. All required power supplies/injectors shall be included.	
47	Accessory	Remote control and suitable wall-mount kit, including installation hardware, shall be supplied.	
48	Certifications	BIS/Indian-standard compliance wherever legally applicable; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC, CB or equivalent may be accepted as supporting evidence.	

Item No. 75: 20 – 30 Seaters (Option 2)

Sr. No.	Parameter	OEM-Neutral Minimum Technical Specification	Compliance (Yes/No)
1	Package	All-in-one conferencing bar integrating panoramic and close-up imaging channels, microphones and speakers. A dual-lens or functionally equivalent multi-camera architecture is acceptable.	
2	Camera Type	Integrated wide-angle/panoramic and PTZ/close-up imaging channels, using dual lenses or an equivalent multi-sensor architecture.	
3	Camera Resolution	Minimum camera output of 3840×2160 at 30 fps, with support for 1920×1080 and 1280×720.	
4	Sensor	Focused/PTZ camera: CMOS sensor of 1/2.8-inch or larger with at least 8 effective megapixels.	
5	Optical Zoom	At least 12x optical zoom for the focused/PTZ camera.	

6	Lens Focal Length	OEM-standard motorised lens providing at least 12x optical zoom, with wide-end aperture of F1.8 or better. Focal-length range shall be declared.	
7	Horizontal Field of View	Focused camera horizontal FOV of at least 65° at the widest position; tele-end FOV shall be declared.	
8	Vertical Field of View	Focused camera vertical FOV of at least 38° at the widest position; tele-end FOV shall be declared.	
9	Pan Range	Focused camera horizontal pan range of at least ±90°.	
10	Tilt Range	Focused camera total vertical tilt range of at least 40°.	
11	Pan Speed	Variable pan speed with maximum speed of at least 60°/second; complete range shall be declared.	
12	Tilt Speed	Variable tilt speed with maximum speed of at least 15°/second; complete range shall be declared.	
13	Mechanical PTZ	The focused/close-up imaging channel shall use mechanical PTZ for physical pan, tilt and optical zoom.	
14	Image Enhancements	Backlight compensation, 2D/3D or equivalent noise reduction, horizontal/vertical flip and image freeze.	
15	Number of Preset Positions	At least 100 programmable PTZ presets, with repeatability/accuracy of 0.5° or better.	
16	Signal-to-Noise Ratio	Video signal-to-noise ratio of at least 50 dB.	
17	Focus	Automatic focus shall be supported.	
18	White Balance	Automatic and manual white balance, including indoor/outdoor and one-push presets or equivalent modes.	
19	Sensor	Panoramic camera: CMOS sensor of 1/2.8-inch or larger with at least 8 effective megapixels.	

20	Optical Lens	Fixed or variable wide-angle lens suitable for panoramic room coverage. Focal length shall be declared rather than prescribed.	
21	Diagonal Field of View	Panoramic camera diagonal FOV of at least 110°.	
22	Horizontal Field of View	Panoramic camera horizontal FOV of at least 100°.	
23	Vertical Field of View	Panoramic camera vertical FOV of at least 65°.	
24	EPTZ	Electronic PTZ shall be supported for the panoramic camera.	
25	Built-in Microphone	Built-in beamforming microphone array. Element count shall be OEM-designed and declared, while pickup performance shall govern compliance.	
26	Audio Pickup Range	Effective built-in audio pickup range of at least 6 metres, extendable to at least 8 metres using extension microphones.	
27	Speaker	Integrated full-range speaker system suitable for a 20–30 seat room. Speaker count, rated power and SPL shall be declared.	
28	Sampling Rate	Microphone sampling rate of at least 32 kHz and speaker/audio playback sampling rate of at least 48 kHz.	
29	Audio Algorithms	Acoustic echo cancellation, automatic gain control and automatic noise suppression, or equivalent advanced audio processing.	
30	Extended Mic Support	Support for extension microphones through USB, Ethernet/PoE or another secure OEM-standard interface; all required cables/injectors shall be supplied.	
31	Auto Framing	AI-based auto/group framing using face, body and/or audio cues.	
32	Speaker Tracking	AI-based active-speaker tracking.	
33	Smart Gallery	Multi-person gallery framing or an equivalent function that presents individual close-up views of multiple participants.	

34	Multi-Camera Director	Where required by the approved room design, support an external/front camera and automatic/manual layout switching. Any licences or accessories shall be included.	
35	Color Space/Compression	H.264 and MJPEG compression, together with YUY2/NV12 or an equivalent UVC-compatible uncompressed format.	
36	USB Video Communication Protocol	UVC 1.1 or later for video and UAC 1.0 or later for audio.	
37	USB	At least one USB 3.0 or higher UVC/UAC interface. Type-C, Type-B or Type-A is acceptable with supplied cables; an additional USB host port may be provided.	
38	HDMI	At least one HDMI output supporting the required 4K format.	
39	Network Ports	Sufficient Ethernet interfaces for network A/V and extension-microphone connectivity. RJ45/PoE or equivalent OEM network architecture is acceptable; required injectors/switching shall be included.	
40	BYOM & BYOD Support	BYOM/BYOD capability for wireless presentation and access to the room camera, microphones and speakers. One compatible dongle/receiver and required licences shall be supplied from day one.	
41	Remote Control	IR, RF/2.4 GHz or Bluetooth remote control shall be supplied.	
42	Dimensions (W x H x D)	Overall dimensions without bracket shall be declared and shall be suitable for the proposed display and room layout; exact catalogue dimensions shall not be mandatory.	
43	Dimensions (with bracket)	Overall dimensions with the supplied bracket shall be declared and verified against the approved installation layout.	
44	Operating Temperature	Operating temperature range of at least 0°C to 40°C.	
45	Storage Temperature	Storage temperature range of at least -20°C to +60°C, or wider.	
46	Security	Kensington lock slot or equivalent physical anti-theft provision.	

47	Power Input	Power through OEM-supplied DC input and/or PoE. All required power supplies, injectors and cables shall be included.	
48	Microphone Type	Compatible digital array/extension microphone for the offered conferencing bar/system.	
49	Microphone Array	OEM-designed omnidirectional/beamforming microphone array providing 360° pickup. Element count shall be declared but shall not determine compliance by itself.	
50	Pickup Distance	Effective pickup radius of at least 3 metres per extension microphone.	
51	Sensitivity	Microphone sensitivity shall be declared and shall support clear speech capture across the stipulated 3-metre radius; test conditions shall be provided.	
52	Signal Noise Ratio	Signal-to-noise ratio of at least 60 dB(A).	
53	Frequency Response	Microphone frequency response covering at least 100 Hz–16 kHz, or wider.	
54	Sampling Rate	Audio sampling rate of at least 32 kHz.	
55	Audio Processing Features	Acoustic echo cancellation, automatic noise suppression and automatic gain control, or equivalent processing.	
56	Cascade Mode	Microphones shall support cascading through PoE/Ethernet or another secure OEM-standard digital interface.	
57	Cascade Capability	The solution shall support cascading at least four microphones and shall be scalable up to six where required by the approved room layout. Necessary PoE/injector power shall be included.	
58	Network Interface	Daisy-chain upstream/downstream digital network interfaces using RJ45 or another secure OEM-standard connector.	
59	USB Interface	USB 2.0 or higher interface for configuration/direct audio as applicable. Type-C, Type-B or Type-A is acceptable with supplied cable.	
60	Analog Audio	At least one analog audio input and one analog audio output; 3.5 mm, balanced or equivalent professional connectors are acceptable.	

61	Power Input	Power through IEEE 802.3af/at PoE and/or USB 5 V as supported. Required PoE injectors/power supplies shall be included.	
62	System	USB/UAC plug-and-play compatibility with current supported versions of Windows, macOS and Linux.	
63	Installation Method	Suitable hardware for desktop, wall and ceiling mounting shall be available; the required mounting accessories shall be supplied.	

Item No. 76: 30 – 40 Seaters

Sr.No.	Parameter	Minimum Technical Specification	Compliance (Yes/No)
1	Sensor	CMOS image sensor of 1/2.8-inch or larger, with at least 8 effective megapixels and native 4K output capability.	
2	Lens	OEM-standard motorised zoom lens providing at least 20x optical zoom, with wide-end aperture of F1.8 or better. The bidder shall declare focal-length and aperture ranges.	
3	Diagonal FOV	Diagonal field of view of at least 65° at the widest zoom position.	
4	Horizontal FOV	Horizontal field of view of at least 58° at the widest zoom position. Tele-end field of view shall be declared by the bidder.	
5	Vertical FOV	Vertical field of view of at least 33° at the widest zoom position. Tele-end field of view shall be declared by the bidder.	
6	Video Format	Through USB/UVC, the camera shall support 4K at a minimum of 30 fps using MJPEG and/or H.264/H.265. YUY2 or equivalent uncompressed format shall be supported at applicable resolutions.	
7	Signal System	Minimum supported modes: 3840×2160 at 25/30 fps and 1920×1080 at 25/30 fps, or higher frame-rate equivalents.	
8	Scanning Mode	Progressive scanning.	
9	Optical Zoom	At least 20x optical zoom.	
10	Digital Zoom	At least 12x digital zoom; higher zoom may be offered.	
11	AI Feature	The camera shall provide AI-based auto/group framing and presenter or subject tracking. Equivalent OEM terminology and additional tracking modes shall be acceptable.	
12	Minimum Illumination	Minimum illumination of 0.5 lux or lower, measured at the widest available aperture with AGC enabled. Test	

		conditions shall be declared.	
13	Shutter	Electronic shutter range covering at least 1/30 second to 1/10,000 second, or wider.	
14	White Balance	Automatic and manual white balance, including one-push and indoor/outdoor presets or equivalent scene modes.	
15	Backlight Compensation	Backlight compensation shall be supported.	
16	Digital Noise Reduction	2D and/or 3D digital noise reduction, or an equivalent OEM image-noise-reduction technology.	
17	SNR	Video signal-to-noise ratio of at least 50 dB, or better.	
18	Pan Angle	Horizontal pan range of at least $\pm 170^\circ$.	
19	Tilt Angle	Vertical tilt ranges from at least -30° to $+90^\circ$, or wider.	
20	Pan Speed	Variable pan speed with a maximum speed of at least $30^\circ/\text{second}$. The complete speed range shall be declared.	
21	Tilt Speed	Variable tilt speed with a maximum speed of at least $25^\circ/\text{second}$. The complete speed range shall be declared.	
22	Image Flip	Horizontal and/or vertical image flip shall be supported as required for the proposed mounting arrangement.	
23	Preset Position	At least 100 programmable PTZ preset positions.	
24	Video Compression	H.264 and MJPEG compression shall be supported. H.265 or a later industry-standard codec may be offered additionally.	
25	Video Stream	At least two independently configurable IP video streams.	
26	First Stream Resolution	Primary stream shall support 3840×2160 and configurable lower resolutions including 1920×1080 and 1280×720 .	
27	Second Stream Resolution	Secondary stream shall support 1920×1080 and/or 1280×720 , with additional lower resolutions as per OEM design.	
28	Video Bit Rate	Configurable video bit rate with an upper limit of at least 20 Mbps. The supported range shall be declared by the bidder.	
29	Bit Rate Control	Both variable bit rate (VBR) and constant bit rate (CBR) modes shall be supported.	
30	Frame Rate	Configurable frame rate up to at least 25 fps in 50 Hz mode and 30 fps in 60 Hz mode, including 4K at 30 fps.	
31	Audio Compression	AAC and/or another widely supported audio codec such as G.711/G.722, with compatibility for the proposed VC/streaming system.	

32	Audio Bit Rate	Configurable audio bit rate appropriate to the offered codec; for AAC, support shall include at least the 96–256 kbps range or equivalent quality.	
33	Protocols	Mandatory: TCP/IP, HTTP/HTTPS, RTSP, RTMP/RTMPS, DHCP and ONVIF. SRT, NDI, GB/T 28181 and multicast shall be required only where used by the approved system architecture; optional licences shall be separately identified.	
34	USB Interface	At least one USB 3.0 or higher interface supporting UVC. Type-C, Type-B or Type-A connectors are acceptable with the required cable/adaptor supplied.	
35	HD Output	At least one HDMI output supporting 4K at 30 fps or higher.	
36	Network Interface	At least one RJ45 Ethernet interface supporting 10/100 Mbps or higher. Gigabit Ethernet shall be required only where justified by the network design. PoE/PoE+ may be specified separately if required.	
37	Audio Interface	At least one audio input suitable for line-level or microphone audio; 3.5 mm or an equivalent professional connector is acceptable.	
38	Control Interface	At least one industry-standard remote-control interface using RS-232, RS-485 and/or IP control. VISCA, Pelco-D/P or an equivalent documented/open control protocol shall be acceptable. Required connectors and cables shall be supplied.	
39	Accessory	IR/wireless remote control and suitable wall-mount kit, including installation hardware, shall be supplied as standard.	
40	Certifications	BIS registration/Indian-standard compliance wherever legally applicable under prevailing Indian regulations; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC, CB or equivalent certificates may be accepted as supporting evidence where relevant.	
41	Microphone Array	All-in-one full-duplex speakerphone with USB wired and Bluetooth wireless connectivity. Microphone-array design shall be OEM-specific but must meet the stipulated 360° pickup and coverage performance.	
42	Audio Quality	Full-duplex wideband audio with a sampling rate of at least 48 kHz and acoustic echo cancellation suitable for the proposed room. Echo-tail performance shall be declared; 300 ms or higher, or proven equivalent, is acceptable.	
43	Voice Pickup Range	360° voice pickup with an effective radius of at least 5 metres, extendable to at least 6 metres using the supplied extension microphones.	
44	Battery	Built-in rechargeable battery providing at least 12 hours of talk time and 30 days of standby under OEM-declared test conditions. Battery capacity shall be declared.	

45	Audio Processing	Acoustic echo cancellation, noise suppression/reduction and automatic gain control, or equivalent advanced audio-processing functions.	
46	Controls	Dedicated controls for microphone mute/unmute, speaker volume and call/Bluetooth operation, with clear LED or LCD status indication. Echo cancellation may be automatic and need not have a separate switch.	
47	Bluetooth Version	Bluetooth 5.0 or later.	
48	Dual Call Support	Where operationally required, the unit shall support call bridging/mixing between a USB-connected PC conference call and one mobile connection through Bluetooth and/or 3.5 mm audio.	
49	Power Supply	The device shall operate from USB bus power and/or its rechargeable battery. USB-C or USB Type-B is acceptable, and all required cables shall be supplied. No separate power adaptor shall be necessary during normal USB operation.	
50	External Microphones	The speakerphone shall support and be supplied with two extension microphones, each having at least 2 metres of pickup coverage. RJ9, RJ45 or another secure OEM-standard interface is acceptable; required cables shall be supplied.	
51	Mobile Connectivity	Mobile-device connectivity through Bluetooth 5.0 or later and/or a 3.5 mm audio interface. If analog mobile-call bridging is operationally mandatory, a 3.5 mm interface shall be provided.	
52	Certifications	BIS registration/Indian-standard compliance wherever legally applicable under prevailing Indian regulations; RoHS compliance; and applicable safety/EMC test reports from a recognised laboratory. CE, FCC, CB or equivalent certificates may be accepted as supporting evidence where relevant.	

ANNEXURE-II

Performance Bank Guarantee Template

[Date]

To,

The Managing Director,
H.P. State Electronics Development Corporation Ltd.,
First Floor, IT Bhawan, Mehli, Shimla-171013.

Dear Sir,

1. Whereas M/s _____ (hereinafter called “CONTRACTOR”) has supplied _____ (as per Bill of Material Specified in this Document) as per agreement/supply order No. _____ dated _____ signed between the HPSEDC (hereinafter called “Client”) and them and as per the agreement/supply order the M/s. _____ is supposed to furnish Performance Security for supply of _____ and maintain the same for a period of _____ years.
2. NOW THEREFORE KNOW ALL THE MAN THESE PRESENTS THAT WE, __ (Bank Name) _____ having its Head Office at _____ (hereinafter called “the Bank”) are bound up to the Client in the sum of Rs. _____/- (Rs. _____) only) for which payment will and truly to be made to the said Client, the Bank binds itself, its successors and assignees by these presents.
3. The Bank further undertakes to pay to the purchaser up to the above amount on receipt of its first written demand, without the Client having to substantiate its demand. The Client’s decision in this regard shall be final and shall not be called upon to question under any circumstances. The Bank Guarantee will remain in force up to _____. However, its validity can be got extended before _____ solely at the instance of the Purchaser. This clause shall remain valid notwithstanding anything else contained to the contrary in this document.
4. Our responsibility under this guarantee is restricted to Rs. _____/- (Rupees _____) only and it will remain enforce up to _____ unless a demand in writing is received by the bank on or before _____, all your

rights under the said guarantee shall be forfeited and we shall be released and discharged from all the liabilities thereunder.

5. This guarantee will remain in force up to <date of validity> and any demand in respect thereof should reach the Bank not later than the specified date/dates. However, notwithstanding anything else contained to the contrary in this Guarantee, if the implementing agency does not submit the fresh performance bank guarantee (as per required schedule and amount) till 15 days before expiry of this performance bank guarantee, the Purchaser may either forfeit the PBG or ask the Bank to extend validity of the Bank Guarantee for a further period not exceeding six months. In the latter situation, the Bank shall comply with such a request of extension.
6. Sealed with the Common Seal of the said Bank this _____ day of _____, 2026. In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this _____ day of _____, 2026 for Bank _____

Witness

Signature

Name

M/s. _____ (complete address)

Note: This guarantee will attract stamp duty as a security bond.

A duly certified copy of the requisite authority conferred on the official/s to execute the Guarantee on behalf of the bank should be annexed to this guarantee for verification and retention thereof as documentary evidence.

Latest instructions for bidders:

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - a. An entity incorporated, established, or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established, or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established, or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (III) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company.
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has

- ownership of entitlement to more than fifteen percent of capital or profits of the partnership.
3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

The Bidder has to provide following declarations (duly signed and stamped):

Declaration 1 of Latest instructions to bidders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Declaration 2 of Latest instructions to bidders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]

Declaration 3 of Latest instructions to bidders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached]"

In case bidder is Himachal based company/ firm/ entity then the bidder should submit a self-declaration certificate regarding above mentioned Declaration 1, 2 and 3.

Note: Interested bidder may refer to Office Memorandum (F. No. 6/18/2019-PPD) dated 23.07.2020 of Department of Expenditure, Ministry of Finance, Govt. of India for further details and all the requirements will be in accordance with this memorandum.