

BID DOCUMENT

NATIONAL COMPETITIVE BIDDING

SELECTION OF SERVICE PROVIDER FOR ENTERING INTO RATE CONTRACT FOR DESIGN, INSTALLATION, COMMISSIONING AND MAINTENANCE OF VIRTUAL CLASSROOM PLATFORMS SOLUTION

PART-I- TECHNICAL BID



Education • Innovation • Transformation

EdCIL (India) Limited

A Govt. of India Category-I Mini Ratna CPSE

EdCIL House, Plot No. 18A, Sector 16A,

Noida-201301 (U.P.) India

Tel: 0120 – 2512001-006, FAX: 0120-2515372

**Reg. Office: 5th Floor, Vijaya Building 17,
Barakhamba Road, New Delhi-110001**

Dated: 04th September, 2020

This Technical document serially numbered from page number 01 to 142

DISCLAIMER

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the EdCIL (India) Limited or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an Agreement and is neither an offer nor invitation by EdCIL to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their financial offers (BIDs) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by EdCIL in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the EdCIL, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in the Bidding Documents may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

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

EdCIL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way for participation in this BID Stage.

EdCIL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. EdCIL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP. The issue of this RFP does not imply that EdCIL is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Project and EdCIL reserves the right to reject all or any of the Bidders or BIDs without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its BID including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by EdCIL, site visits, investigations, studies or any other costs incurred in connection with or relating to its BID. All such costs and expenses will remain with the Bidder and EdCIL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the BID, regardless of the conduct or outcome of the Bidding Process.

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**Notice Inviting Tender
(e-Tendering mode)**

**EdCIL (INDIA) LIMITED
(A Govt. of India Mini Ratna CATEOGRY-I CPSE)
SECTOR 16A, NOIDA**

Date: 04th Sept, 2020

N.I.T. No.: EdCIL/DES/Virtual Classroom Solution/2020

Name of work	Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution
The Currency in which payment shall be made	Indian Rupees (INR)
Date of Issue/Publishing	04 Sept, 2020
Document Download Start Date	04 Sept, 2020
Document Download End Date and Time	30 Sept, 2020 at 11:00 Hrs
Date for Pre-Bid Conference and Time	17 Sept, 2020 at 11:00 Hrs
Bid queries should reach by	14 Sept, 2020 at 16:00 Hrs Bid queries received later than the date and time as mentioned above shall not be entertained. Pre-bid queries should be emailed to destenders@edcil.co.in and shivam@edcil.co.in as per format at Annexure-XIX
Venue of Pre-Bid Conference	EdCIL House,18 A, Sector-16 A, Noida, U.P. 201301
Last Date and Time for receipts of Bids	30 Sept, 2020 at 13:00 Hrs In case a Holiday is declared on the day of the event, the same will be held on the next working day at the same time & venue.
Date and Time of Opening of Technical Bids	30 Sept, 2020 at 15:00 Hrs
Date and Time of Opening of Financial Bids	To be informed later

Earnest Money Deposit	Rs.10,00,000/- (Rupees Ten Lakhs Only) in form of Bank Guarantee from a Nationalized Bank in India/ Demand Draft. Scanned copy to be uploaded with tender documents and original BG/ DD has to be submitted. In case EMD is submitted in the form of BG, the BG should be valid till 45 days after the bid validity date, as per Annexure-X
No. of Covers	02 (Two Packets)
Bid Validity days	180 days (From last date of opening of tender)
Performance Bank Guarantee (PBG)	10% of the total work value of the successful bidder. PBG is required to be submitted within 7 days from the date of issue of LOA as per Annexure-XI
Email Address	destenders@edcil.co.in , shivam@edcil.co.in
Corporate Office	EdCIL House, 18-A, Sector 16A, Film City, Noida, Uttar Pradesh 201301

1. Tender document shall be downloaded from electronic tender portal link available at <http://www.tenderwizard.com/EDCIL>. Aspiring bidders who have not get registered in online portal should get register/enroll before participating. Interested bidders are advised to go through instructions provided at "Instructions to Bidders for e-tendering."
2. No manual bids shall be accepted. All bids (both Technical and Financial) should be submitted in the online portal. However, all the credentials mentioned in clause 1.1 should be submitted offline, after submission of online bid
3. Bidders are advised to visit the EdCIL Website/<http://www.tenderwizard.com/EDCIL> for getting them updated for information on this tender. Corrigendum and addendum may be issued on the changes required. Reply on pre-bid queries received by EdCIL shall be displayed on EdCIL website/e-tendering website. Bidders are advised to visit the webpage regularly and update themselves. The Pre-Bid queries, Corrigendum/addendum are the part of tender document and Bidders are supposed to upload the same accordingly, duly signed as per the guidelines given in the tender document.

Chief General Manager (DES)
EdCIL (India) Limited,
18 A, Sector-16A, Noida-201 301
Tel: 91-120-2512001 to 2512006

CHAPTER- I
Offline and Online Bid Submission Documents

1.1 Offline Submissions:

The bidder is requested to submit the hardcopy of the below mentioned documents in a Sealed Envelope and the hardware equipments to the under mentioned address before the start of Public Online Tender Opening Event.

The envelope shall bear name (the project name), the tender number and the words 'DO NOT OPEN BEFORE' (due date & time).

- I. Original copy of the EMD Security in the form of Demand Draft/BG.
- II. Original copy of the power-of-attorney.

Note: The Bidder should also upload the scanned copies of all the above-mentioned original documents as Bid-Annexure during Online Bid-Submission.

1.2 Online Submissions:

The Online bids (complete in all respect) must be uploaded online in **two** Envelops as explained below: -

Envelope – 1 (Following documents to be provided as single PDF file) (File Size should be less than 5 mb)			
Sl. No.	Documents	Content	File Types
1.	Technical Bid	Technical Compliance as per Annexure-I	.PDF
		Organization Declaration Sheet as per Annexure-II	.PDF
2.		Letter of Undertaking as per Annexure-III	.PDF
3.		Undertaking of Non-Blacklisting as per Annexure-IV	.PDF
4.		Annual Average Turnover as per Annexure-V	.PDF
5.		List of Orders Completed During Last 5 years for Govt. Organizations / Autonomous Institutes in India as per Annexure VI	.PDF
6.		Details of Projects Executed During Last 5 years for Govt. Organizations /Autonomous Institutes in India as per Annexure VII	.PDF
7.		Power of Attorney as per Annexure VIII	.PDF
8.		Letter of Bid Submission as per Annexure IX	.PDF
9.		Earnest Money Deposit as per Annexure X	.PDF
10.		Performa pre contract integrity pact as per Annexure XII	.PDF
11.		Manufacturer Authorization Form as per Annexure XIII	.PDF
12.	Tender Checklist as per Annexure XIV	.PDF	

13.		Equipment Compliance as per Annexure- XVIII	.PDF
14.		Performa for declaration on proceedings under insolvency and bankruptcy code, 2016 Annexure-XX	.PDF
Envelope-2 (Following document to be provided as single PDF file) (File Size should be less than 5 mb)			
Sl. No.	Documents	Content	
1.	Financial Bid	Price bid sheet as per bid form and Financial Bid Submission Form	.PDF

CHAPTER-II
Term of Reference & Definitions

Term	Definition
Supplier	"Supplier" means any company responding to the Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution
Authorized Signatory	The bidder's representative (explicitly, implicitly, or through conduct) with the powers to commit the authorizing organization to a binding agreement. Also called signing officer/authority having the Power of Attorney from the Competent authority of the respective Bidding firm.
Bid	"Bid" means the response to this document presented in Two Packets, Technical Cum Commercial Bid and Financial Bid, which are supplied with necessary documents and forms as given in Annexure, complete in all respect adhering to the instructions and spirit of this document.
Bidder	"Bidder" means any company responding to Request for Proposal and who makes a Bid.
Contract	"The Contract" means the agreement entered into between EdCIL and the selected bidder(s) in terms of clauses mentioned
Day	"Day" means a working day as per rules of EdCIL.
EMD	Earnest Money Deposit
D.D	Demand Draft
EdCIL	EdCIL (India) Limited, Noida (A Mini Ratna Category -I CPSE)
TC	Tender Committee
PBG	Performance Bank Guarantee
Security Deposit (SD)	Amount of the Order Value deposited by the Bidder and retained till the successful completion of the project (as long as the bidder fulfills the contractual agreement).
Services	"Services" means the services to be delivered by the successful bidder and as required to run the project successfully as per the Contract.
RFP/Tender	" RFP "/Tender means the Request for Proposals
Goods and Materials	"Goods and Materials" shall mean the articles, materials, equipment, IT Equipment, supplier's drawings, data and other property and all services-including design, delivery, installation, inspection and maintenance support specified or required to complete the order and incidental thereto.
Order	"Order" shall mean the Purchase Order/Work order and its attachments and exhibits.
Consignee	"Consignee" shall mean EdCIL (India) Limited/ end client.
EdCIL/ Purchaser	"EdCIL/ Purchaser" shall mean EdCIL (India) Limited.

CHAPTER-III

Instructions for e-Tendering

3.1 Instructions for Online Bid Submission:

- 1) E-tendering is new technology for conducting public procurement in a transparent and secured manner. As per Government of India's directives, EdCIL (India) Limited has adopted E-tendering.
- 2) For conducting electronic tendering, EdCIL (India) Limited has decided to use Electronic tender portal link available with detailed information on e-tendering process. This portal built using Electronic tender's software is referred to as <http://www.tenderwizard.com/EDCIL>.
- 3) The bidders are required to submit soft copies of their bids electronically on <http://www.tenderwizard.com/EDCIL> e-tendering website, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the Tender Wizard E-Tendering Portal, prepare their bids in accordance with the requirements and submitting their bids online on the Tender Wizard E-Tendering Portal.
- 4) The scope of work to be tendered is available in the complete bid documents which can be viewed /downloaded from Tender Wizard E-Tendering Portal of <http://www.tenderwizard.com/EDCIL>. Both Technical Bid and Financial Bid will be submitted concurrently duly digitally signed in the website <http://www.tenderwizard.com/EDCIL>. No claim shall be entertained on account of disruptions of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last minute technical snags.
- 5) All Corrigendum/Amendment/Corrections, if any, will be published on the website <http://www.tenderwizard.com/EDCIL> as well as on EdCIL's website.
- 6) It is mandatory for all the applicants to have class-III Digital Signature Certificate (in the name of person who will sign the bid document) from any of the licensed certifying agency (Bidders can see the list of licensed Certifying Agencies from the link www.cca.gov.in) to participate in e-Procurement of EdCIL.
- 7) It is mandatory for the bidders to get their firm/company registered with e-procurement portal of EdCIL, i.e. www.tenderwizard.com/EDCIL to have user ID & password by submitting a non-refundable annual registration charges as follows:

1	Registration charges for 1 year	Rs. 2000/-
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(exclusive of taxes, levies, etc.) which can be paid online using the e-payment gateway to KEONICS through the portal address mentioned above. The registration so obtained by the prospective bidder shall be valid for one year from the date of its issue and shall be subsequently renewed.

(i) Participant shall safely keep their User ID and password, which will be issued by the service provider i.e. KEONICS Ltd. upon registration, and which is necessary for e-tendering.

(ii) Bidders are advised to change the password immediately on receipt of activation mail.

(iii) Bidders shall not disclose their User ID as well as password and other material information relating to the e-tendering to any one and safeguard its secrecy.

8) Submit your tender well in advance by relevant documents along with copy of EMD of tender submission deadline on **Tender Wizard E-Tendering Portal** <http://www.tenderwizard.com/EDCIL>, as there could be last minute problems due to internet timeout, breakdown, etc.

9) Tenders should be submitted only through Tender Wizard E-Tendering Portal and obtain the Tender Acknowledgement copy as a proof of successful submission.

10) Vendors are requested to contact at Tender wizard Helpdesk for any information regarding E-tendering / training.

a) For online registration, intended bidders may write us at harishkumar.kb@etenderwizard.com or contact no. 080-40482100/9964074577/9650520101.

b) For any further query related to Training Session, Tender Uploading/downloading or any other query related to tender please contact Tender wizard Helpdesk.

c) Telephone: 080-40482100/9650520101/9964074577 or write us mail on Email Id:-

harishkumar.kb@etenderwizard.com, ratun.thakur@etenderwizard.com, varun.b@etenderwizard.com.

3.2 PREPARATION OF BIDS

I. Bidder should take into account any corrigendum/addendum published on the portal before submitting their bids.

II. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents-including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

- III. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/ schedule and generally, they can be in PDF format. Bid documents may be scanned with 100dpi with black and white option.

3.3 SUBMISSION OF BIDS

- I. Bidder should log into the site well in advance for bid submission and complete all formalities of registration (at least two days in advance of the closing date) so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be sole responsible for any delay in uploading of bid within the stipulated time.
- II. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- III. Bidder has to pay EMD as applicable through demand draft/BG as per tender condition in favour of "**EdCIL (India) Ltd**" payable at **Noida** and enter details of the instruments. Original copies of demand draft/BG for EMD are required to be submitted.
- IV. A standard Financial Bid form has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the financial bid format is found to be modified by the bidder, the bid will be rejected.
- V. The server time will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- VI. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

3.4 ASSISTANCE TO BIDDERS

Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority. For any other tender related queries bidders are requested to contact on below given numbers/email.

Telephone/ Mobile/ E-mail ID	<p>Vendors Training Program: Vendors are requested to contact at Tender wizard Helpdesk Office for any information regarding E-tendering / training.</p> <p>a) For online registration, intended bidders may write us at harishkumar.kb@etenderwizard.com or contact no. 080-40482100/9964074577/9650520101.</p> <p>b) For any further query related to Training Session, Tender Uploading/downloading or any other query related to tender please contact Tender wizard Helpdesk.</p> <p>Telephone: 080-40482100/9650520101/9964074577 or write us mail on Email:Id:- harishkumar.kb@etenderwizard.com, ratat.thakur@etenderwizard.com, varun.b@etenderwizard.com & cc to: destenders@edcil.co.in</p>
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3.5 Offline Submissions: (AS PER TENDER REQUIREMENT)

The bidder is requested to submit documents as mentioned in the **Clause 1.1**

3.6 MINIMUM REQUIREMENTS AT BIDDER'S END

- Computer System having configuration with minimum Windows 7 or above, and Broadband connectivity
- Digital Certificate(s)

CHAPTER-IV

Instruction to Bidders

4.1 Due date:

The tender has to be submitted before the due date and time. The offers received after the due date and time will not be considered.

4.2 Preparation of Bids:

The offer/ bid shall be submitted in two bid systems (i.e.) Technical Bid and Financial Bid. The technical bid shall consist of all technical details along with commercial terms and conditions. Financial bid shall indicate component wise price for all the mentioned component in the financial bid in the given PDF format.

4.3 Language of Proposal:

The proposal prepared by the firm and all correspondence and documents relating to the RFP exchanged by the bidder and the Client, shall be written in the English language, provided that any printed literature furnished by the firm may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

4.4 Cost of Bidding:

The bidder shall bear all costs associated with the preparation and submission of its bid, including cost of presentation for the purposes of clarification of the bid, if so desired by the client and client will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

The firm is expected to carefully examine all instructions, forms, terms and specifications in the bid document. Failure to furnish all information required in the bid document or submission of a bid not substantially responsive to the bid document in every respect will be at the firm's risk and may result in the rejection of the bid.

4.5 EMD:

The Bidder should submit EMD through Demand Draft drawn in favor of "EdCIL (India) Limited" payable at NOIDA/ New Delhi from any Nationalized bank. The Bid sent without Bid fee and EMD would be considered as UNRESPONSIVE and will not be considered.

In case EMD is submitted in the form of BG, the BG should be valid till 45 days after the bid validity date, as per Annexure-XI

The bidder should enclose EMD of Rs. 10,00,000/- (Rupees Ten Lakhs only) in the form of Bank Guarantee/ Demand Draft drawn in favor of EdCIL (India) Limited and payable at NOIDA, with the Technical Bid.

Note: Bidders registered with MSME and having valid registration certificate issued by NSIC/MSME are exempted for submission of EMD. However, MSMEs are advised to submit their financial solvency certificate issued not earlier than 3 months from the last date of bid submission.

4.6 Refund of EMD:

- I. The EMD will be returned to unsuccessful Bidder(s) after the award of the rate contract to the successful bidder.
- II. Earnest money will be forfeited if the bidder unilaterally withdraws the offer, or unilaterally amends, impairs or rescinds the offer within the period of its validity.
- III. In Case of Successful Bidder, the EMD shall be returned after submission of 10% Performance Bank Guarantee from a nationalised bank operating in India.

4.7 Acceptance/ Rejection of bids:

- I. EdCIL reserves the right to reject any or all offers without assigning any reason.
- II. EdCIL based on the requirement without assigning any reason to the Bidder may split work/Scope/Bid offer in stages or in parts according to the need of work for ease of execution of work.

4.8 Performance Security

- I. The successful bidder should be required to deposit Performance Bank Guarantee equivalent to 10% of contract value to EdCIL within 7 days from the date of receipt of Work Order. The Performance Bank Guarantee (PBG) should be issued by a nationalized bank in favor of "EdCIL (India) Limited" to be valid for a period of 90 days beyond the date of completion of Contract period. This Performance Bank Guarantee should be retained throughout the currency of the contract and should be extended by the bidder from time to time, as required by EdCIL.
- II. PBG shall be returned to the successful bidder only after 90 days of the successful completion of the Contract. In case of any shortfall of any activity/ specification/ other terms and conditions of the contract, EdCIL reserves the right to recover damages or loss from the due the payment or by the encashment of PBG.

4.9 Amendment in Tender Document

At any time up to the last date for receipt of RFP, EdCIL may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective firm, modify the Bid Document by an amendment. The amendment will be notified on EdCIL's website and will be binding.

CHAPTER-V

Scope of Work

Solution I: Virtual classroom solution set up based on satellite-Internet-Cellular

5.1 Project Background:

EdCIL envisions to be a Nodal Agency for establishing advanced technology based educational solutions to improve classroom learning in the Government schools across India.

EdCIL thus intends to enter into a Rate Contract with professional and competent firm for implementing the Virtual Classrooms in Schools/colleges/universities of different States and UTs. EdCIL does the project management, consultancy services and value addition in the digital domain for the Govt. departments.

5.2 Objective and Benefits of Virtual Classroom platform:

To inculcate concept based learning using LIVE teaching, interaction, and assessment systems for various subjects and various standards of the school in English, Hindi and various Regional languages.

It is thus planned to implement Virtual Classroom program with:

- (i) Interactive teaching facility to deliver academic sessions and other skill development programs from a central location in a State.
- (ii) Infrastructure and applications to receive satellite or leased line based LIVE sessions to build conceptual understanding for all subjects and for all standards of the school in English, Hindi and various Regional languages.

The benefits of the projects are as below:

- 1) Interactive teaching facility shall ensure quality education across the State. Highly experienced teachers of the State shall be teaching from the studio.
- 2) Training solutions will be made available even at the remote locations.
- 3) Students will not have to travel to the cities to get additional academic support. This will help poor students to save time and money.
- 4) Any useful skill development trainings and professional development courses can be introduced.
- 5) Achievers in various fields will be invited to share their knowledge with students.
- 6) The infrastructure can be used for building competitive examinations awareness and training.

The project will be implemented in the phased manner on turnkey basis as per the Project Overview.

Phases	Description
1	Establishing Central studio infrastructure, Digital Content in different languages, Q&A Facility (Interaction Centre) at district HQ, Virtual Classroom setup
2.	Operation and Maintenance for 3 years

5.3 Project Overview:

Virtual Classroom solution will run during school hours to benefit pupils and teachers. Broad scope of work is as below:

- a) Upgradation of existing broadcasting studio in the state/setting up new studio to deliver LIVE lessons to Government schools over EdUSAT/VSAT/NOFN/Internet.
- b) Setting up Virtual Classrooms in Government Schools.
- c) Animation rich e-content to use in LIVE sessions and as recorded content.
- d) Supply of Clickers for every student for individual learning assessment.
- e) Setting up interactive doubt clarification system(facilitation) at district level using VSAT/NOFN/Internet.
- f) Training Services and Operations and Management.
- g) Operations and management of the studio and education services.
- h) Manpower supply.

5.4 Technology Solution Requirements:

- a) The solution needs to enable LIVE teaching from studio through the Transmission Hub.
- b) The system should support the activities required for teaching, learning, assessment, professional development, and collaboration—from sophisticated multicast network.
- c) The system should be reliable and robust for school-wide, college wide, university wide, block-wide, and state-wide deployment.
- d) The solution should be a 2-way LIVE interactive model among
 - a. Studio Teachers and Students at multiple remote locations.
 - b. Students and Online Teachers at multiple locations
 - c. Studio Teachers and Online Teachers
- e) The solution must have capability to multicast LIVE classes to schools over the current EdUSAT/VSAT/NOFN/Internet network securely.
- f) Platform should allow doubt clarification through remote online teachers - called as Q&A system to be established at District HQ.
- g) Platform should allow using digital content (2D/3D animations and videos) as a tool for teaching from studio. Studio teachers should be able to use the content as teaching aid - teacher video, audio, animation, and teacher notes should be synced and projected at the classroom end. Even the govt. of India Content through NCERT/NIOS/any other MHRD Bodies should be supported by the bidder while running the Virtual classroom solution.
- h) Solution should be flexible to allow studio teachers and Online Teachers to include images/videos/ any other content during the LIVE sessions.
- i) Digital content should include substantial number of animations to make theoretical and practical concepts easy to understand. There shouldn't be distortions or pixilation while projected on the projector screen.
- j) Platform should have an integrated system for recording LIVE sessions automatically at the classroom end; automatic storage control facility should be made available with storage of sessions for one month. If teachers like to refer specific sessions beyond 30 days, there should be an option to bookmark/save such sessions. Unsaved sessions shall be deleted.
- k) Platform should support assessment of learning level of individual student/classroom/ school /block/ district level using clicker system.
- l) The solution should include connectivity for the below reasons:
 - a. 2-way interaction
 - b. Real-time School run status update
 - c. Real-time clicker data update

5.5 Solution Specification:

- a) Bidder should upgrade and maintain available studios or setup new studios.
- b) Bidder should supply, install, operate, and maintain Interaction center (Q&A Facility) and Virtual Classrooms.
- c) Bidder Should set up Q&A facility for students' doubt clarification at District HQ. This system should include application to receive LIVE queries, address queries in the real-time, and also take and answer questions offline.
- d) EdCIL seeks digital multimedia content in: English, Hindi and a local language.
- e) The bidder should ensure connectivity at and among the Studio, Q&A facility, and Virtual classrooms. The Bidder has to consider the delivery, installation and connectivity charges to be included in the Operations Cost.
- f) If the solution requires any server/cloud, the same should be arranged by the Bidder at his own expense.

5.6 Preparation of Time-Table for Virtual Classrooms:

- a) As a large number of schools will be brought under one remote program, in consultation with the government department a uniform program time-table is to be framed for all the participating schools before a new academic year begins as per the requirement of the end client.
- b) The successful bidder should help the Government/end client in framing a model timetable which would work well for all the schools across the regions.
- c) The following aspects should be finalized in the meeting:
 - i. Uniform program schedule for all schools
 - ii. Academic calendar with total work days and holidays [state and regional], probable test and exam schedule
 - iii. Time-Table and number of sessions for each class on a day and throughout the week
 - iv. No. of sessions required for each topic based on the difficulty level of the topic
 - v. Bridge course, regular sessions, revision sessions

5.7 The digital multimedia content is to be developed as follows:

- a) Content should be developed as per the State Board, ICSE and CBSE syllabus.
- b) The characters and background used in the content should mostly cover State's cultural and geographical look and feel (in addition to Indian attire) except where the situation otherwise demands.
- c) Content should contain concepts of theory, lab experiments, and practical demonstrations in an engaging way which shall have higher impact than chalk and talk method.
- d) The content should be low bit rate transferrable without compromising the quality of the output.
- e) In order to maintain standardized teaching, the content should be based on a script displayed to the teacher while delivering the LIVE class.
- f) The content shall be used by teaching experts in the studio, so the modules should not have voiceover. The teaching expert shall use it as a LIVE teaching aid.
- g) The developed content should be suitable for LIVE delivery of a minimum of 40-minute session.
- h) All the software and content updates will be done frequently.

- i) Content by Govt of India NCERT/NIOS should be modified and made suitable to the end client through the consultants of EdCIL.

5.8 Clicker system:

- a) Bidder should provide on an average 50 Clickers and a receiver per Virtual Classroom for assessing student involvement and performance in the real time.
- b) Platform should include a comprehensive clicker based analytics solution. The solution should enable data analysis at student, section, grade, school, Q&A centre, district, and state levels. Separate intuitive Dashboards should be made available for decision makers at the set levels. The analysis should derive different aspects of teaching and student learning such as in which subjects and topics an individual student is lagging behind his/her peers, comparison of results between schools, conceptual understanding of students in particular block/district etc. for facilitating in instructional method changes or to help class teachers to give dedicated focus on any particular students.
- c) Monthly comprehensive analysis report should be submitted to EdCIL before 7th of every month.

Desired features of Clicker System:

- i. Studio expert should have the ability to poll the class on their understanding of concepts by asking true or false questions, multiple choice or multiple answer questions, and yes or no questions every session.
- ii. Teacher analysis tools need to be included to manage assessment results and help plan future student instruction.
- iii. The school should also have access to the individual record of each and every student's answer in the Teacher Tools section of application which helps to monitor class progress and understanding.
- IV. The clickers need to be mapped to student roll numbers throughout the academic year, and this identification number shall be registered to the student in computer-based database.

5.9 Manpower Requirements:

- a) Successful Bidder shall conduct LIVE classes from the studio by qualified and experienced teachers who are trained to deliver the classes from studio. Bidder is responsible for making arrangements for the teachers for LIVE delivery.
- b) The Successful Bidder has to make requisite arrangements at each Interaction Centre for the Government Teachers assigned by the Department, who will act as the online teacher and to perform duties of answering questions raised by students.
- c) Successful Bidder should deploy sufficient, qualified, and trained technical manpower to operate and maintain the studios for a period of three years after the date of commissioning of the project.
- d) Successful Bidder shall deploy sufficient trained technical manpower with operational and managerial capabilities for up-keeping of infrastructure at schools.

5.9.1 Indicative Manpower for the project:

A) Centralized Manpower

Designation	Description
Project Manager (MBA)	<p>Qualification: MBA / PGDM from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: 5 years in Broadcasting/IT/Telecom sector</p> <p>Job Description:</p> <ul style="list-style-type: none"> • The Project Manager heads the entire Project and is responsible for successfully implementing the Project according to the Project Plan. Manages the risk, quality and progress of the project to organisational standards, and ensures the project will complete on time. • Project Manager is the execution head and the single point of contact for the entire project. • Project Manager is required to regularly communicate with key stakeholders to ensure project outcomes are met. • Timely submission of all the Reports to EdCIL as required. • Timely project updates to EdCIL as required.
Program Manager	<p>Qualification: Any Master's degree or Bachelor's degree in Engineering or B. Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: 3 years in Broadcasting/IT/Telecom sector.</p> <p>Job Description:</p> <ul style="list-style-type: none"> • Program Manager is responsible for planning and implementing education strategies for the program. • Determine the syllabus and session plan for the classes to be run all throughout the State - in coordination with the EDCIL and end client. • Establish a routine schedule of delivery of LIVE sessions from the studio as per approved time-table and session plan. • Supervising and giving directions to Interaction Centre In-Charges. • Supervises and provides direction to Service Provider's Academic and Multimedia Teams through coordinators. • Formulates and recommends changes in multimedia and delivery based on analytics and feedback from Interaction Centre In-Charges. • Assists the Project Manager in reviewing the program, evaluating and reporting on a continuous basis. • The position ensures compliance requirements are met, adheres to program guidelines, and develop, manages and monitors special topic programs.
Studio Engineer	<p>Qualification: Any Master's degree or Bachelor's degree in Engineering or B. Tech from a University established by Law in</p>

	<p>India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: Two-year in Broadcasting/IT/Telecom sector.</p> <p>Job Description:</p> <ul style="list-style-type: none"> • Responsible for the Operation of the Studio by supervising and directing other studio staff. • Coordinate with Program Manager on program schedule. • Make sure that programmes are broadcast on time and to the highest level of quality. • Servicing and testing equipment. • Minimising loss of service when equipment fails by quickly identifying and implementing alternative methods of service provision. • Interpreting and implementing instructions and requests from Program manager on need basis for additional sessions.
Camera Man	<p>Qualification: Any graduation Degree or diploma in mass media from a recognized college/University, or any other equivalent/ recognized qualification notified by the Central Government.</p> <p>Minimum Experience: One-year as a cameraman.</p> <p>Job Description</p> <ul style="list-style-type: none"> • Assemble, prepare, and set up equipment prior to LIVE Delivery of sessions, which may include tripods, monitors, lighting, cables and leads and headphones. • Practise the camera moves required for any pre-arranged shots for special sessions. • Find solutions to technical or other practical problems • Repair and maintain equipment
Studio Assistant	<p>Qualification: Any graduation Degree or diploma in mass media from a recognized college/University, or any other equivalent/ recognized qualification notified by the Central Government.</p> <p>Minimum Experience: One-year as a studio assistant.</p> <p>Job Description:</p> <ul style="list-style-type: none"> • Helping Studio Engineer and Cameraman to ensure that cameras and associated equipment are rigged and ready for the LIVE delivery • Record keeping, printing, scanning • Up-keeping studio space
Academic Manager	<p>Qualification: Any Master's degree or Bachelor's degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: Five-year as academic manager.</p>

	<p><u>Job Description:</u> Academic Manager reports to Program Manager and in coordination with Content Delivery Expert - Leads and Multimedia Coordinator devises session plans</p> <ul style="list-style-type: none"> • Organize training sessions for assigned Content Deliver Experts • Observe LIVE delivery of every teacher and hold individual teacher feedback sessions. Based on the observations continue/replace services of respective content delivery experts. • Ensure all teachers fulfil their contractual duties, and are prepared for each assigned session. • Establish regular field visits for observing LIVE sessions from classroom perspective and report needs of any modifications in delivery method/multimedia to Program Manager. • Coordinate with District Interaction Centre In-Charges. • Provide recommendation to respective schools on varying their lesson plans to help students score better. • As per the Program Manager’s direction, arranging any Special Sessions such as memory techniques, motivational classes, interviews with achievers, toppers, scientists etc.
<p>Content Delivery Expert - Lead (For each Subject)</p>	<p><u>Qualification:</u> Any Master’s degree in the relevant subject from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Three-year as a content delivery expert.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Manage the team of Delivery Experts • Coordinate with Teachers. • Coordinate with Multimedia Coordinator • Effectively review subject delivery and provide feedback to Academic Manager • Study the analytics and recommend delivery//multimedia modifications to academic manager
<p>Content Delivery Experts</p>	<p><u>Qualification:</u> Any Bachelor’s degree from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> One-year as a content delivery expert.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Deliver the content on par with the defined standards; engage and motivate students; make learning participative. • Developing weekly session plan based on the topics assigned. • Look into questions being asked by students. • Prepare for sessions as per session plan and add personalised effective inputs for immediate concept

	<p>understanding.</p>
<p>Project coordinator and Analysts</p>	<p><u>Qualification:</u> Any Master’s degree or Bachelor’s degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Three-year as a Project coordinator and Analysts.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Analyse the data being collected through various data capture and monitoring channels • Generate reports for the review of Program Manager/Academic Manager/Multimedia Coordinator/Content Delivery Expert–Leads on program’s ongoing impact • Prepare summaries of data for Block Level/District Level Education Officers on need basis • Any other reports requested by EDCIL • Providing ongoing information about the program status and impact to the Information Team
<p>Manager Operations</p>	<p><u>Qualification:</u> A Bachelor’s degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> One-year experience in operation of studio management.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • The Operations Manager works with the Project Manager to perform Operations & Management of Studios, Interactive center and Virtual Classroom infrastructure and AMC as per SLA. • Plan, prioritise, and co-ordinate the development of assigned tasks during every milestone and ensures timetables • Manage vendor relationships. • Manage field stock requirements. • Responsible for Manpower Management and Training • Ensure and coordinate prompt and appropriate help desk and Tech-support

	<ul style="list-style-type: none"> Establishes school visits in the region to monitor overall school operations, record keeping, and to undertake teacher observations Coordinates with Interaction Centre – In Charge Record Management and reporting to Project Manager
Quality Control – Audit Team	<p><u>Qualification:</u> Any Bachelor’s degree from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Two-year experience in Quality Control.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> The team reports directly to Project Manager. Checks program quality at various stages of the project Keep check on the usage verification of the program Regularly visit classrooms for internal audit and quality check. Provide Feedback study from user department/EDCIL, teachers, students for the improvement in the operations.
Helpdesk/Tech Support	<p><u>Qualification:</u> Any Bachelor’s degree or diploma from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Not required.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> Helpdesk serves as a single point of contact for all project related incidents and service requests. The Helpdesk agents are mapped to handle requests from specific schools. They shall also handle any project related back-end work. They shall provide the support for all kinds of disaster management at the local centres. Solve all First level issues through phone calls and second level issues to be forwarded to operations team to follow up. Regularly monitor online project management system and reports any cases where schools are not utilizing the infrastructure. Generate infrastructure health status summary for assigned schools on need basis.
Information Team	<p><u>Qualification:</u> Any Bachelor’s degree or diploma from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Not required.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> Preparing stakeholder communication plan Exchange of regular project-specific general information to

	<p>project staff at different hierarchy level</p> <ul style="list-style-type: none"> • Receive feedback from stakeholders on restricted/public forums and responding to it constructively • Design a dedicated website for the project and manage content • Preparing public information drafts • Correlate communication with project milestone events, activities, and results. • Community involvement in social media channels like face book and twitter
Multimedia Coordinator	<p><u>Qualification:</u> Diploma in Multimedia/Animation from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> 3 Years as a multimedia coordinator.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Collect feedback on multimedia from the committee • Provide the feedback on multimedia content developed to Service Providers’ multimedia team • Coordinate during verification process of final animation content by senior subject matter experts of committee
Software Support	<p><u>Qualification:</u> A Bachelor’s degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Three-year experience in Broadcasting/IT/Telecom sector.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Logging and resolving various software related issues • Escalation and reproduction of technical issues for the development team • QA tasks and technical documentation • Administration of databases. • System Monitoring.
Interaction Centre In charge	<p><u>Qualification:</u> Any Master’s degree or Bachelor’s degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p><u>Minimum Experience:</u> Two-year experience as a teacher.</p> <p><u>Job Description:</u></p> <ul style="list-style-type: none"> • Provides services as one of the Online Teachers i.e. answers LIVE questions by students on an assigned subject along with the govt. teacher assigned by the department/end client • Trains the other online teachers assigned at the respective IC • Coordinates with other interaction centres for any kind of reports required at local level • Up-keeping of Q&A equipment

B) School Level Manpower:

Designation	Description	Minimum Manpower
School Level Volunteer	<p>Qualification: Any Bachelor's degree from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: One-year experience as school level volunteer.</p> <p>Job Description:</p> <ul style="list-style-type: none"> • School Level Volunteer ensures successful operation of Virtual Classrooms on a day-to-day basis. They also help in resolution of simple incidents and service requests. • They help teachers in handling equipment • Help students using Clickers • Keeping class run status updated • Coordination with the Nodal Officer & helpdesk 	As per EdCIL/end client requirement
Nodal Officer	<p>Qualification: Any Bachelor's degree from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: Two-year experience as Nodal officer.</p> <p>Job Description:</p> <ul style="list-style-type: none"> • Nodal Officer will be on the field and handles any incidents and service requests to help make the Virtual Education system meet SLA availability requirements. • Nodal Officer shall also train school teachers to use the Virtual Classroom setup on need basis. 	As per EdCIL/end client requirement
Technical Engineer	<p>Qualification: Any Bachelor's degree in Engineering or B.Tech from a University established by Law in India or a Foreign University approved by the Central Government from time to time, or a qualification recognised by the Government as equivalent thereto.</p> <p>Minimum Experience: 2 year of experience in EdTech solution</p> <p>Job Description:</p>	As per EdCIL/end client requirement

	<ul style="list-style-type: none"> • To set up, install, commission equipment and installation of Virtual Classroom centres • To provide hands on experience to Master Trainers who in turn train school staff/teachers and Nodal officers to operate the classrooms after the installations. • To look into issues and visit schools to rectify when issues are complex in nature. 	
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5.10. Subcontracting:

- Supplier is not allowed to subcontract part of the Contract. The Supplier shall remain responsible for the overall timely completion of supply of the Materials. Materials to be supplied under this Contract shall be procured by Supplier as per specification and quality standard specified in Technical Specification.
- Supplier shall comply fully with the terms of this RFP applicable to the Materials to be supplied by them.
- Supplier shall furnish original documents showing manufacturing and shipment details of the material.
- In case of difficult terrains, subcontracting may be allowed after seeking the permission of the EdCIL team.

5.12 Project Monitoring:

Along with the EdCIL program management team, bidder will have to provide online project monitoring tool to monitor LIVE delivery of the classes, equipment health, staff, complaints, penalties etc. The monitoring tool may be modified later on as per the recommendations of the EDCIL without any cost. The reports generated from the monitoring tool will be used to analyse the outcome of the project.

The Online Project Monitoring Tool should record the following:

- a. Information regarding subject wise delivery of LIVE classes from studio.
- b. Real-time information about the number of virtual classrooms working/not working, issues at virtual classrooms etc.
- c. Total number of students benefitted class wise. Various types of reports school wise, block wise, tehsil wise, district wise, state-wise etc.
- d. Status of hardware installation, performance and maintenance by the bidder.
- e. Category-wise and class-wise beneficiaries.
- f. The school wise number of teachers trained

The monitoring tool should generate reports regarding the outcome reflecting shortcomings, achievement as well as suggestions for improvement.

5.13 Help Desk Setup:

Helpdesk shall comprise of Helpdesk tool, policies, and helpdesk personnel. Manpower deployed at the helpdesk shall log calls regarding the queries/complaints of Hardware

users (Schools). This Helpdesk tool shall have facility which allows user to log ticket using internet, email, telephone call, SMS, and any app provided by the bidder. User shall be able to log ticket using any of these options. Helpdesk tool, if required shall be developed/ implemented by successful bidder in consultancy with EDCIL. Bidder should also manage the inventory of all hardware supplied and installed by him with the help of this setup.

A Help Desk coordinator shall monitor the Help Desk Operations. The Help Desk Agents shall also carry-out project related back-end work. The Help Desk setup shall be fully integrated with online project monitoring tool for real-time monitoring. The system should have a common toll-free number facility with a minimum up time of 98%. No extra cost shall be paid for this setup.

The bidder helpdesk team will work with the centralised helpdesk team of EdCIL in future (if required).

5.14 Roles & Responsibilities of User Department

- Provision of Studio Building Spaces and necessary civil work, raw power, electricity and generator.
- Conduct review meetings at defined regular intervals to monitor the overall progress of the project
- Taking necessary actions based on the site evaluation.
- Provisioning of required Power facility and Clean Power for Virtual Classroom System
- Obtaining Regulatory & Other Clearances for setting up the Studio, Interaction Centre and Virtual Classrooms for successful commencement and successful completion of the project.
- Review and provide feedback and approval of implementation approach and other documents submission by the Successful Bidder. Provide feedback on changes to be made in the solution to improve usability of the monitoring tool.
- Report problem/bugs in solution to Successful Bidder for immediate action/rectification.
- Contract signing (Appointment of Successful Bidder).
- The Head of the Institution / School in-charge, shall be responsible for any theft and physical damages to the equipment after the handover of the equipments (Bidder should have the delivery document duly signed and stamped by the head of institution/ School in-charge) by the Bidder.
- Recurring expenditure like electricity and internet charges.
- To help the successful bidder in performing Acceptance Testing, security audit, and performance audit.
- Scalability in terms of availability of Virtual Classroom physical space and supporting infrastructure.
- Review/approval of deliverables and Payment processing as per milestone.

- Any other help/assistance/co-ordination required for the successful installation, commissioning and operation of the work/project.

5.15 Roles and responsibilities of successful bidder:

The Successful Bidder:

- Shall be required to operate the project on Turn-Key basis and also handle the operations maintenance and management of the program as per the Project Scope of this RFP.
- Shall carry out Feasibility Survey, risk assessment and site evaluation.
- Shall set up new studios at the designated locations.
- Shall procure, install and commission the Infrastructure for Virtual Classroom and complete the related documentation.
- Shall arrange, install and maintain the necessary application software as per the requirement mentioned in this RFP.
- Establishing 2-Way Interactivity, LIVE Streaming, Lecture Recording, and delivering contents shall be carried out by the bidder.
- Shall arrange, install and maintain equipment for delivery of content as may be required and approved by EdCIL/specific department.
- Shall provide dedicated connectivity among Studio, Interaction centres and virtual classrooms.
- Shall provide dedicated connectivity at Interaction Centres and schools.
- Shall create content in-line with CBSE, ICSE and State board Syllabus as per the requirement of the end client.
- Shall prepare periodic reports and status update to EdCIL on implementation progress, and Monitoring of implementation & SLA.
- Shall Prepare Backup policy, Security policy, business continuity plan and other Policy documents.
- Shall Maintain a copy of Project Documentation including communication plan, delivery, installation and commissioning plan, training plan, acceptance test plan etc. for each location of Studio, Interactive centers and Virtual Classrooms.
- All expenses pertaining to the manpower deployed in the process by the Bidder along with maintenance cost of hardware/software will be borne by the successful Bidder.
- Shall perform Operations & Management of the Studios, Interactive center and Virtual Classroom infrastructure as per SLA.
- Shall plans for Scalability in terms of availability of Virtual Classroom physical space and supporting infrastructure
- Shall be solely responsible for managing the activities of its personnel and will hold itself responsible for any misdemeanors.

- Provide technical assistance to EdCIL/User Department for effective implementation of the project.
- Shall provide the Comprehensive Analytics based reports as required by EdCIL
- Shall provide the Periodic SLA reports.
- Shall Facilitate for SLA Audit by EdCIL / PMA (Project Management agency)
- Shall provide comprehensive training to the end user personnel and handholding support to client and other stakeholders for maximizing the turnout and utilization of the project / equipment as per the scope.
- Any other points after the mutual discussion with the end client/EdCIL for entire duration of the project.

5.16. Proposed Solution for Virtual Classroom

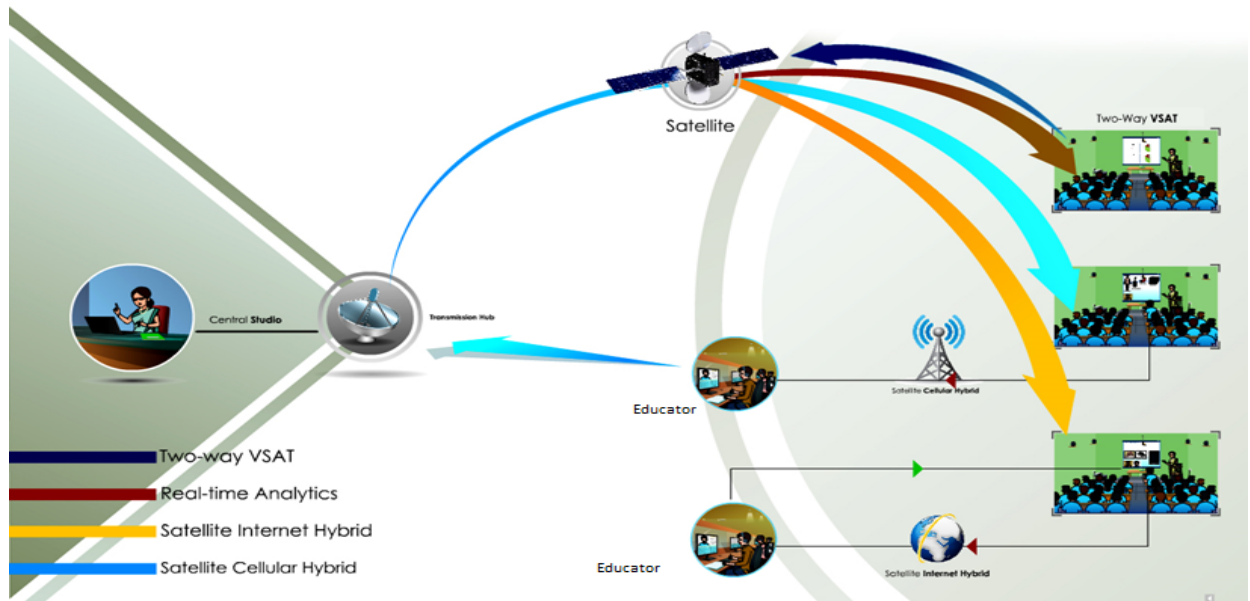
The LIVE and interactive Virtual Classroom solution envisaged to work on three different communication platforms. **(a) VSAT-Internet Hybrid (b) VSAT-Cellular Hybrid. (c) 2-way VSAT.** Due to the connectivity bottleneck section, the satellite based transmission is necessary to overcome connectivity bottlenecks at the North-Eastern region.

In all the three modes, satellite connectivity will be used for LIVE session transmission from the studios. And, the best feasible local connectivity will be used to enable interaction from the classroom, with the following order of preference Internet, Cellular, VSAT. By that we mean, only in the locations where internet and cellular connectivity are not feasible, VSAT will be used for the interaction. In case of VSAT connectivity at the classroom site, if there is a possibility of internet bandwidth the solution must be capable of run on two way internet mode also.

The lesson transmission is recommended on satellite bandwidth in all three modes. This will ensure high-quality of sessions at the remote schools. Whereas, in order to

reduce the costs of the bandwidth, at schools where internet or cellular connectivity are feasible/available with regular connectivity, it can be used for initiating interactions from the school with studio and interaction centre. And also for real-time monitoring data updating. However, in locations where internet and cellular connectivity is absent, dedicated satellite bandwidth will be allocated for interactions with the studio and monitoring data updating. All three modes enable parallel Question-Answer facility. A number of Government Teachers at the state studio/interaction centres can be engaged as 'Educators' to assist the studio-expert for answering LIVE questions of the students. A dedicated 'LIVE Q&A' slot of 5-10 minutes will be scheduled at the end of the LIVE session.

The below given technical diagram details the entire Virtual Classroom with three modes. **(a) VSAT-Internet Hybrid (b) VSAT-Cellular Hybrid. (c) 2-way VSAT. In all these cases real-time interaction and real-time analytics should be available.**



A. VSAT-Internet Hybrid: (When internet connection is available in Virtual Classroom)

How interactions should work from classroom in VSAT -Internet Hybrid:

- A student uses the 'Tablet/Mobile with Camera' to ask a question using an app function - 'Ask Question'. [Please note, as Table/Mobile is used, student needs not move to the front row to ask a question - they can ask from their desk itself by passing the tablet/mobile.]
- The application server shall map the question to an Educator using 'First In First Out' (FIFO) basis in the real-time.
- When the student asks the question then student audio-video shall be seen by the educator at district interactive center.
- Educator answers the question using session e-Content wherever necessary. Student Video and Educator audio, video, e Content, written strokes can be seen by the respective virtual classroom.

B. VSAT -Cellular Hybrid: (When cellular connection is available in Virtual Classroom)

How interactions should work from classroom in VSAT -Cellular Hybrid:

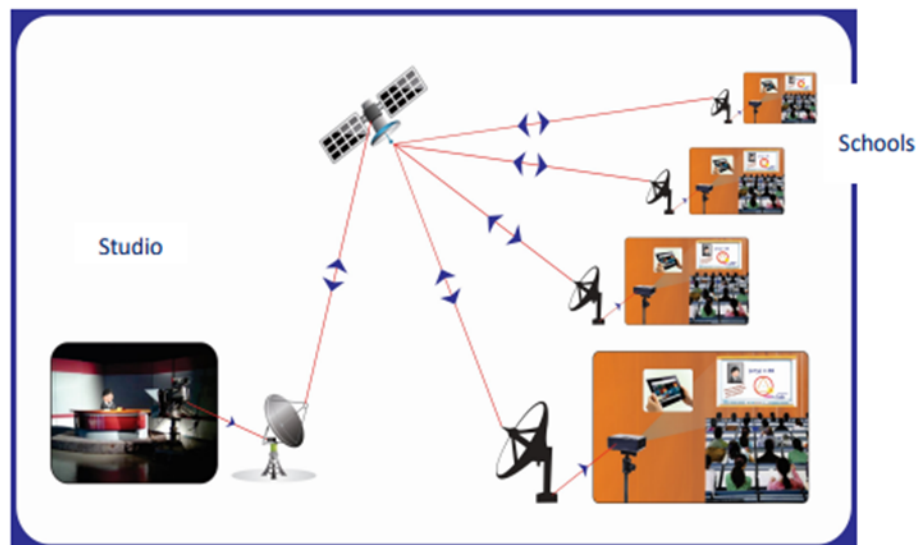
- A student uses the 'Tablet/Mobile with Camera' to ask a question using an app function - 'Ask Question'.
- The application server shall map the question to an Educator using 'First In First Out' (FIFO) basis in the real-time.
- When the student asks the question then student audio shall be heard by the educator at district interactive center.
- Educator answers the question using session e-Content wherever necessary. Educator audio- video, e Content, written strokes can be seen by the respective school via satellite to that specific school. It can also be broadcasted to all the virtual classroom

C. Two-way Satellite: (When no other connectivity is regular and feasible, VSAT bandwidth will be made available at schools):

This mode enables lectures to be conducted and delivered LIVE in High definition (HD) via 2-way seamless interactive satellite (VSAT) to the connected virtual classrooms, simultaneously. The Studio will be connected to the VSAT transmission hub for transmission of the sessions to virtual classroom. Similarly, schools will also be

equipped with necessary VSAT infrastructure. The dedicated VSAT bandwidth will be used for enabling 2 way interactions between Virtual classrooms, district interactive center and the Studios.

Two-way transmission through satellite bandwidth



How interactions should work from classroom –Two-way VSAT:

- A student uses the 'Tablet/Mobile with Camera' to ask a question using an app function – 'Ask Question'.
- The application server connects to the studio expert or educator in the real-time.
- When student asks the question then student audio-video can be seen by the expert.
- Student audio-video and Studio/educator expert audio- video, e Content, written strokes (as in the case of LIVE session), can be seen by all the virtual classrooms.

INFRASTRUCTURE/LEARNING RESOURCES

a) Student Evaluation Kits consisting of assessment tools (Clickers) and a classroom receiver

Student assessment system will be integrated at schools to conduct objective tests from the studio - every LIVE session. This provides real-time feedback and regular data for analysis.

Clickers will be provided to each student for assessing the student engagement and performance.

How should it work?

- Studio expert poses a multiple-choice question/ true or false questions, etc.
- Each student submits an answer to the question using a Clickers
- Clickers send the LIVE response data to a Receiver connected to the Server
- Server Software collects students' answers and produces statistical data showing response.

b) Analytics integrated Curriculum-mapped Bi-lingual Animated e-Content:

Prominent Features of e-Content:

- e- content should cover All classes from class 1 to 12 in regional language/ English.

- It should be specially designed for LIVE Delivery on Virtual Classroom Platform, along with Question Bank for Analytics and Assessment.
- e-Content for Virtual Classrooms should be in HD resolution.
- It should be rich in animations and has daily life examples in a story-telling approach. It should consist of experiments, brainteasers, tips, and shortcuts. A number of activities should be introduced for students to make abstract concepts understandable.
- The e-Content for LIVE delivery should be curriculum mapped of that state/CBSE/ICSE depending on the end client requirement. The selected language of e-Content and instruction in each state is noted. The translation to the respective medium of instruction and mapping to state-level curriculum should be carried out.
- The e-Content for Virtual Classroom should be integrated with the assessment methods that should assess student understanding, skill, speed, interpretation and other connected factors as per the concept requirements.
- e-Content should be connected to an MCQ Question Bank which is a collection of Multiple Choice Questions.
- Learning new concepts or skill-sets requires students to grasp multiple aspects. Hence, a fair assessment should evaluate a student on both their strengths and areas that need improvement.
- Artificial Intelligence (AI) power in the proposed e-Content should create fairer, unbiased ways to assess students by taking into account all the limitations of fixed-format exams.

Content creation approach should include followings:

An approach that makes students to:

- Understand that the inputs they received are not alien to them; but very much related to their lives.
- See, feel, think, and respond while learning itself and not just during tests.
- Explore newer horizons of learning.
- Develop logical reasoning, critical thinking powers.
- Makes them imaginative and creative.

Following features should be taken care in the e-content:

- Multi-color Vector Animations
- Stimulating & Engaging
- Localized for cultural & geographical appropriateness
- Accurate and Error free
- Impact focused

Various formats of instructions should be embedded in the content through scripting. For example: **Multiple Choice Questions, activities, notes, tips, dynamic addition of images (in real-time)** should also be possible.

DATA ANALYTICS (RECURRING)

Real-time Analytics Application with Student Evaluation and Assessment, Individual Student performance report

An Artificial Intelligence and student assessment system will be integrated at schools to conduct objective tests from the studio - every session. This should provide real-time feedback and regular performance data for analysis.

Artificial Intelligence and assessment system should help in reducing wastage of time and resources at the grading stage and should allow each student to know how they are performing in real-time from both the lenses of proficiency level and expertise.

Student analytics application should have the followings overview:

- The application should prepare and provide the data analysis at 6 following levels:
 - State
 - District
 - Tehsil
 - Block
 - School
 - Classroom
 - Student
- Intuitive Dashboards for decision makers (District Education Officer/Principal/Teacher) should be available.
- Application should analyze various teaching and student learning factors such as - in which subjects and topics students need additional support, conceptual understanding of students in particular district etc. These reports will help schools in bringing instructional method changes and plan remedial teaching.
- Student Reports generated consider not only the score for each question attempted, but also the speed and time taken to answer, and the difficulty level of the question asked. District level reports will be generated.
- Integrated teacher analysis tools (connected to OPMS) should be included to manage assessment results and to plan future student instruction.
- The Clickers should be mapped to student roll numbers throughout the academic year, and this identification number shall be registered to the student in a computer-based database. Clickers will be rotated in the Virtual Classroom with students of different grades but with the same roll number. The data shall be captured in the real-time, session-wise and shall be linked to specific student.

Bill of Material:

1. High End Studio

Sl. No	BOM for High End Studio Description	Min Quantity
1	Digital Video Camera with accessories	2
2	Teleprompter	1
3	Camera Tripod	2
4	Tripod for Teleprompter	1
5	Video Switcher with accessories	1
6	Audio mixer with accessories	1
7	Microphone: Cordless Lavalier	2
8	Wired Mic with Table Mic Stand	2
9	Hard disk based HD Recorder	1
10	Audio Monitor	4
11	Digital SD/HD-SDI video distribution	1
12	Audio Distribution Amplifier	1
13	Interactive 360 Degree convertible laptop	1
14	Telephone Hybrid	1
15	55" Professional UHD 4K conferencing display	3
16	Talk Back System	1
17	Character Generator	1
18	Playout System	1
19	Transmission Server	1
20	32" display with wall mount	1
21	Laptop with application software	1
22	SDI to HDMI	2
23	Analog to SDI	1
24	HDMI to SDI	1
25	Document Camera	1
26	Portable Transmitter and Receiver	1
27	LED Studio Lights with ceiling Grid and mounting clamps/hooks	8
28	Storage Server of 32 TB	1
29	Furniture	1
30	Electrical Networking and studio cabling including all accessories	1
31	Acoustic, Fabric Above Acoustics with Air Condition (20x30)	1
32	UPS (15KVA)	1
33	Capacity building of the teachers	

2. Broadcast Studio

Sl. No	BOM for Broadcast Studio Description	Min Quantity
1	Digital Video Camera with accessories	2
2	Video Switcher with accessories	1
3	Audio mixer with accessories	1
4	Camera Tripod	2
5	Microphone: Cordless Lavalier	2
6	Wired Mic with Table Mic Stand	2
7	Hard disk based HD Recorder	1
8	Audio Monitor	2
9	Digital SD/HD-SDI video distribution	1
10	Audio Distribution Amplifier	1
11	HD web camera	1
12	Interactive Panel with laptop	1
13	Telephone Hybrid	1
14	55" Professional UHD 4K conferencing display	2
15	Talk Back System	1
16	Character Generator	1
17	Transmission Server	1
18	Laptop with HDMI output	1
19	Satellite Receiving Antenna, Satellite Modem (Compatible with EDUSAT Network) and LNB Laptop with application software	1
20	32 " Professional display with wall mount	1
21	LED Studio Lights with ceiling Grid and mounting clamps/hooks	5
22	Storage Server of 16 TB	1
23	Furniture	1
24	Electrical Networking and studio cabling including all accessories	1
25	Acoustic, Fabric Above Acoustics with Air Condition (20x20)	1
26	UPS (10KVA)	1

3 Mini Studio

Sl. No	BOM for Mini Studio Description	Min Quantity
1.	Digital Video Camera with accessories	1
2.	Camera Tripod	1
3.	Audio mixer with accessories	1
4.	Microphone: Cordless Lavalier	2
5.	Recording Server	1
6.	Laptop with HDMI output	1
7.	32" professional display for Studio with Floor Mount	1
8.	32" professional display for Studio with Wall Mount	2
9.	Transmission Server	1
10.	Satellite Receiving Antenna, Satellite Modem (Compatible with EDUSAT Network) and LNB Laptop with application software	1
11.	LED Studio Lights with ceiling Grid and mounting clams/hooks	2
12.	Furniture	1
13.	Electrical Networking and studio cabling including all accessories	1
14.	Acoustic, Fabric Above Acoustics with Air Condition (20x15)	1
15.	UPS (5 KVA)	1

4 Main Interaction Centre Facility (10 Seater)

Sl. No	BOM for Main Interaction Centre	Quantity
1.	Power Backup system-5 KVA	1
2.	55" Professional UHD 4K conferencing display	2
3.	Laptop Workstation with Application for facilitator to interact	10
4.	10" inch Multi touch panel	10
5.	Portable AV interactive device with multitouch	10
6.	Communication System	1
7.	Wi-Fi Modem	1
8.	HD Web Camera	10
9.	Electrical Networking and studio cabling including all accessories for 10 seater	1
10.	Capacity Building of the Teachers	1
11.	Furniture for 10 seater	1

5 Sub Interaction Centre Facility (4 Seater)

Sl. No	BOM for Sub Interaction Centre facility Description	Quantity
1.	Power Backup system-3KVA	1
2.	LED TV for studio	1
3.	Laptop Workstation with Application for facilitator to interact	4
4.	10" inch Multi touch panel	4
5.	Portable AV interactive device with multitouch	4
6.	Communication System	1
7.	Wi-Fi Modem	1
8.	HD Web Camera	4
9.	Electrical Networking and studio cabling including all accessories for 4 seater	1
10.	Capacity Building of the Teachers	1
11.	Furniture for 4 seater	1

6 Virtual Classroom:

S. No.	BOM for Virtual Classroom Set up Description	Quantity
1	Projector with ceiling mount	1
2	Projector Screen	1
3	Solar Hybrid Power Backup system	1
4	Audio System	1
5	Computing Device	1
6	Portable AV interactive device with multipoint touch	1
7	Application Software	1
8	HD Web Camera	2
9	Communication equipment	1
10	Communication equipment 2 way-VSAT	1
11	Wi-Fi Modem	1
12	Solar Panel	1 set
13	Clicker Analytics system (50 handset and 1 receiver)	1 Set
14	Green Board	1
15	Digital Notice Board-A	1
16	Digital Notice Board-B	1
17	Soft Board in classroom (Per Sqft)	1
18	Electrical Networking and virtual classroom cabling including all accessories	1 Set
19	Laptop	1
20	Capacity Building of the Teachers	1 Set

DETAILED SPECIFICATIONS:

1. High-End Studio:

Sl. No	Items with Minimum Specifications
1	<p>Digital Video Camera with accessories <u>SPECIFICATIONS FOR 2 CAMERAS STUDIO SET UP</u></p> <p><u>1.2/3" Sensor Based Studio Camera, Including Camera Body, 7" Built in View Finder and 20X ZOOM Lens with Lens Control KIT x2 nos</u></p> <p><u>Camera Section:</u> Pickup Device:3-chip 2/3-inch type CMOS Effective Picture Elements:1920 x 1080 (H x V) Signal Format: HD: 1080/59.94p, 1080/59.94i, 1080/50p, 1080/50i, Spectrum System: F1.4 prism system Lens Mount:2/3-inch type Horizontal Resolution: 1,000 TV lines or higher Gain: -3, 0, 3, 6, 9, 12 dB Shutter Speed:1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94i mode) Shutter Speed (Slow Shutter (SLS)):2, 3, 4, 5, 6, 7, 8-frame accumulation (only in 1080 mode at 59.94i/p, 50i/p, 29.97PsF, 25PsF, 23.98PsF) Audio Input (CH1/2):XLR type: 3-pin, female (x1),MIC IN: -60dBu Prompter/Genlock: BNC (x1); Gen-Lock In or Prompter Out SDI Output: 3G/HD-SDI or SD-SDI selectable CCU: Optical Fiber (x1), CCFN Cable or Single Mode Fiber Cable (LC type) Intercom: XLR type: 5-pin, female (x1) Earphone Output: Stereo mini jack (x1) Zoom Ratio: Minimum 20X 100 Metres Fibre Optic Cable Intercom Headset Tripod Plate Adaptor Lens control Kit for Minimum 20x Zoom Lens Front panel for CCU Camera Control Unit</p>
2	<p>Tele-Prompter</p> <ul style="list-style-type: none"> • Display Size: Minimum 15" (38 cm) diagonal TFT LCD • Minimum Resolution: 1024 x 768 • Aspect Ratio: 4:3 • Contrast Ratio: 1 x HDMI • Inputs: 1 x VGA D-sub 15 <p>Features</p> <ul style="list-style-type: none"> • Adjustable Glass Frame • Based on Rod System • Lightweight & Compact Design • High Quality Monitor • High Quality Teleprompter Glass • Application Software <p>Workstation</p> <ul style="list-style-type: none"> • Intel Core i5 (3.0GHz), 9th Generation or higher. • Minimum 8 GB RAM, • Intel C246 chipset, • Motherboard with Integrated Gigabit Ethernet, Audio and USB ports, • Inbuilt Graphic card,

	<ul style="list-style-type: none"> • Minimum 256GB SSD for Windows 10 Professional 64 bit, • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data, • 24" professional FHD Display same OEM, • Same OEM Keyboard and Mouse. • Certifications - UL, FCC Compliance, EPEAT Silver or Higher, Energy Star • Warranty – 3 years from OEM with professional Display • Dust filter • EPEAT SILVER or Higher in India • Electromechanical lock • RGS & Performance Advisor • Self-Healing BIOS for solution compatibility.
3	Camera Tripod <ul style="list-style-type: none"> • Load Capacity: Static Weight 7 kg • Counter Balance System: Spring-loaded • Tilt Drag: Continuously adjustable from 0 to max level • Tilt Range: 80 to +90 tilt range front to back • Tilt Lock: Yes • Spring Loaded Counter Balance: Yes • Pan Drag: Continuously adjustable from 0 to max level • Pan Range: 360 • Pan Lock: Yes
4	Tripod for Teleprompter <ul style="list-style-type: none"> • Load Capacity: Static Weight 12 kg • Diameter / Thread: Minimum 75 mm half ball, 3/8"-16 thread • Counter Balance System: Spring-loaded • Tilt Drag: Continuously adjustable from 0 to max level • Tilt Range: 80 to +90 tilt range front to back • Tilt Lock: Yes • Spring Loaded Counter Balance: Yes • Pan Drag: Continuously adjustable from 0 to max level • Pan Range: 360 • Pan Lock: Yes
5	Video Switcher with accessories: <ul style="list-style-type: none"> • Video Input: HD-SDI/SD-SDI BNC x 12, DVI-D x 1 • Video Output: 4x HD-SDI/SD-SDI BNC, DVI-D x 1 • Built-in multi-mode color LCD monitor • Featuring High-quality Chroma keying and versatile transitions • Video PIP with various Enhanced Multi Viewer Display with up to 12 splits • Video Memory function allows playback • Black burst or Tri-level Sync input signals
6	Audio mixer with accessories: <ul style="list-style-type: none"> • 16 channel Audio Mixer • 3-band channel EQ and high-pass • Smooth 60-millimeter faders & illuminated channel ON switches • Return level controls for the AUX and STEREO buses. • Bright meters for visual level monitoring.

7	<p>Microphone: Cordless Lavalier</p> <ul style="list-style-type: none"> • Cordless microphone with light and compact body pack transmitter. • Automatic setup function for quick and easy operation • Transmitter battery status monitoring • Antenna connector – 2 BNC, 50 Ohm • RF O/P power – 10 MW or better • Sound Pressure Level – 142 db or better • Switching bandwidth – 24 MHz or better • Signal to noise ratio - 103 db or better • Security: Minimum 128 bit encryption • RF frequency range: 1880 – 1900 MHz • Switching bandwidth: 50 – 14000 Hz • Base Station: Auto pair with Mic • Operating time: Minimum 3 hours • Usability: Mic and the Transmitter should be singled embedded unit. • Channel: Single • RF Protection: Should be Embedded
8	<p>Wired Mic with Table Mic Stand</p> <ul style="list-style-type: none"> • Omni-Directional condenser • Operable with 48W Phantom power • 3 Pin XLR Connector • Polar pattern – Cardioid • Frequency response – 40 Hz – 16 KHz • Microphone type – Dynamic • Clearly emphasizes voices on loud stages • Transparent high-end and warm but defined lower mids • Highly consistent directivity • High feedback rejection • Shock-mounted capsule • Hum compensating coil • Extremely rugged metal housing
9	<p>Hard disk-based HD Recorder</p> <ul style="list-style-type: none"> • Video Connections Inputs: 1x HD/SD-SDI • Supported Input Resolutions: 1080p(23.9, 24, 25, 29.9, 30), 1080i(50, 59.9, 60), 720p(50, 59.9, 60), 576i(50), 480i(59.9) • Outputs: 1x HD/SD-SDI, 1x HDMI • Audio Connections Inputs: 2x Balanced XLR • Outputs: 2x Balanced XLR • Embedding: Stereo Audio embedded to HD/SD-SDI • Recording Format: PCM 24-bits / 8-Channels / 48KHz Sampling Rate • Loop Through: 1x HD/SD-SDI • Color Sampling: HD (35-125Mbps): 4:2:2, HD (10-25Mbps): 4:2:0, SD (15-50Mbps): 4:2:2, SD (8Mbps): 4:2:0 • Hard Drive: 500GB HDD Inclusive
10	<p>Audio Monitor</p> <ul style="list-style-type: none"> • Biamp 2-way, bass-reflex powered speakers • Crossover Frequency: 2.5kHz • Frequency Response: 50 Hz ~ 40kHz • Speaker Enclosure: Bass reflex type, magnetic shielding construction • Amplifier Output Power LF: 40W, THD=0.02%, RL=4 ohms; HF: 27W at 10kHz, THD=0.02%, RL= 6 ohms • Amplifier Input Sensitivity/ Impedance: +4dB/10k ohm/XLR

11	<p>Digital SD/HD-SDI video distribution</p> <ul style="list-style-type: none"> • SD/HD through SDI • Minimum 1 IN and 8 OUT • Compatible to the above Vision Mixer • Low power consumption • Casing: Metal case
12	<p>Audio Distribution Amplifier</p> <ul style="list-style-type: none"> • Balance Audio (XLR) for both in and OUT • Minimum 1 IN 8 OUT • Compatible to the above Audio Mixer
13	<p>Interactive 360 Degree convertible laptop</p> <ul style="list-style-type: none"> • Should be 360 degree convertible laptop • Intel® Core™ i7 10th Generation/AMD R7 latest Generation, • Minimum 8GB DDR4 SRAM expandable to 16 GB with 2 physical DIMM Slots Customer Replaceable, • Graphic card – Intel UHD Graphics/AMD Radeon, • Minimum 512 GB SSD, • Display 13.3” FHD IPS Touch Screen, • Minimum 2 USB Ports 3.1, 1 Type C Port, 1 HDMI Port, 1 Headphone/Microphone Port, • Windows 10 pro 64 bit, • Weight up to 1.5kg, • Spill Resistant Keyboard with backlit function, • Battery 3 Cell 45 WHr • Atleast 50% charging in 30 minutes. • Certification: UL, FCC Compliance, EPEAT Silver or Higher, Energy Star, MIL STD 810 G • Hardware TPM Security Chip and security lock • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery from OEM
14	<p>Telephone Hybrid</p> <ul style="list-style-type: none"> • 4 Line telephone Hybrid • Mic/Line in - balanced female XLR • Impedance Input- 20 K ohms • Caller out – balanced male XLR • Impedance output- 200 ohms • Frequency – 200 Hz – 3600 Hz • Isolation – 1500 VAC • Phone line connector – RJ11C • Aux Phone connector – RJ 11C • Level: 500 mV RMS (-4 dBU nom, +10 dBU max) • Front panel: handset jacks
15	<p>55” Professional UHD 4k Conferencing Display</p> <ul style="list-style-type: none"> • Display Type : LED • Display Size (diagonal): Minimum 139.7 cm (55") • Viewing Angle: 78° horizontal; 178° vertical • Brightness: 350 cd/m² 1 or better • Contrast Ratio :1200:1 static • Aspect Ratio : 16:09 • Native Resolution : 4K UHD • Display Features: Anti-glare; Language selection; LED Backlights; On-screen controls; Plug and Play.

	<ul style="list-style-type: none"> • Input Signal: 1 VGA; 1 HDMI 2.0 • Ports and Connectors : 1 USB 2.0 • Input Power Input voltage: 100 to 240 VAC • Power Consumption : 30 W (maximum) • Can be wall mount/floor mount depending upon the space.
16	<p>Talk Back System</p> <ul style="list-style-type: none"> • 8 channel intercom system with 8 set of belt packs. • Each belt pack should include Headset, Volume control button, Call Button, Talk Button, Tally light and 20-meter cable for connecting base station). • 19" Rack mountable. • Gooseneck Microphone and LED Light at Base station. • In built speaker with Volume control at base station. • Selectable Channel Talk, Broadcast to all or Mute. • Supply two additional 20-meter extension cables for extending belt pack distance.
17	<p>Character Generator Workstation with CG SW and SD/HD-SDI Key and Fill output.</p> <p>Software Feature:</p> <ul style="list-style-type: none"> • Support for HD/SD Format. • Support for 24 Bit Graphics with 8 bit Alpha. • De-interlacing and anti-flicker display option for broadcast quality output of images and live video. • Facility of GPU rendering. • Facility of animating object by moving, rotating, changing color or transparency. • 3D working environment. Facility to move object in Z Axis. • Support for Internal as well as External Keying. • Multiple ticker support. Facility of reading data from .txt or .rtf files. • Facility of inserting animated smiley or sequence in between of ticker text. • Scheduler facility for predefined action at specified time. • Support for UTF-8, UTF-16 Unicode. Supply at least three Regional fonts. • Scripting facility for dynamically display text and images from script files. • TCP/IP Protocol support for receiving TCP/IP commands. • Real-time text effect, transition and preset animation for transition. • Facility of inserting clock, count down timer. • Facility to add video background file and facility to scale video. AVI with alpha, FLV with alpha, TGA sequence. <p>Workstation Configuration:</p> <ul style="list-style-type: none"> • Intel Core i7 (3.0GHz), 9th Generation or higher. • Minimum 16 GB RAM, • Intel C246 chipset, • Motherboard with Integrated Gigabit Ethernet, Audio and USB ports, • QUADRO P400 /Nvidia 2GB or Higher Graphic card, • Minimum 256GB SSD for Windows 10 Professional 64 bit, • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data, • 24" professional FHD Display same OEM, • Same OEM Keyboard and Mouse. • Certifications - UL, FCC Compliance, EPEAT Silver or Higher, Energy Star • Warranty – 3 years from OEM with professional Display • Dust filter • EPEAT SILVER or Higher in India • Electromechanical lock • RGS & Performance Advisor • Self-Healing BIOS for solution compatibility

18	<p>Playout Solution</p> <ul style="list-style-type: none"> • Multi-format schedule video playback system • Shall accepts any type of media files with size between 4k and 320 x 240 and the frame-rate accepted range is between 10 and 120 fps. • Supported LIVE inputs and outputs : Blackmagic Design devices (Decklink & Intensity) UDP streams • The supported video input and output modes are : <ul style="list-style-type: none"> 4K UHD 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 HD1080p 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 HD1080i 50 / 59.94 HD720p 50 / 59.94 SD PAL / NTSC • The internal video engine shall automatically resize, match aspect ratio and transcode the media files and the live inputs in order to match the characteristics of the output. • Allows using media without requiring a manual adjustment of the sound level. • The trimming feature allows you to easily create segments and manage the properties of each segment. • Intel Core i7 (3.0GHz), 9th Generation or higher. • Minimum 16 GB RAM, • Intel C246 chipset, • Motherboard with Integrated Gigabit Ethernet, Audio and USB ports, • QUADRO P400 /Nvidia 2GB or Higher Graphic card, • Minimum 256GB SSD for Windows 10 Professional 64 bit, • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data, • 24" professional FHD Display same OEM, • Same OEM Keyboard and Mouse. • Certifications - UL, FCC Compliance, EPEAT Silver or Higher, Energy Star • Warranty – 3 years from OEM with professional Display • Software License. <p>Chassis and I/O</p> <ul style="list-style-type: none"> • Workstation with CG SW and SD/HD-SDI Key and Fill output.
19	<p>Transmission Server</p> <ul style="list-style-type: none"> • I/O Card with SDI IN/OUT and Analog Component /composite IN/OUT • Intel Core i7 (3.0GHz), 9th Generation or higher. • Minimum 16 GB RAM, • Intel C246 chipset, • Motherboard with Integrated Gigabit Ethernet, Audio and USB ports, • QUADRO P400 /Nvidia 2GB or Higher Graphic card, • Minimum 256GB SSD for Windows 10 Professional 64 bit, • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data, • 24" professional FHD Display same OEM, • Same OEM Keyboard and Mouse. • Certifications - UL, FCC Compliance, EPEAT Silver or Higher, Energy Star • Warranty – 3 years from OEM with professional Display • Cabinet and 650W SMPS • Form Factor – Tower • Software Licences • Streaming Multi cast Software <p>Features</p> <ul style="list-style-type: none"> • Crystal clear audio and video broadcasting to the classroom. • Teacher Screen Broadcasting to the classroom. • Multiple classroom conference tools. • Multiple classroom conferencing with the teacher and student. • Record the lectures in the teaching-end server along with the screen for re-telecast • Should support multicast streaming

	<ul style="list-style-type: none"> Support transmission and streaming over internet, one way VSAT and Two way VSAT network
20	<p>32" professional display with wall mount</p> <ul style="list-style-type: none"> Type 32-inch LED Backlit Resolution: 1920 x 1080 @ 60 Hz or better Aspect Ratio: 16:9 Brightness (typical): 250 cd/m² or better Contrast Ratio (typical): 1,000:1 or better Response Time (typical): 5 ms or better Should be able wall mount.
21	<p>Laptop with application software</p> <ul style="list-style-type: none"> Intel® Core™ i5 10th Generation/AMD R5 latest generation Minimum 8GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable Graphic card – Intel UHD Graphics/AMD Radeon Minimum 512 GB SSD FHD Display 14-inch diagonal LED-backlit Minimum 2 USB Ports 3.1, 1 Type C Port, 1 HDMI Port, 1 Headphone/Microphone Port Windows 10 pro 64 bit Weight up to 1.6kg Inbuilt Web Camera:720p HD webcam supporting Wide Dynamic Range OS Architecture: Windows 10 pro Spill Resistant Keyboard with backlit function Battery 3 Cell 45 WHR Atleast 50% charging in 30 minutes Certification UL, FCC Compliance, EPEAT Silver or Higher , Energy Star, MIL STD 810 G Hardware TPM Security Chip and security lock Body – Metallic/Aluminium 3 Year Comprehensive Warranty including battery from OEM <p>Application Reverse interactivity application which should support Audio, Video, Screen, Written query, Images for interactions. Students should be able to participate from a classroom using the Tab, Laptop or Desktop. The Utility should provide them with a complete learning environment where they can view the instructor and course material, as well as interact with the instructor by their voice or video or written query.</p>
22	<p>SDI to HDMI</p> <ul style="list-style-type: none"> SD/HD SDI to HDMI Video and Audio Converter SD/HD SDI output. 2 channels of Professional Balance Audio output Supply with required power supply
23	<p>Analog to SDI</p> <ul style="list-style-type: none"> Analog PAL composite SDI video converter One PAL Composite Analog input (BNC Connector). One or more SDI output (BNC connector).
24	<p>HDMI to SDI</p> <ul style="list-style-type: none"> Automatically matches the SD, HD and 3G-SDI HDMI video input 2 channels of professional balanced digital Auto detection of SD, HD SDI video connections are switchable between SD, HD Standard sample rate of 48 kHz and 24 bit

25	<p>Document Camera</p> <ul style="list-style-type: none"> • 3M pixel CMOS sensor • Focus: auto / manual • Zoom: 12X total zoom • Image rotation: electronic rotation 0° / 90° / 180° / 270° • Capture mode: single / continuous • Built-in memory: 80 images (3M); 240 images (XGA) • Shooting area: 320 x 240 mm • Output resolution: HD720p (1280 x 720) • Light source: detachable LED lamp module • Connectivity: RGB input and output, S-video output, composite video output, DVI-I output • Laser positioning guide • USB 2.0 port (PC camera / built-in image download) 																			
26	<p>Portable transmitter & receiver</p> <ul style="list-style-type: none"> • Main functions: Live & Auto-record, Store & Forward and Progressive Store and Forward. • Video inputs: HD/SD-SDI embedded audio (BNC), Composite video (BNC), Analog Audio, HDMI. • Network interfaces: 8 x 3G/4G modems, 1 built-in Wi-Fi modem with high efficiency custom antenna (client and access point modes), Dual Gigabit Ethernet interfaces (LAN, WAN). • Video compression: H.264/AVC Main/High Profile level 4 and Simultaneous Live & Auto-record at different bitrates. 																			
27	<p>LED Studio Lights with ceiling Grid and mounting clamps/hooks</p> <ul style="list-style-type: none"> • Color temperature: 5600 K/3200K • Dimmable output from 100% to 10% • Power consumption: Less than 80W. • Ceiling mounts facility • AC Adaptor, Barn door and filters • Operated from nominal 230 V/50 Hz Ac Supply 																			
28	<p>Storage Server of 32 TB</p> <ul style="list-style-type: none"> • Storage system with Minimum 32 TB of raw storage 0.5 raid configurable with dual Giga LAN port. 																			
29	<p>Furniture</p> <table border="1" data-bbox="288 1435 1442 1989"> <thead> <tr> <th>S.No.</th> <th>Furniture</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Table</td> <td>1 X no. 4 X 6 Modular Office Table (Desk with Overbridge)</td> </tr> <tr> <td>2</td> <td>Executive Chairs 6 Nos.</td> <td>6 Nos. with High Raise, Reclining, Ergonomics, Adjustable features</td> </tr> <tr> <td>3</td> <td>Sofa 2 Nos</td> <td>Reclining Single seater</td> </tr> <tr> <td>4</td> <td>Storage</td> <td>Reinforced Fire-Proof Cabinet with minimum 70 box file(s) storage capacity</td> </tr> <tr> <td>5</td> <td>Material</td> <td>Termite Resistant, Marine Plywood</td> </tr> </tbody> </table>		S.No.	Furniture		1	Table	1 X no. 4 X 6 Modular Office Table (Desk with Overbridge)	2	Executive Chairs 6 Nos.	6 Nos. with High Raise, Reclining, Ergonomics, Adjustable features	3	Sofa 2 Nos	Reclining Single seater	4	Storage	Reinforced Fire-Proof Cabinet with minimum 70 box file(s) storage capacity	5	Material	Termite Resistant, Marine Plywood
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5	Material	Termite Resistant, Marine Plywood																		

30	<p>Electrical networking and Studio cabling including all accessories: Electrical networking for all the components in the studio and earthing as per the specification below.</p> <ul style="list-style-type: none"> • Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required. 																						
31	<p>Acoustic, Fabric above Acoustics with Air Condition (Minimum 20 ft x30 ft=600 Sqft)</p> <ul style="list-style-type: none"> • Provision & fixing of pre-fabricated acoustic panels for the walls inside the studio topped with suitable fabric giving an aesthetic finish <table border="1" data-bbox="288 539 1442 1227"> <tr> <td data-bbox="288 539 384 636">1</td> <td data-bbox="384 539 612 636">Interior</td> <td data-bbox="612 539 1442 636">With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish</td> </tr> <tr> <td data-bbox="288 636 384 703">2</td> <td data-bbox="384 636 612 703">Carpet</td> <td data-bbox="612 636 1442 703">Providing and Fixing Wall to wall</td> </tr> <tr> <td data-bbox="288 703 384 770">3</td> <td data-bbox="384 703 612 770">Curtain</td> <td data-bbox="612 703 1442 770">Providing and fixing Curtains with accessories</td> </tr> <tr> <td data-bbox="288 770 384 965">4</td> <td data-bbox="384 770 612 965">Door</td> <td data-bbox="612 770 1442 965">Acoustic Doors with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.</td> </tr> <tr> <td data-bbox="288 965 384 1061">5</td> <td data-bbox="384 965 612 1061">Window</td> <td data-bbox="612 965 1442 1061">Provisioning and fixing sound proof window hermitically sealed with Glass</td> </tr> <tr> <td data-bbox="288 1061 384 1158">6</td> <td data-bbox="384 1061 612 1158">Air-Conditioning</td> <td data-bbox="612 1061 1442 1158">Air conditioning 2 ACs (1.5 Tons) in the Studio room and 1 AC (1.5 Tons) in the control room</td> </tr> <tr> <td data-bbox="288 1158 384 1227">7</td> <td data-bbox="384 1158 612 1227">Reverberation Time</td> <td data-bbox="612 1158 1442 1227">As per AV Standards, RT has to be less than one second.</td> </tr> </table>		1	Interior	With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish	2	Carpet	Providing and Fixing Wall to wall	3	Curtain	Providing and fixing Curtains with accessories	4	Door	Acoustic Doors with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.	5	Window	Provisioning and fixing sound proof window hermitically sealed with Glass	6	Air-Conditioning	Air conditioning 2 ACs (1.5 Tons) in the Studio room and 1 AC (1.5 Tons) in the control room	7	Reverberation Time	As per AV Standards, RT has to be less than one second.
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32	<p>UPS - 15 KVA Features</p> <ul style="list-style-type: none"> • Single Phase Input, Single Phase Output • High power backup • Wide input voltage range 230V – 20% - 15% • Output voltage 220V • Advanced PFC Technology • Advanced Battery Management • Automatic Battery charging in UPS off mode • Short circuit and overload protection • Interactive LCD touch panel • Type – Online • Backup duration – 2hour • Battery Type – Sealed Maintenance Free 																						
33	<p>Capacity Building of the Teachers - Building the Capacity of the Teachers in a comprehensive manner.</p> <ul style="list-style-type: none"> • Basic IT usage of all the studio components. • Teaching them how to give lectures in the studio • Introduction of Multimedia Content and teach the usage of it. • Classroom Management and Soft Skills. • Training shall be provided to the batch of 10 trainees. • Schedule and scope as per training clause 5.33. 																						

2 Broadcast Studio:

Sl. No.	Items with Minimum Specifications
1	<p>Digital Video Camera with accessories</p> <ul style="list-style-type: none"> • Image System: 3-chip 1/2-inch type Exmor Full HD CMOS • Effective Pixel: 1920 x 1080 • Interchangeable lens system with 14x HD lens package. • Auto and Manual Focus. • White Balance: Auto and Manual • Input / Output: <ul style="list-style-type: none"> ○ SD/HD selectable SDI Output (BNC connector) ○ Genlock reference Input. • In-built 3.5" LCD Monitor and Built-in Viewfinder. • Recording media: Solid state card • Recording Format: <ul style="list-style-type: none"> ○ 1920x1080 50i/25p ○ CODEC: HD, Minimum bitrate 50 Mbps • With compatible Accessories like: Solid state card (32 GB), Card reader, AV cable, Battery and battery charger, Remote control, Operational manual.
2	<p>Video Switcher with accessories</p> <p>Video I/O</p> <ul style="list-style-type: none"> • 4 x HD/SD inputs • 2 x HD/SD outputs • Multi view output for input monitoring • Effects like Transition, Wipe. • Inbuilt High Quality Chrome keying. • Either Built-in multi-mode color LCD monitor display versatile menus, image monitor, waveform/vector scope or additional units to achieve the functionality to be provided along with the video switcher.
3	<p>Audio mixer with accessories</p> <ul style="list-style-type: none"> • 12 channel Audio Mixer • 3-band channel EQ and high-pass • Smooth 60-millimeter faders & illuminated channel ON switches • Return level controls for the AUX and STEREO buses. • Bright meters for visual level monitoring.
4	<p>Camera Tripod</p> <ul style="list-style-type: none"> • Load Capacity: Static Weight 7 kg • Counter Balance System: Spring-loaded • Tilt Drag: Continuously adjustable from 0 to max level • Tilt Range: 80 to +90 tilt range front to back • Tilt Lock: Yes • Spring Loaded Counter Balance: Yes • Pan Drag: Continuously adjustable from 0 to max level • Pan Range: 360 • Pan Lock: Yes

5	<p>Microphone: Cordless Lavalier</p> <ul style="list-style-type: none"> • Channel: Single • RF Protection: Should be Embedded • Security: Minimum 128-bit encryption • RF frequency range :1880 – 1900 MHz • Switching bandwidth: 50 – 14000 Hz • Mobility range :150' • Base Station: Auto pair with Mic • Operating time 6 hours • Usability Mic and the Transmitter should be singled embedded unit. • Channel Single • RF Protection Should be Embedded
6	<p>Wired Mic with Table Mic Stand</p> <ul style="list-style-type: none"> • Connectors 3-pin XLR-3 <p>Features</p> <ul style="list-style-type: none"> • Dynamic cardioid microphone • Clearly emphasizes voices on loud stages • Transparent high-end and warm but defined lower mids • Highly consistent directivity • High feedback rejection • Shock-mounted capsule • Hum compensating coil • Extremely rugged metal housing
7	<p>Hard disk-based HD Recorder</p> <ul style="list-style-type: none"> • Video Connections Inputs: 1x HD/SD-SDI • Supported Input Resolutions: 1080p(23.9, 24, 25, 29.9, 30), 1080i(50, 59.9, 60), 720p(50, 59.9, 60), 576i(50), 480i(59.9) • Outputs: 1x HD/SD-SDI, 1x HDMI • Audio Connections Inputs: 2x Balanced XLR • Outputs: 2x Balanced XLR • Embedding: Stereo Audio embedded to HD/SD-SDI • Recording Format: PCM 24-bits / 8-Channels / 48KHz Sampling Rate • Loop Through: 1x HD/SD-SDI • Color Sampling: HD (35-125Mbps): 4:2:2, HD (10-25Mbps): 4:2:0, SD (15-50Mbps): 4:2:2, SD (8Mbps): 4:2:0 • Hard Drive: 300GB HDD
8	<p>Audio Monitor</p> <ul style="list-style-type: none"> • Speaker type: 2-Way Bi-Amp powered studio monitor • Frequency range: (-10dB), 38Hz - 30kHz • Components: LF, 8 cone, HF, 1 dome Crossover 2kHz • Output power: 120W (LF:75W, HF:45W) • I/O connectors: XLR3-31 type (balanced) • Cabinet material MDF
9	<p>Digital SD/HD-SDI video distribution</p> <ul style="list-style-type: none"> • SD/HD through SDI • Minimum 1 IN and 4 OUT • Compatible to the above vision mixer • Low power consumption • Casing: Metal case
10	<p>Audio Distribution Amplifier</p> <ul style="list-style-type: none"> • Balance Audio (XLR) for both in and OUT • Minimum 1 IN 4 OUT • Compatible to the above Audio Mixer

11	<p>HD Web camera</p> <ul style="list-style-type: none"> • Full HD 1080p video, H.264 hardware encoding support • Good optics with Autofocus • Low-light correction support • USB 3.0 ready • Tripod-ready universal clip suitable for laptops or LCD • Built-in dual/stereo mics with automatic noise reduction
12	<p>Interactive Panel with laptop</p> <p>Interactive Panel Specs:</p> <ul style="list-style-type: none"> • 13.3" HD display • Resolution support up to 1080P • HDMI Input • USB input for pen function <p>Laptop specifications:</p> <ul style="list-style-type: none"> • Laptop Display 13.3" FHD IPS Touch Screen with 360-degree convertible. • Resolution support up to 1080P • HDMI Input • USB input for pen function • Intel® Core™ i5 10th Generation/R5 AMD Latest Generation • Minimum 8GB RAM expandable to 32 GB with 2 physical DIMM Slots Customer Replaceable, • Graphic card – Intel UHD Graphics/AMD Radeon, • Minimum 512 GB SSD, • Minimum 2 USB Ports 3.1, 1 Type C Port, 1 HDMI Port, • Windows 10 pro 64 bit, • Weight up to 1.5kg, • Spill Resistant Keyboard with backlit function, • Battery 3 Cell 45 WHr • Atleast 50% charging in 30 minutes. • Certification UL, FCC Compliance, EPEAT Silver or Higher, Energy Star, MIL STD 810 G • Hardware TPM Security Chip and security lock • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery
13	<p>Telephone Hybrid</p> <ul style="list-style-type: none"> • Two lines • Line Input: Balanced Female XLR • Impedance Input: 20k ohms • Level: 500 mV RMS (-4 dBu nom, +10 dBu max) • Caller Out: Balanced Male XLR • Impedance Output :200 ohms • Level: 500 mV RMS (-4 dBu nom, +10 dBu max) • Misc: Front panel handset jacks • Handset: biased for electret handset • Phone Line Connector: RJ11C • Aux Phone Connector: RJ11C • Auto answer/disconnect • Send and receive LEDs • Excellent caller voice separation
14	<p>55" Professional UHD 4K conferencing display</p>

	Refer the specs of 55" Professional UHD 4K conferencing display of High End Studio.													
15	Talk Back System <ul style="list-style-type: none"> • Frequency Range: VHF 169 - 270MHz • Four Microphone operation • Includes 4 Bodypack Transmitters • Includes 4 Lavalier & Headset Mics • Individual and Mixed Audio Outputs 													
16	Character Generator Refer the specs of Character generator of High End Studio.													
17	Transmission Server Refer the specs of transmission server of High End Studio.													
18	Laptop with HDMI Output <ul style="list-style-type: none"> • Intel® Core™ i5 10th Generation/AMD R5 Latest Generation • Minimum 8GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable, • Minimum 512 GB SSD, • FHD Display 14-inch diagonal LED-backlit • Minimum 3 USB Ports with at least 1 USB 3.1 and 1 HDMI, 1 Type C Port • Windows 10 pro 64 bit • Weight up to 1.6kg • Battery with 1000 charging cycles supporting 90% charge in 90 mins • Certification UL, FCC Compliance, EPEAT SILVER, Energy Star, MIL STD 810 G • Hardware TPM Security Chip and security lock • Integrated Graphics Intel/AMD • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery from OEM 													
19	Satellite Receiving Antenna, Satellite Modem and LNB Laptop with application software Refer the specs of Virtual classroom item no.5, 7 and 9.													
20	32" professional display with wall mount Refer the specs of 32" professional display of High End Studio.													
21	LED Studio Lights with ceiling Grid and mounting clamps/hooks Refer the specs of LED Studio Lights with ceiling Grid and mounting clamps/hooks of High-End Studio.													
22	Storage Server of 16 TB <ul style="list-style-type: none"> • Storage system with Minimum 16 TB of raw storage 0.5 raid configurable with dual Giga LAN port. 													
23	Furniture (Technical Table, Studio Room Table Chairs etc.) <table border="1" data-bbox="327 1608 1484 1966"> <thead> <tr> <th>S.No.</th> <th>Furniture</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Table</td> <td>1no. 4ft X 6 ft Modular Office Table (Desk with Overbridge)</td> </tr> <tr> <td>2</td> <td>Executive Chairs 4 Nos.</td> <td>4 Nos. with High Raise, Reclining, Ergonomics, Adjustable features</td> </tr> <tr> <td>3</td> <td>Sofa 1 Nos</td> <td>Reclining Single seater</td> </tr> </tbody> </table>		S.No.	Furniture		1	Table	1no. 4ft X 6 ft Modular Office Table (Desk with Overbridge)	2	Executive Chairs 4 Nos.	4 Nos. with High Raise, Reclining, Ergonomics, Adjustable features	3	Sofa 1 Nos	Reclining Single seater
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	4	Storage	Reinforced Fire-Proof Cabinet with minimum 50 box file(s) storage capacity																					
	5	Material	Termite Resistant, Marine Plywood																					
24	Electrical networking and Studio cabling including all accessories: Electrical networking for all the components in the studio and earthing as per the specification below. <ul style="list-style-type: none"> • Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required. 																							
25	Acoustic, Fabric Above Acoustics with Air Condition (Minimum 20 ft x20 ft = 400 sqft) <ul style="list-style-type: none"> • Provision & fixing of pre-fabricated acoustic panels for the walls inside the studio topped with suitable fabric giving an aesthetic finish <table border="1" data-bbox="327 763 1484 1451"> <tr> <td>1</td> <td>Interior</td> <td>With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish</td> </tr> <tr> <td>2</td> <td>Carpet</td> <td>Providing and Fixing Wall to wall</td> </tr> <tr> <td>3</td> <td>Curtain</td> <td>Providing and fixing Curtains with accessories</td> </tr> <tr> <td>4</td> <td>Door Type and Size</td> <td>Acoustic Doors of with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.</td> </tr> <tr> <td>5</td> <td>Window</td> <td>Provisioning and fixing sound proof window hermitically sealed with Glass</td> </tr> <tr> <td>6</td> <td>Air-Conditioning</td> <td>Air conditioning 1 AC (2 Tons) in the Studio room and 1 AC (1.5 Tons) in the control room</td> </tr> <tr> <td>7</td> <td>Reverberation Time</td> <td>As per AV Standards, RT has to be less than one second.</td> </tr> </table>			1	Interior	With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish	2	Carpet	Providing and Fixing Wall to wall	3	Curtain	Providing and fixing Curtains with accessories	4	Door Type and Size	Acoustic Doors of with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.	5	Window	Provisioning and fixing sound proof window hermitically sealed with Glass	6	Air-Conditioning	Air conditioning 1 AC (2 Tons) in the Studio room and 1 AC (1.5 Tons) in the control room	7	Reverberation Time	As per AV Standards, RT has to be less than one second.
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7	Reverberation Time	As per AV Standards, RT has to be less than one second.																						
26	UPS - 10 KVA Features <ul style="list-style-type: none"> • System: Online UPS System • Capacity: 10 KVA • Output Power Capacity: 10000 VA • Output: 220V, 50Hz • Waveform: Pure Sine wave • DC to ac Efficiency: Greater than 90% • Inverter technology: IGBT based, High Frequency • Grid charger: SMPS type constant current- constant voltage- Trickle • Backup requirement: Minimum 30 minutes. • Display: LCD • Nominal Input Voltage: 230 V 																							

3. Mini Studio:

Sl. No	Items with Minimum Specifications
1	Digital Video Camera with accessories <ul style="list-style-type: none"> • 4K 10-bit 60p Recording • HDMI and SDI out put • 3G/1.5G HD-SDI support • Built-in LED Video Light
2	Camera Tripod <ul style="list-style-type: none"> • Tripod suitable for the above camera
3	Audio Mixer with accessories <ul style="list-style-type: none"> • 8 input, 2 Bus mixer with 4 Mic Pre Amps. • 3 Band EQs. • Stereo FX processor with preset like reverb, chorus, flanger, delay, pitches shifter etc. • FX send control
4	Microphone: Cordless Lavalier <ul style="list-style-type: none"> • Cordless microphone with light and compact body pack transmitter. • Minimum 3 hours of battery life. • Automatic setup function for quick and easy operation • Transmitter battery status monitoring • Antenna connector – 2 BNC, 50 Ohm • RF O/P power – 10 MW • Sound Pressure Level – 142 db • Switching bandwidth – 24 MHz • Signal to noise ratio -> 103 db
5	Recording Server <ul style="list-style-type: none"> • Intel Core i7 (3.0GHz), 9th Generation or higher. • Minimum 16 GB RAM, • Intel C246 chipset, • Motherboard with Integrated Gigabit Ethernet, Audio and USB ports, • QUADRO P400 /Nvidia 2GB or Higher Graphic card, • Minimum 256GB SSD for Windows 10 Professional 64 bit, • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data, • 24" professional FHD Display same OEM, • Same OEM Keyboard and Mouse. • Certifications - UL, FCC Compliance, EPEAT Silver or Higher, Energy Star • Warranty – 3 years from OEM with professional Display • Dust filter • EPEAT SILVER or Higher in India • Electromechanical lock • RGS & Performance Advisor • Self-Healing BIOS for solution compatibility.
6	Laptop with HDMI output Refer Specs of Laptop with HDMI output of Broadcast Studio
7	32" Professional Display for studio with Floor Mount Refer the specs of 32" Professional Display for studio of High End Studio in addition to this floor mount also needs to be provided in place of wall mount

8	32" Professional Display for studio with Wall Mount	
	Refer the specs of 32" Professional Display for studio of High End Studio	
9	Transmission Server	
	Refer the specs of transmission server of High End Studio.	
10	Satellite Receiving Antenna, Satellite Modem (Compatible with EDUSAT Network) and LNB Laptop with application software	
	Refer the specs of Virtual classroom item no.5, 7 and 9.	
11	LED Studio Lights with ceiling Grid and mounting clams/hooks	
	Refer the specs of LED Studio Lights with ceiling Grid and mounting clams/hooks of High-End Studio.	
12	Furniture:	
	S.No.	Furniture
	1	Table 1no. 4ft X 6 ft Modular Office Table (Desk with Overbridge)
	2	Executive Chairs 2 Nos. with High Raise, Reclining, Ergonomics, Adjustable features
	3	Storage Reinforced Fire-Proof Cabinet with minimum 50 box file(s) storage capacity
	4	Material Termite Resistant, Marine Plywood
13	Electrical networking and Studio cabling including all accessories:	
	Electrical networking for all the components in the studio and earthing as per the specification below.	
	<ul style="list-style-type: none"> Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required. 	
14	Acoustic, Fabric above Acoustics with Air Condition (15 ft x20 ft= 300 Sqft)	
	<ul style="list-style-type: none"> Provision & fixing of pre-fabricated acoustic panels for the walls inside the studio topped with suitable fabric giving an aesthetic finish 	
	1	Interior With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish
	2	Carpet Providing and Fixing Wall to wall
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	4	Door Type and Size Acoustic Doors with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.
	5	Window Provisioning and fixing sound proof window hermitically sealed with Glass
	6	Air-Conditioning Air conditioning 1 AC (1.5 Tons) in the Studio room and 1 AC (1.5 Tons) in the control room

	7	Reverberation Time	As per AV Standards, RT has to be less than one second.
15	UPS - 5 KVA <ul style="list-style-type: none"> • Features – Single Phase Input, Single Phase Output • High power backup • Wide input voltage range 230V – 20% - 15% • Output voltage 220V • Advanced PFC Technology • Advanced Battery Management • Automatic Battery charging in UPS off mode • Short circuit and overload protection • Interactive LCD touch panel • Type – Online • Backup duration – 45 minutes • Battery Type – Sealed Maintenance Free 		

4 Main/Sub Interaction Centre facility

Sl. No	Items with Minimum Specifications
1.	Power Backup System 3/5 KVA. <ul style="list-style-type: none"> • System: Online UPS System • Capacity:3/5 KVA • Output Power Capacity: 3000/5000 VA • Output: 220V, 50Hz • Waveform: Pure Sine wave • DC to ac Efficiency: Greater than 90% • Inverter technology: IGBT based, High Frequency • Backup requirement: 45 minutes. • Display: LCD • Nominal Input Voltage: 230 V • Protection: Overload, Short circuit, Overcharge, Overheat, Battery Low • Cooling: Forced air with speed control • Battery stand to keep the batteries
2	55" Professional UHD 4k Conferencing Display Refer the specs of 55" Professional UHD 4K conferencing display of High End Studio.
3	Laptop Workstation with Application for facilitator to interact. <p>A) Laptop Workstation</p> <ul style="list-style-type: none"> • Processor: Intel® Core™ i7 8th Generation/AMD Or Highest CPU • RAM: Minimum 8 GB RAM. • Hard Disk Drive: 512GB SSD • 2 x USB 3 Type A, 1 x HDMI, 1 x USB 3 Type C. • Graphics: AMD / NVIDIA Minimum 4Gb Professional graphic card • Display: 14" IPS FHD display • Certification - Passed 19 MIL-STD, • Self-Healing BIOS • Windows 10 pro 64 bit Or Latest OS <p>B) Application for facilitator to interact with Student.</p>

	<ul style="list-style-type: none"> • LIVE audio video interactivity • Facilitator can Interact with the Student of the connected classroom • Each individual has separate login credential • They should also use the live content used for the session from the studio • Should be able to record the interaction • Automatic scheduling based on First come first basis.
4	10" inch Multi touch panel <ul style="list-style-type: none"> • 10" display with Styles. • Resolution support up to 1080P • Battery free cordless pressure sensitive styles • Minimum pressure level 2048 • HDMI Input • USB input for pen function • Support to Windows OS
5	Portable AV interactive device with multitouch <ul style="list-style-type: none"> • Processor: Quad core processor • RAM Minimum 2 GB • Front facing camera minimum of 5 MP and primary camera of 8MP • Battery: minimum of 2500 mAH • Operating System: Minimum Android v 7.1 • Bluetooth and WiFi Facility • Dual SIM with 4G and 3G 10 Mobile • Micro-USB X1 • Micro-HDMI X1 • Micro-SD Card Reader Slot x1 • 3.5mm X1 • Screen Size: min 10"
6	Communication system <ol style="list-style-type: none"> a. Antenna <ul style="list-style-type: none"> • Antenna Size - Minimum 1.2 Meter • Mount Type - Penetrating/ non-penetrating heavy-duty antenna mount • Type of Feed - Offset feed • Antenna Adjustment Range - 0° to 360° Continuous Fine b. Satellite Modem <ul style="list-style-type: none"> • Satellite Modem with IP Output to receiving signals from satellite, via RJ45 • Should be able to receive data and signals • accessories like adaptor, connecting cables etc. c. Ku band LNBF: <ul style="list-style-type: none"> • Compatibility: Compatible LNB to receive Signals satellite signals
7	Wi-Fi Modem: <ul style="list-style-type: none"> • Network interface • ADSL standards • Flash: 2MB • SDRAM: 16MB • Antenna: One fixed dipole 2dBi antenna • Power ON/OFF switch • WPS and WLAN on/Off switch • Reset switch • 1 x RJ11 interface for ADSL Line • 4 x 10/100 Mbps UTP LAN ports

8	HD Web Camera <ul style="list-style-type: none"> • Minimum HD 720P Video. • Hi-speed USB 2.0 certified. • universal clip fits laptops, LCD, or CRT monitors. • H.264 video compression. • Built in microphone • USB Interface connection • Cable length minimum of 1Mtr 																
9	LED TV for Studio <ul style="list-style-type: none"> • 42" LED screen display • Support to HD quality • Inputs: Composite, VGA HDMI, USB • Should have the facility of height adjustment, rotation, tilt and pan • Should have ceiling mount 																
10	Electrical networking and Interactive centre cabling including all accessories: Electrical networking for all the components in the studio and earthing as per the specification below. <ul style="list-style-type: none"> • Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required. 																
11	Capacity Building of the Teachers - Building the Capacity of the Teachers in a comprehensive manner. <ul style="list-style-type: none"> • Basic IT usage of all the Interactive centre's components. • Teaching them how to take questions from students and answer them during the live session • Introduction of Multimedia Content and teach the usage of it. • Main/sub Interactive centre Management and Soft Skills. • Training shall be provided to a batch of 05 trainees. • Schedule and scope as per training clause 5.33 																
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5. Virtual Classroom set up

Sl. No	Items with Minimum Specifications
1	Projector with ceiling mount <ul style="list-style-type: none"> • DLP Technology • Brightness: 3500 ANSI Lumens or better • Contrast: High Contrast 18000:1 • Native resolution: 1280*800 (WXGA) • Color Individual color adjustment(R,G,B) • Image Size 69~ 300 or better • Throw Ratio 0.521:1 or better • Aspect ratio 16:10 Native, 4:3/16:9 compatible • Input/output connectors VGA in/VGA out, HDMI, USB, Audio in • Power Supply AC 100 ~ 240V ± 10% • Ceiling mount suitable for Projector
2	Projector Screen <ul style="list-style-type: none"> • Material: Imported High Gain White Fabric, • Size: 8 x 5 feet, • Flex: Basic Pull Down with auto lock, Folds Automatically, • Maintenance: Washable with mild soap and water, • Convenience Features: Long Lasting Spring Function hidden in the powder coated box, Hook to Hold the Screen at Bottom.
3	Solar Hybrid Power Backup system <ul style="list-style-type: none"> • Capacity: 1 KVA Output Power: 800W Output: 220V, 50Hz • Waveform: Pure Sine wave • DC to ac Efficiency: Greater than 90% • Inverter technology: IGBT based, High Frequency • Grid charger: SMPS type constant current- constant voltage- Trickle Battery Voltage: 24V DC • Backup requirement: 120 minutes for the Classroom setup. • Solar charger type: MPPT Power Management: Automatic • Data Logging: Time stamp, DC Voltage, Output Voltage, Load, Fault condition, Solar power • Connectivity: IEEE 801.11b based to local host • Display: LCD • Protection: Overload, Short circuit, Overcharge, Overheat, Battery Low • Cooling: Forced air with speed control • Battery stand
4	Audio System <ul style="list-style-type: none"> • Frequency Response 40 Hz to 20 KHz • S\N Ratio >75 dB • Separation >50 dB

	<ul style="list-style-type: none"> • Speaker: Two front and 2 rear speakers with woofer • Total Output power 60 W • Power Supply Power Requirements: 220-240 V AC 50/60 Hz • In Box Subwoofer-1pc, speaker- 4pc, Audio cable User manual
5	<p>Computing Device</p> <ul style="list-style-type: none"> • Intel® Core™ i3 10th Generation/AMD R3 Latest Generation • Minimum 8GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable, • Minimum 512 GB SSD, • FHD Display 14-inch diagonal LED-backlit • Minimum 3 USB Ports with at least 1 USB 3.1 and 1 HDMI , 1 Type C Port • Windows 10 pro 64 bit • Weight up to 1.6kg • Battery with 1000 charging cycles supporting 90% charge in 90 mins • Certification UL, FCC Compliance, EPEAT SILVER, Energy Star, MIL STD 810 G • Hardware TPM Security Chip and security lock • Integrated Graphics Intel/AMD • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery from OEM
6	<p>Portable AV interactive device with multi touch</p> <ul style="list-style-type: none"> • Please refer the specs of Portable AV interactive device with multi touch in Main/Sub interaction facility center
7	<p>Application Software</p> <p><u>Application for Interactive Server:</u> The bidder shall develop a mobile/Tablet compatible application to ask a question using the app.</p> <p>Application: Q&A application that shall support Audio, Video, Screen, Written query, Images for interactions. Students shall able to participate from a classroom using the Tab, Laptop or Desktop. The Utility should provide them with a complete learning environment where they can view the instructor and course material, as well as interact with the instructor by their voice or video or written query.</p> <p>Peer to peer sharing: All servers interlinked should work as single network to access the content and other data with each other. It should help in prevention of data loss over satellite reception or satellite reception fails if in case.</p> <p>Q&A (LIVE):</p> <ul style="list-style-type: none"> • During the interactive session, if students in the classroom have any doubts there shall be option to press "Raise Hand Button" at the Application at classroom end. • Support Audio, Video, Screen, Digital White boards, Images, Text for interactions • Class shall be able to connect to expert in doubt clarification facility through server automatically to available expert at that time. <p><u>Application for interactive device:</u></p> <p>App for Interaction: -</p> <ul style="list-style-type: none"> • Shall provide a complete learning environment where student can interact with the studio expert and experts at doubt clarification facility through main application server via audio, Video, Data and Written script.

	<ul style="list-style-type: none"> • Allows application connectivity using Bluetooth or Wi-Fi with main application server • Able to use front camera for video interaction • Configured with the audio of the device for interaction. • Reverse interactivity - Interactive application that shall supports Audio, Video, Screen, Written query, Images for interactions. • Students shall able to participate from a classroom using Video conferencing or the Tab/mobile or Laptop or Desktop • The Utility should provide them with a complete learning environment where they can view the instructor and course material, as well as interact with the instructor by their voice or video or written query.
8	HD Web Camera: <ul style="list-style-type: none"> • Minimum HD 720P Video. • Hi-speed USB 2.0 certified. • Universal clip fits laptops, LCD, or CRT monitors. • H.264 video compression. • Built in microphone • USB Interface connection • Cable length minimum of 1Mtr
9	Communication equipment <ol style="list-style-type: none"> Antenna <ul style="list-style-type: none"> • Antenna Size - Minimum 1.2 Meter • Mount Type - Penetrating/ non-penetrating heavy-duty antenna mount • Type of Feed - Offset feed • Antenna Adjustment Range - 0° to 360° Continuous Fine Satellite Modem <ul style="list-style-type: none"> • Satellite Modem with IP Output to receiving signals from satellite, via RJ45 • Should be able to receive data and signals • accessories like adaptor, connecting cables etc. Ku-band LNBF: <ul style="list-style-type: none"> • Compatibility: Compatible LNB to receive Signals satellite signals
10	Communication equipment 2 way VSAT <ol style="list-style-type: none"> Antenna <ul style="list-style-type: none"> • Antenna Size - Minimum 1.2 Meter • Mount Type - Penetrating/ non-penetrating heavy-duty antenna mount • Type of Feed - Offset feed • Antenna Adjustment Range - 0° to 360° Continuous Fine Satellite Modem <ul style="list-style-type: none"> • Satellite Modem with IP Output to receiving signals from satellite, via RJ45 • Should be able to receive data and signals • accessories like adaptor, connecting cables etc. Ku-band LNBF: <ul style="list-style-type: none"> • Receive Frequency :10.95 to 11.75 GHz • Output Frequency :950 to 1700 MHz BUC: <ul style="list-style-type: none"> • Power Output: Minimum 2 Watt Power should be adjustable to counter rain-fade effect during rainy days to maintain the quality of communication • Transmit (Output) frequency :14.00-14.50 G Hz • Receive (Input) frequency :950 to 1450 MHz, L band
11	Wi-Fi Modem

	<ul style="list-style-type: none"> • Network interface • ADSL standards • Flash: 2MB • SDRAM: 16MB • Antenna: One fixed dipole 2dBi antenna • Power ON/OFF switch • WPS and WLAN on/Off switch • Reset switch • 1 x RJ11 interface for ADSL Line • 4 x 10/100 Mbps UTP LAN ports
12	Solar Panel <ul style="list-style-type: none"> • Solar capacity: Minimum 600Wp
13	Clicker Analytics system <p>A) Clicker receiver</p> <ul style="list-style-type: none"> • 2.4GHz digital RF technology, 4 radios channels • Port: REC-A: USB port or 232 port REC-C: USB port • Operating Temperature: 0-40 degree • Receiving angle: 360 degree Receiving distance: > 25 meters • Support at least 200 student keypads <p>B) Clicker device</p> <ul style="list-style-type: none"> • ABCDEFGHIJ button, single correct choice, true /false and hand-raise question • Option to press 0-9 • LED status: green and red • ID Address Programmable • Transmission distance: > 50 meters • Transmission angle: 360 degree • Color coded (Red, Green, Yellow, Blue) • Clicker storage rack <p>Clickers should have following features for educational systems:</p> <ul style="list-style-type: none"> • Should have following keys – 0-9, A-J, other keys for feedback (raise hand – signal having a doubt, thumbs up & down etc..) can be used for answering Multiple Choice Questions, any number, Giving Feedback. • Radio Frequency (RF) based works on 10 channels. In a single school 10 different classes / questions can be conducted. So no interference, even if multiple virtual classrooms are set up in the same school. • Should capture of data points by the receiver from a distance up to 50m. • Must be Suitable for even a big hall/auditorium. • Should have Re-programmable processor, in case any future changes in the central computing system. • Adjustable power consumption based on the room size. • Should have Rugged body so that it can take up to million clicks, the color should not fade.
14	Green Board: The bidder shall supply 5ft x 4ft green board as a traditional teaching aid. The viewing angle shall be such that students sitting in all corner of the classroom can see what is being written
15	Digital Notice Board-A Functionality: This can be put outside school for displaying digital informational

	<p>messages such as:</p> <ul style="list-style-type: none"> ○ Welcome messaging ○ Information related to school events and happenings ○ Motivational messages for high achievers ○ News and announcements <p>Technical Specs:</p> <ul style="list-style-type: none"> ● Rectangular in size 3 x 4 ft ● Outdoor cases compliant to IP54 ● Multi line LED displays with scrolling message. ● Display to be multi color ● Store over minimum 256000 characters in the memory. ● Screen resolution: 3840 x 2160 Pixels ● Contrast ratio: 1000: 1 ● Aspect Ratio: 16:9
16	<p>Digital Notice Board-B</p> <ul style="list-style-type: none"> ● Rectangular in size 4 x 6 ft ● Outdoor cases compliant to IP66 ● Multi line LED displays with scrolling message. ● Display to be multi color ● Store over minimum 256000 characters in the memory. ● Screen resolution: 3840 x 2160 Pixels ● Contrast ratio: 1000: 1 ● Aspect Ratio: 16:9
17	<p>Soft board in classroom (Rate per Sqft)</p> <ul style="list-style-type: none"> ● Good quality fabric pasted on 9mm softboard. ● Backed by mica 0.8mm sheet. ● Fitted with aluminium frame with ABS Corners. ● Blue coloured fabric is preferred.
18	<p>Electrical networking and Virtual classroom cabling including all accessories: Electrical networking for all the components in the studio and earthing as per the specification below.</p> <ul style="list-style-type: none"> ● Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required.
19	<p>Laptop</p> <ul style="list-style-type: none"> ● Intel® Core™ i3 10th Generation/AMD R3 Latest Generation ● Minimum 4GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable, ● HDD Capacity: Minimum 500 GB ● FHD Display 14-inch diagonal ● Minimum: 1 HDMI, 1 USB 2.0 and USB 3.0, 1 universal headphone jack, Network connector ● Windows 10 as per application requirement ● Weight up to 1.6kg ● Battery with 1000 charging cycles supporting 90% charge in 90 mins ● Certification UL, FCC Compliance, EPEAT SILVER, Energy Star, MIL STD 810 G ● Hardware TPM Security Chip and security lock ● Integrated Graphics Intel/AMD ● Body – Metallic/Aluminium ● Web Camera: HD web camera

	<ul style="list-style-type: none"> • Keyboard & touchpad • 3 Year Comprehensive Warranty including battery from OEM
20	<p>Capacity Building of the Teachers - Building the Capacity of the Teachers in a comprehensive manner.</p> <ul style="list-style-type: none"> • Basic IT usage of all the virtual classroom's components. • Teaching them how to connect with the studio and main interaction center. • Introduction of Multimedia Content and teach the usage of it. • Main/sub Interactive centre Management and Soft Skills. • Training shall be provided to a batch of 25 trainees. • Schedule and scope as per training clause 5.33

Features of Centralized Application Software:

S.No.	Features of Centralized Application Software
1.	<p>A. Project Monitoring</p> <p>The bidder will have to provide project monitoring dashboard to monitor LIVE delivery of the classes, equipment health, manpower, complaints etc. The monitoring tool may be modified later on as per the recommendations of the EDCIL/Customer. The reports generated from the monitoring tool will be used to analyse the outcome of the project.</p> <p>The Project Monitoring Dashboard should be geo-mapped and should record the following:</p> <ul style="list-style-type: none"> g. Information regarding subject wise delivery of LIVE classes from the teaching end. h. Real time information about the number of virtual smart classrooms working/not working, issues at virtual smart classrooms etc. i. Total number of students benefitted class wise. Various types of reports school wise, block wise, district wise, state-wise etc. j. Status of hardware installation, performance and maintenance by the bidder. k. Category wise and class wise beneficiaries. l. The school wise number of teachers trained <p>The monitoring tool should generate reports regarding the outcome reflecting shortcomings, achievement as well as suggestions for improvement.</p> <p>B. Content Management Distribution System</p> <p>CMDS is a platform independent solution to host and distribute diverse types of content. Provides built in capability to analyse the pattern of consumptions, the major functions should include: -</p> <ul style="list-style-type: none"> • Upload institution details with unique identification codes and upload student information (options to add data as individual entry and bulk information upload) • Upload Any Content - Upload PDFs, PPTs, Videos, Tests, question sets, etc. • Create Structured Courses - Create sub-heads and list content in sequence for step-by-step learning • Design Learning Path - Set rule sets to lead the students through a learning

path and Set Quiz based check points to assess his learning

- Learner Insight - See learners live progress and assess performance at every level, topic and learning object
- Course Insight - Get participation insight, completion levels, and more
- Emails and Reminders - Send new announcements emails and reminders to ensure high participation and completion
- Tag content according to the Subject/Topic/Level
- Take complete Control of Content - Make content visible to select Class / Section, Create Sequential Learning Plan and Generate Tests

C. Student and Teacher Apps

- Student App:
 1. Students should download this app from Google Play Store and can register with the mobile number and details - name, class, school, and locality.
 2. 24X7 online to watch videos having video library for all the classes.
 3. During the session should be able to send answers to MCQs in-app. This should help capturing program participation analytics, active districts, etc.
 - Multiple choice question for classroom teaching – Ask a multiple choice question LIVE on-screen or offline on whiteboard
 - MCQ for class test to students
 4. Students 'raise a query' with audio/image/text which automatically gets routed to available teacher.
 5. It shall also be possible to access the homework files uploaded by teachers. Students with no access to smartphone, will be provided with an SMS link to homework files, which they can access even if app is not there using data is available.
- Teacher App:
 1. Teacher can view student performance analytics in app
 2. Check the list of queries
 3. Teacher shall check the call history
 4. Teacher shall check the reference content material
 5. Teacher shall check the time-table for the week
 6. Teacher shall check the reports of students from the same school
 7. A teacher shall be able to send messages to students of the same school, to all or selectively
 8. Teacher receives details of students who raise query in the app or call from any mobile/landline. Teacher makes the call from the app and speaks to the student.
 - After the call, teacher marks the type/quality of query
 - If the query is not resolved, marks the reason
 9. Every day teachers will be notified of the day's session details in the app. This will help them prepare themselves in advance.
 10. Teachers can upload assignments for class students
 11. Teachers can view student reports - MCQ responses
 12. Teachers view student attendance & participation and can make necessary follow-up.

Note:

- ***The bidder should quote the price inclusive of design, delivery, installation, commissioning, testing, functioning and onsite warranty of 3 years at the end client location for all the items of this solution in the financial bid.***
- ***The licenses for software/hardware as required shall be obtained by the selected bidder in the name of the end client/EdCIL.***

5.17 Solution II. Virtual classroom solution set up Internet based model:

Scope of Solution II:

Background:

This solution has been created with two goals in mind:

- Providing a simple centralized online resource that will allow teachers to easily access maximum number of classrooms to deliver the online lecture and simulations for use as a teaching aid.
- To give teachers a way to easily distribute these simulations among their students while allowing them to evaluate the student's understanding of the simulations via content, quizzes and homework.
- EdCIL does the project management, consultancy services and value addition in the digital domain for the Govt. departments.

Vision and expected Functionality of Solution:

Vision Statement:

The goal of the solution is to create the best learning opportunities for maximum number of students, no matter where they are located. This solution should be able to enable remote learning via virtual classrooms and should allow remote learning options, including content management. This solution shall be able to save your time, keeps you organized and shall help you to communicate with students over a complete virtual classroom set up. The project will be a web-based education tool that provides teachers and students in school a centralized database of educational simulations. This solution shall enable teachers to create "classes," search and choose simulations for their class, and edit the simulations all from a web browser. This solution shall enable students to join the classes and view lectures that the teachers deliver.

White Labelling: The bidder should be able to white label the solution for EDCIL/End customer.

Functionality of the server:

A. Features of Virtual E-Learning Portal:

- **Easy IT Administration-** The solution should be easy to deploy, use, and manage, requiring minimal IT support. With a few clicks, IT administrators should be able to set up new devices and manage policies across an entire school or University. Easy user and Course management should make the virtual learning easy and ensures all users to stay up to date.
- **Tools For Collaboration & Content Management-** This Solution should give teachers more time to engage in teaching students, and less time in managing the

learning platform. The solution should do seamless video conferencing along with real time feedback on student work make virtual classrooms more engaging and help students and faculty be more efficient and productive.

- **Secure, Affordable And Easy To Use-** Solution should works on WebRTC or similar platform with AES encryption ensuring maximum security to user data. Further it should be extremely easy to use, budget friendly and customizable to suit every requirement.
- **Seamless Two Way Audio-Video Connectivity-** The Solution should ensure seamless lecture delivery from the Teacher to all the students connected from various different locations (including remote location) with crystal clear Audio-Visual Experience. All the Students who logged into the classroom, should be able to see the live Video of the teacher delivering the lecture. If any student has a doubt, he can click the Q & A button and also choose to "Raise Hand" With this option student can clarify his doubts and get attention to himself without disturbing the entire classroom session. The teacher can choose to answer queries immediately or at the end of the session. Teacher can go through the Q & A session and publish the videos of students facing the doubts and clarify their doubts. This doubt clearing session can be kept visible & audible to all the students logged in to the classroom.
- **Custom Content Creation-** The solution should be able to upload custom designed content with Topics and sub-topics along with the Video enablement of the Teacher & Students. The solution should be able to provide a detailed platform for all the teachers to upload their content course-wise & topic-wise.
- **Live Attendance-** Participant Attendance is the most important requirement of any faculty / trainer taking a live session. This solution should be equipped with Live Attendance system wherein the reports can be generated after every class and can be referred to for marking the student present/absent in the classroom.
- **Live Test and Question-Answer Sessions-** Attentiveness of the Participants is one of the most important aspects of any live training/lecture delivery session. Hence, this solution should equipped with a Live Test /Questionnaire Module which can be pre-designed & uploaded by the faculty before every lecture and can be floated live after every lecture session with a multiple-choice questions within a fixed time frame. Every student should be able to attempt the live test after every lecture. The test reports should be generated as soon as the student completes the test and should be published to every single student for their reference. The faculty should also be able to download this report for their own reference.

B. Features of Recording & Streaming Solution:

- **Recording-** The solution should be able to Capture your online webinar/lecture event/session with one click. Should be able ideal for Creating reference material for internal use sharing with those registrants who missed the live event. It Should be easy to use the recorded video files and make a sales or training presentation out of it, if required.
- **Streaming-** This solution should be able to Stream the online class Live on YouTube or Facebook or any other medium (required by EdCIL).

C. Functionality of Studio Setup Hardware:

- **Digital E Podium-** The Digital Podium should be able to deliver unmatched EdCIL/DES/Virtual Classroom Solution/2020/02

Interactivity among various digital devices with its slim design podium which should allow us to communicate with our audiences more effectively.

- **Share Board:** With the help of this the teacher can share the digital notes with the students through any medium in any format.
- **Full HD PTZ Camera for Faculty-** The Pant/Tilt and Zoom features that should be controlled with a remote, these cameras should have a coverage facility and its interactivity devices. The camera should be able to capturing every minute detail including the facial expressions and gestures of the faculty.
- **Display Unit for Videos-** This display shall be used by the teacher for showing the videos of the subject.
- **Display for Presentation-** The interactive display should be able to bring more collaboration and student engagement in the classroom. This should be able to Turn into digital whiteboard and should be able to share files in one touch and user should be able to use the software all with fingers and the press of a buttons.
- **Generic Codec-** Overall classroom management will be controlled by this device and will require uninterrupted with best processing power. This will enable multiple screen connected at the same time.

Scope of Bidder:

- Site Survey, Supply, Installation, Integration, Commissioning And Warranty/ Maintenance of Equipment At Specified Locations.
- Survey of Site and Preparation of Layout Document: The selected bidder shall do the survey of the site and prepare a detailed Layout Document. Selected bidder shall take into consideration the following parameters for preparation of layout document.
- Details of Studio/Classroom civil infrastructure including following
 - Length, Breadth and Height of the theatre, details on windows, platforms/ dais, seating capacity and seating plan of the theatre.
 - Existing facilities for electrical inputs, cooling etc. in the theatre.
 - Proposed changes in the civil infrastructure (if any, to be finalized after discussions with the department).
 - Proposed requirements of Tube lights, type of light, type of paint, type of curtains etc. to ensure good video conferencing.
- Details of the equipment to be installed with their location in the Studio/Classroom as finalized after the site assessment.

Scope of Supply of Equipment:-

The selected bidder, when awarded the work order shall:

- Supply all the items and peripherals (including remote, cables, conductors etc.) as per Work Order and meeting specifications and provide onsite 3 Years comprehensive warranty of all the items supplied and installed for which the work order has been issued to the bidder.
- Supply any passive components / equipment (like Screws, clamps, fasteners, ties, anchors, supports, grounding strips, wires, termination kits etc.) required for completing installation.

Scope of Installation, Integration and Commissioning of Equipments:

The selected bidder, when awarded the work order shall:

- Carry out fixing and installing the electrical points including switching panels, etc. for Audio, video, and VC and LAN systems.

- Carry out civil work related to installation of display, audio, VC Systems and cabling.
- Lay conduits, cables and conductors and dig and cut off flooring (wooden & tiles etc.), wall, panels, central table for faceplates/floor boxes etc. in coordination with user departments.
- Install, integrate and commission all the equipment and peripherals at the Classrooms as finalized in the layout. All the display units shall be wall/ ceiling mounted with proper support and with protective wooden cabinets
- Install all equipment and tools required for the installation of the system in a conscientious manner as per the OEM guidelines and best industry practices. The system shall be subjected to inspection at various stages. Local regulation/ codes should be followed at all times. The Bidder should follow all Safety Regulations and practices.
- Program and configure the Virtual Classroom systems properly so that it can be operated by the departmental staff involving minimum efforts.
- Demonstrate complete functionalities of the installed system to the user Department and then obtain installation and commissioning certificate (Sign-Off) for all the locations from the nodal/designated officer.
- After acceptance of installation and commissioning certificate by EdCIL, the Virtual Classroom would be deemed to have been commissioned. All the costs towards testing & commissioning to be borne by the successful bidder. The warranty of 3 years will start from the date of commissioning.
- Not cause any damage to premises and property and will perform restoration if any damage occurs. Cutting etc. will be back-filled and restored to the original condition immediately. The bidder shall plug conduits and entrance holes where the cabling has been installed with suitable sealing material.

Onsite Maintenance and Support –

The selected bidder shall:

- Provide 3 years onsite comprehensive OEM warranty for all the equipment as per the “Warranty” clause Terms and Conditions” of the RFP document.
- Provide 3 years onsite comprehensive warranty with spare parts for all equipment supplied and installed under this project and to maintain the required SLA for entire project period from the successful commissioning of the Smart Classroom.

Comprehensive Onsite Maintenance will include the following:

- Provide onsite support services like Reinstallation/ reconfiguration of equipment, uploading & installing firmware/ upgrades
- Resolve the complaints / User Department lodge through Phone/ EMail. The selected bidder shall assign a ticket number for the problem and resolve the problem within the service level as given in this RFP and after rectifying the said complaints, update the resolution/call-closure date and time on the helpdesk.
- Providing quarterly maintenance reports, as per format(s) to be prepared by selected bidder and approved by EdCIL.

Bill of Material:

Server Room:

S. No.	Items	Qty.
1	Virtual E-Learning portal	1
2	Recording and Streaming server central recording facility	1

Studio:

S. No.	Items	Qty.
1.	Digital E Podium With Visualizer and controller	1
2.	Share Board	1
3.	Wall Mount Speakers	2
4.	Full HD PTZ Camera for Faculty with tracking facility (optical zoom 20x)	1
5.	Teacher Studio Control Device	1
6.	Codec Workstation Controller	1
7	Headphone with Mic	1
8	Acoustic, Fabric above Acoustics with Air Condition	1
9.	Interactive Panel with OPS (65 Inches)	1
10.	Interactive Panel with OPS (75 Inches)	1
11.	Interactive Panel with OPS (86 Inches)	1
12.	Camera Cable	2
13.	HDMI Cable	2
14.	Speaker Cable	50
15.	Control Cable	100
16.	Optical Cable USB 3.0	50
17.	Electrical Networking and studio cabling including all accessories	1 Set
18.	Capacity Building of the Teachers	1 Set

Virtual Classroom:

S. No.	Items	Qty.
1.	Full HD PTZ Camera for students (optical zoom 20x)	1
2.	Lecturn	1
3.	Interactive pen and pad	1
4.	Projector with mounting kit	1
5.	Projector screen	1
6.	Sine wave UPS with external batteries	1
7	Student Device	1
8	Storage Facility	1
9.	Air Conditioner	1
10.	HD Web cam video camera	1
11.	Fixed wide angled camera with embedded microphone for classroom	1
12.	Interactive 13.3 Touch Facilitator Notebook	1
13.	Electrical Networking and Virtual classroom cabling including all accessories	1 Set
14.	Capacity Building of the Teachers	1 Set

Detailed Specifications:

S. No	Items with Minimum Specifications	
Server Room:		
1.	Virtual E-Learning Portal	
S.No	Virtual E Learning Portal	Specifications
1	MCU	100 Ports FHD 1080p 30 port MCU. MCU Must be a true MCU to create multiple conference Rooms. It should be supplied with Backup MCU so that in case the main MCU fails, the backup MCU can be made up and running in few minutes. This 100 ports should be flexible to connect any location at anytime and not limited to only particular location. MCU is future scalable upto 300 FHD 1080p 30 MCU by activating Software licences without Change in hardware.
2	Firewall traversal	System should support firewall traversal for secured calling through internet and Intranet right from day 1
3	H.323/SIP Interconnect	The Solution should have capability to connect at least 100 Full High Definition IP Based H.323/SIP Hardware Video Conference devices at the same time at HD Resolution and can be scalable upto minimum 300 ports .
4	Desktop & Mobile connectivity	Solution should have mobile user gateway client for Windows desktop, Android, IOS Mobile devices right from day 1 and should offer minimum 50000 registered users from Day 1. Easy connectivity with MCU to be a part of video call. This solution should be scalable.
5	Recording	MCU appliance should have either inbuilt video recording capability or offer external Video Recording Solution with the capacity to Record Minimum 50 Concurrent Point to Point full HD 1080p30 Seccessions right from Day 1 or Minimum 33 numbers 3 Party Video Conference sessions. MCU capability port will not be reduced due to recording. The solution should be supplied with minimum of 2 TB storage for keeping the recordings.
6	Data Collaboration	Solution should have capability to share Data in Multipoint to Multipoint conference through MCU
7	Audio Codec	Solution should have G.711, G.722 , G.723 , GIPS, OR equivalent/better Audio Codec for good quality Audio communication at lower bandwidth
8	Video Codec	Solution should have H.264AVC /H.265 or better Video Codec for good video quality at lower bandwidth. It should also support mandatorily ITU Standard based H.264 and H.263 in order to ensure smooth interoperability between different systems.
9	Low Bandwidth Connectivity	It should support low bandwidth connectivity for the remote locations. It should be able to conduct VC sessions at bandwidths lower than 100 kbps. A POC may be asked for the same.
10	Multi Camera support	MCU should support Multiple camera inputs at host level minimum of 4 cameras and all cameras should be visible at all the connected locations.
11	Security	a) System should be 128-bit Fully Encrypted Video Conference Meetings to ensure encrypted data flows between

		endpoint & MCU. b) Solution should have Lock Conference feature so that once the conference is locked even if someone knows the credentials cannot enter the Video conference secession.
12.	Others	<ul style="list-style-type: none"> Inbuilt Presentation and Desktop sharing Annotation

2.	Recording and Streaming Server Central Recording Facility		
	S.No	Parameter	Specifications
	1	Unified	H.264 streaming into a single workflow that lets you stream to any screen simultaneously
	2	Management	management and administrative functionality with standards-based programming interfaces, comprehensive logging and compatibility with many off-the-shelf log analysis tools and management systems
	3	Scalable	It should be scalable to deliver up to 10Gbps from a single server
	4	Platform	freedom to run on the OS of your choice – Windows®, all variants of Linux™.
	5	VOD	Stream Video On Demand adaptive bitrate
	6	Others	Should have 2 TB Storage space or better Should support minimum 300 users Streaming or better Stream Live Adaptive Bitrate Content

Studio:

1.	<p>Digital E Podium With Visualizer and controller</p> <p>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 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 visualizer is in use and not in use. At the time of using the Visualizer, drawer can be opened, and Visualizer 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.</p> <p>Technical Features of podium:</p> <ul style="list-style-type: none"> Display screen size (diagonal): 54.61 cm (21.5") or larger Display area (metric): 509.184 x 286.416 mm or better Aspect ratio: 16:9 Resolution (native): 1920 x 1080 @ 60 Hz or better Brightness 250 cd/m² or better Contrast ratio 1000:1 static; 500000:1 dynamic View angle 178° horizontal, 178° vertical Response time: 5 ms on/off or better <p>Display Input Type: It should have at least:</p> <ul style="list-style-type: none"> 1 VGA; 1 HDMI 1.4 (with HDCP support); 1 DisplayPort 1.2 (with HDCP support) 3 USB 3.0 (one upstream, two downstream) <p>Visualizer</p> <ul style="list-style-type: none"> Total Pixels: Min. 5 Mega Pixel Zoom: Minimum 12x Optical Zoom, 15x Digital Zoom
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- Input ports: It should have at least 1 HDMI-IN, 1VGA-IN
- Output ports: It should have minimum 1VGA-OUT, 1 HDMI-OUT
- It should Supports 3840 x 2160 Resolution
- Frame Rate: Min. 30 FPS
- Remote Control: Required

Controller:

- **Features:** Should have Power On/Off, Projector/Display On/Off, Volume Control, Mute, External PC input, VGA, Touch pad keys.
- **LAN Connection:** RJ 45 LAN Port at the panel to connect network.
- **Display:** Selection switch to toggle between various sources for the output on the projection screen through a touch panel.

Features of podium:

- It should have Wireless Lapel and Handheld Microphone.
- It should have Wired Gooseneck Microphone
- It should have 100 Watts or better Amplifier.
- Built-in highly sensitive Interactive Panel with adjustable motorized tilt & a mechanism to make the Panel stable so that it does not shake
- It should have Central Control Unit with inbuilt at least 5 nos. RS-232 Ports, at least 2 nos. hybrid IR/RS-232 ports, at least 10 numbers high voltage relays, at least 1 RJ-45 Port.
- It should be supplied with 7inches or more touch screen panel for control purpose.
- It should have Laptop interface with HDMI connectivity for Laptop, Power Socket, 1 nos. USB 3.0, 4 nos. USB 2.0 Hub.
- It should have Digital Signal Processor with inbuilt Acoustic Echo Cancellation.

2. Share Board:

Share board Technology for creating Digital Notes on White Board
 The digital notes can be shared with the students through any medium in any format.
 Share a real-time feed of your whiteboard with remote attendees. Camera installs above whiteboard and wired to the control pad.
 Connectivity: Wi-Fi (802.11 b/n/g) via access point generated by device
 Maximum whiteboard size supported :6ft x 4 ft
 Client application options: Web browser-based application
 Certifications: CE Mark, EMC, FCC, RoHS, EU, UL

3. Wall mount speaker:

- 50 Watts Speaker or better
- Power Requirements: 220-240 V AC 50/60 Hz

4. Full HD PTZ Camera for Faculty with Tracking facility (Optical Zoom 20X)

S.N	Parameter	Specifications
0		
1	Image Sensor	The camera should have a 1/2.8" Exmor camera sensor or better
2	Effective Pixels	The camera should be 2 megapixel or better
3	Signal To Noise ratio	The camera should have a s/n >= 50dB or better
4	Minimum Illumination	The camera should have a minimum Illumination of .5 Lux.
5	Field of View	The camera should have a 59.5 or more degrees Wide field of view and 3.2 or more degrees tele field of view.
6	Zoom	The camera should have an optical Zoom of 20X or more and digital zoom of 12X or more
7	Pan/Tilt Range	The camera should have a PAN range of -170° to + 170° or more and Tilt range of -30° to +30° or more.
8	Presets	The camera should have at least 65 presets

	9	Video Output	The camera should have Video Output through USB 3.0 for Unified devices, Digital DVI-D Port and 3G-SDI port.
	10	Control	The Camera should have RS-232 control port
	11	Resolutions Support	The camera should support resolutions of 1080p/60,1080p/50,1080p/30,1080p/25, 720p/60,720p/50, 720p/30, 720p/25 or better.
	Panoramic Camera		
	13	Image Sensor	The camera should be a 1/2.8" CMOS sensor or better
	14	Effective Pixels	The camera should be 2 megapixel or better
	5	White Balance	It should have auto white balance
	16	Exposure	It should support auto exposure.
	17	Field of View	It should have a field of view of Horizontal: 86°; Vertical: 52° or better
	18	Accessories	The system should come up with all the accessories, like control cables, power cables, tracking software, hardware, setup, etc.
	Others		
	19	RJ-45 Port	It should have RJ-45 port.
	20	RJ-45 Port	It should support 128 Kbps-8192Kbps or better.
	21	Protocols	It should support TCP, HTTP, RTSP, RTMP, ONVIF, UDP or more.
	22	Video Compression	It should support H.265/.264/MJPEG or better compression.
	23	Teacher tracking function	It should track the target even if the target is stationary for a long time. Also it should lock the tracking target without being disturbed by other moving targets or the contents of the projector. It should support self-adaptive teacher height function.
5.	Teacher Studio Control Device <ul style="list-style-type: none"> • Intel® Core™ i7 10th Generation/AMD R7 10th Generation • Minimum 8GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable • Graphic card – Intel UHD Graphics/AMD Radeon • Minimum 512 GB SSD • FHD Display 14-inch diagonal • Minimum 2 USB Ports 3.1, 1 Type C Port, 1 HDMI Port, 1 Headphone/Microphone Port • Windows 10 pro 64 bit • Weight up to 1.6kg • Spill Resistant Keyboard with backlit function • Battery 3 Cell 45 WHR • Atleast 50% charging in 30 minutes • Certification UL, FCC Compliance, EPEAT Silver or Higher , Energy Star, MIL STD 810 G • Hardware TPM Security Chip and security lock • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery from OEM 		
6.	Codec Workstation Controller <ul style="list-style-type: none"> • Intel Core i7 9th Generation/or higher CPU • Minimum 16 GB RAM, • Intel C246 Chipset • Should have Motherboard with Integrated Gigabit Ethernet, Audio and USB ports. • Nvidia Quadro P400 2GB or Higher Graphic card • Minimum 256GB SSD for Windows 10 Professional 64 bit or Higher • Minimum 1 TB Enterprise SATA 6 Gbps Hard disk for Data or Higher. • Same OEM-Keyboard, Mouse • Should have option to be mounted behind TFT Chassis • Power Supply – not more than 150W 		

	<ul style="list-style-type: none"> • sleek and easy to move not more than 5L volume • Same OEM -21.5" FHD Professional Display • Warranty – 3 years from OEM with Display • Certifications – UL, FCC Compliance, EPEAT Silver or Higher, Energy Star 																														
7.	<p>Headphone with Mic</p> <ul style="list-style-type: none"> • Mic must be inbuilt in the headphone • Speaker: 27mm Dynamic Tape • Impedance: 32ohms • Max. Input Power: 100mw • Microphone: Condenser Type, • Connector: 3.5mm Stereo Plugx2 • Polar Pattern : Omni – Directional, • Frequency : 50Hz – 15,000Hz 																														
8.	<p>Acoustic, Fabric above Acoustics with Air Condition (Minimum 500 Sqft)</p> <ul style="list-style-type: none"> • Provision & fixing of pre-fabricated acoustic panels for the walls inside the studio topped with suitable fabric giving an aesthetic finish <table border="1"> <tr> <td>1</td> <td>Interior</td> <td>With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish</td> </tr> <tr> <td>2</td> <td>Carpet</td> <td>Providing and Fixing Wall to wall</td> </tr> <tr> <td>3</td> <td>Curtain</td> <td>Providing and fixing Curtains with accessories</td> </tr> <tr> <td>4</td> <td>Door</td> <td>Acoustic Doors with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.</td> </tr> <tr> <td>5</td> <td>Window</td> <td>Provisioning and fixing sound proof window hermitically sealed with Glass</td> </tr> <tr> <td>6</td> <td>Air-Conditioning</td> <td>Air conditioning 3 ACs (1.5 Tons) in the Studio room</td> </tr> <tr> <td>7</td> <td>Reverberation Time</td> <td>As per AV Standards, RT has to be less than one second.</td> </tr> </table>	1	Interior	With Metal Tile Grid and with acoustic False Sealing , fixing of acoustic panels on the walls with aesthetic finish	2	Carpet	Providing and Fixing Wall to wall	3	Curtain	Providing and fixing Curtains with accessories	4	Door	Acoustic Doors with provisioning and fixing panel with vision panel for main door and control room. Provision & fixing of frame and sound proof casement door with multipoint locking system and both side handle with locking arrangement with vision panel for studio main door and control room door.	5	Window	Provisioning and fixing sound proof window hermitically sealed with Glass	6	Air-Conditioning	Air conditioning 3 ACs (1.5 Tons) in the Studio room	7	Reverberation Time	As per AV Standards, RT has to be less than one second.									
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	10	Surface Protection	It should have a 4mm Thick Toughened Glass or better.
	11	Touch Tools	It should support Finger, Stylus or Opaque Objects
	12	RAM and Internal Storage	It should have atleast 2 GB RAM and 16 GB Storage.
	13	Processor	It should have quad core 1.5 GHz or better processor.
	14	Video Inputs	It should have atleast three HDMI version 2.0 ports, one Display Port and one VGA-In
	15	Audio Inputs	It should have atleast one Audio Input port.
	16	Video Outputs	It should have atleast one HDMI or DVI output port.
	17	Built In Platform	It should have inbuilt Android 7.0 or above.
	18	OPS	It should be supplied with inbuilt OPS Intel i5 with B360 Chipset or AMD R5 with B350 Chipset minimum 8GB RAM expandable upto 32 GB, 512 SSD, upto Volume 1.1 litre 65W with minimum 89% efficiency with Mini Form factor
	19	Touch Accuracy	It should have a touch accuracy of +- 1mm or better.
	20	Display Colours	It should be 10 bit or better.
	21	Audio Output	It should have atleast one Audio output port.
	22	Others	It should have atleast two RJ-45 and one RS-232 Port.
	23	USB Ports	It should have atleast 6 USB 2.0 Ports.
	24	Speakers	It should have atleast two 15 watt speakers.
	25	Panel Type	It should be IPS.
	26	Features	It should support Miracast both for Android and iPhone, MAC, Windows. It should support Gesture Eraser. It should support HTML 5 Browser, HTML5. It should support File Manager, Welcome Page
10.	Interactive Panel with OPS (75 Inches)		
	S.No.	Parameter	Specifications
	1	Panel Size	It should be 75 inches or more.
	2	Brightness	It should have a typical brightness of 450 cd/m2 or more
	3	Contrast Ratio	It should have a contrast ratio of 1200:1 or better
	4	Native Resolution	It should have a native resolution of 4K Ultra-HD (3840 x 2160) or more.
	5	Viewing Angle	It should have a viewing angle of (H/V) 178/178 degrees or more
	6	Aspect Ratio	It should have an aspect ratio of 16:9
	7	Backlit Type	It should be D-LED or better
	8	Touch Points	It should be 20 Points Touch or better
	9	Response Time	It should have a response time of less than 8 ms or better.
	10	Surface Protection	It should have a 4mm Thick Toughened Glass or better.
	11	Touch Tools	It should support Finger, Stylus or Opaque Objects
	12	RAM and Internal Storage	It should have atleast 2 GB RAM and 16 GB Storage.

	13	Processor	It should have quad core 1.5 GHz or better processor.
	14	Video Inputs	It should have at least three HDMI version 2.0 ports, one Display Port and one VGA-In
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	16	Video Outputs	It should have at least one HDMI or DVI output port.
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	19	Touch Accuracy	It should have a touch accuracy of +- 1mm or better.
	20	Display Colours	It should be 10 bit or better.
	21	Audio Output	It should have at least one Audio output port.
	22	Others	It should have at least two RJ-45 and one RS-232 Port.
	23	USB Ports	It should have at least 6 USB 2.0 Ports.
	24	Speakers	It should have at least two 15 watt speakers.
	25	Panel Type	It should be IPS.
26	Features	It should support Miracast both for Android and iPhone, MAC, Windows. It should support Gesture Eraser. It should support HTML 5 Browser, HTML5. It should support File Manager, Welcome Page	
11.	Interactive Panel with OPS (86 Inches)		
	S.No.	Parameter	Specifications
	1	Panel Size	It should be 86 inches or more.
	2	Brightness	It should have a typical brightness of 400 cd/m ² or more
	3	Contrast Ratio	It should have a contrast ratio of 1200:1 or better
	4	Native Resolution	It should have a native resolution of 4K Ultra-HD (3840 x 2160) or more.
	5	Viewing Angle	It should have a viewing angle of (H/V) 178/178 degrees or more
	6	Aspect Ratio	It should have an aspect ratio of 16:9
	7	Backlit Type	It should be D-LED or better
	8	Touch Points	It should be 20 Points Touch or better
	9	Response Time	It should have a response time of less than 8 ms or better.
	10	Surface Protection	It should have a 4mm Thick Toughened Glass or better.
	11	Touch Tools	It should support Finger, Stylus or Opaque Objects
	12	RAM and Internal Storage	It should have at least 2 GB RAM and 16 GB Storage.
	13	Processor	It should have quad core 1.5 GHz or better processor.
	14	Video Inputs	It should have at least three HDMI version 2.0 ports, one Display Port and one VGA-In
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	17	Built In Platform	It should have inbuilt Android 7.0 or above.
	18	OPS	It should be supplied with inbuilt OPS Intel i5 with B360 Chipset or AMD R5 with B350 Chipset minimum

			8GB RAM expandable upto 32 GB, 512 SSD, upto Volume 1.1 litre 65W with minimum 89% efficiency with Mini Form factor
	19	Touch Accuracy	It should have a touch accuracy of +- 1mm or better.
	20	Display Colours	It should be 10 bit or better.
	21	Audio Output	It should have atleast one Audio output port.
	22	Others	It should have atleast two RJ-45 and one RS-232 Port.
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12.	Camera Cable		
	<ul style="list-style-type: none"> 10 meters Powered Extension Cable. 		
13.	HDMI Cable		
	<ul style="list-style-type: none"> 15 meters HDMI Cable 		
14.	Speaker Cable		
	<ul style="list-style-type: none"> 18 AWG Speaker cable 		
15.	Control Cable		
	<ul style="list-style-type: none"> 2 Core shielded Control Cable 		
16.	Optical Cable USB 3.0		
	<ul style="list-style-type: none"> SITC of Active optical USB cable which should be 10 meters in length. It should support speeds minimum 4.5 GBPS or above. 		
17.	Electrical Networking and Studio cabling including all accessories		
	<p>Electrical networking for all the components in the studio and earthing as per the specification below.</p> <ul style="list-style-type: none"> Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required. 		
18.	Capacity Building of the Teachers		
	<p>Building the Capacity of the Teachers in a comprehensive manner.</p> <ul style="list-style-type: none"> Basic IT usage of all the studio components. Teaching them how to give lectures in the studio Introduction of Multimedia Content and teach the usage of it. Classroom Management and Soft Skills. Training shall be provided to the batch of 10 trainees. Schedule and scope as per training clause 5.33 		
Virtual Classroom			
1.	Full HD PTZ Camera for students (Optical Zoom 20X)		
	S.No	Parameter	Specifications
	1	Sensor	The camera sensor should be 1/2.7 inch high quality 2MP HD CMOS sensor or better.

	2	White Balance	The camera should have an Option of Auto or Manual White Balance.																					
	3	Gain	The camera should have an auto Gain Control																					
	4	Back Light Compensation	The camera should have a selectable Back-light compensation																					
	5	Noise Reduction	2D & 3D or better																					
	6	S/N ratio	The camera should have a S/N Ratio of >55db.																					
	7	Zoom	The camera should have a 20x optical zoom and 16x digital zoom or better																					
	8	Interface	The camera should have a standard Video Output and should support HDMI and SDI Ports so that Camera can be integrated with standard End Points. Apart from that, It should be supplied with USB 3.0 based Capture card or should have native USB 3.0 support along with HDMI and SDI support so that it can also be connected with Software based VC Solution.																					
	9	Signal Support	The camera should support 1080p@60fps or better																					
	10	Control Port	The camera should have an RS 232 port for Communication																					
	11	Presets	The camera should have at least 150 Position Presets																					
	12	Field Of View	The camera should have 60.7 Degree or better field of view																					
	13	Pan Range	The camera should have a Pan Rotation Angle of -170 degrees to +170 Degrees or better																					
	14	Tilt Range	The camera should have a Tilt Rotation Angle of -30 degrees to + 90 degrees or better																					
	15	Accessory	The camera should be supplied with IR remote control as an included accessory. Along with ceiling mount kit.																					
2.	Lecturn <ul style="list-style-type: none"> • Microphone: One gooseneck microphone and one lamp • Input / Output: Minimum 1-line Input, 2 MIC Input, 1-line output • Power: 24V phantom power or better • Provision: Laptop Stand 																							
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		Smooth surface pen tablet best suited for design with Active Area: 216 x 135 mm 8.5 inches x 5.3 inches) Smooth and noiseless high quality touch sensitive tablet and digital pen.																						
2	Technology Pressure	Level of 1024 (Pen tip only)																						
3	Electromagnetic resonance	100 lines/millimeter (2540 lpi)																						
4	Reading speed:	133pps																						
5	Compatible with Open Source Connectivity	USB																						
4.	Projector with mounting kit <ul style="list-style-type: none"> • 5000 Lumens Projector or better • WXGA Resolution • Display Technology : LCD / DLP/ LED Technology 																							

	<ul style="list-style-type: none"> • Contrast Ratio 4000:1 or above • Image Size : 60- 200 inch • Projection Distance : 0.5- 2.5 m • Computer Compatibility : UXGA, SXGA +,SXGA ,XGA, SVGA • Screen Material : Manual Screen with Auto locking facility, • Aspect ratio : 16:9 • Life: 4000 Hours or more • RS232 port • With both options ceiling mount and wall mount
5.	Projection Screen <ul style="list-style-type: none"> • Minimum 109 Inches • 16:10 Format • Matt Finish
6.	Sine wave UPS with external batteries: <ul style="list-style-type: none"> • Capacity : 2 KVA • Cooling : Speed control forced air • Protection : Short Circuit, Over load, Surge load, Battery low voltage, Battery high voltage, Battery Reverse connection, Over Temperature • Generic specifications : Should have Battery stand
7	Student Device <ul style="list-style-type: none"> • Intel® Core™ i5 10th Generation/AMD R5 Latest Generation. • Minimum 8GB RAM expandable to 32 GB with 2 DIMM Slots Customer Replaceable, • Minimum 512 GB SSD, • FHD Display 14-inch diagonal • Minimum 3 USB Ports with at least 2 USB 3.1 and 1 HDMI, 1 Type C Port • Windows 10 pro 64 bit • Weight up to 1.6kg • Battery with 1000 charging cycles supporting 90% charge in 90 mins • Certification UL, FCC Compliance, EPEAT SILVER, Energy Star,MIL STD 810 G • Hardware TPM Security Chip and security lock • Integrated Graphics Intel/AMD • Body – Metallic/Aluminium • 3 Year Comprehensive Warranty including battery from OEM
8	Storage Facility A lock and key steel almirah to keep all the equipments and laptop of the virtual classroom safe when not in use. The entire system shall be placed in a single almirah with floor bearing and floor supported to keep it strong and stable.
9.	Air Conditioning <ul style="list-style-type: none"> • 1.5 Ton Split AC • IDU Noise Level < 58 dB • To Maintain temperature 18–27 degree • Minimum 3 star Rating
10.	HD Web Cam Video Camera <ul style="list-style-type: none"> • Full HD 1080p video, H.264 hardware encoding support • Good optics with Autofocus • Low-light correction support • USB 2.0with 84 degree or better wide viewing • Tripod-ready universal clip suitable for laptops or LCD • Built-in dual/stereo mics with automatic noise reduction
11.	Fixed Wide-Angled Camera with Embedded Microphone for classroom <ul style="list-style-type: none"> • View: 90-degree or greater • Focus: Autofocus • Resolution: MAIN STREAM : 1920*1080@25FPS/30FPS, 1280*960@25FPS/30FPS, CIF@25FPS/30FPS • Video Encoding: H.264 • Image Adjustment : Sharpness, Brightness, Saturation, Contrast Adjustable • Microphone input: In-built

	<ul style="list-style-type: none"> Power Input : AC/DC (in case of DC, AC to DC converter should be included)- Standard Indian type plug to be used, in case of any other type, a converter to be supplied with Indian type plug 2pin or 3 pin plug <p>General Specifications :</p> <ul style="list-style-type: none"> LED to confirm video streaming Standard tripod thread Camera mount- Table/wall Security slot
12.	<p>Interactive 13.3 Touch Facilitator Notebook</p> <ul style="list-style-type: none"> It should be 360-degree convertible devices Intel® Core™ i5 10TH Generation/AMD R5 Latest Generation Minimum 8GB DDR4 SRAM expandable to 16 GB with 2 DIMM Slots Customer Replaceable. Graphic card – Intel UHD Graphics/Amd Radeon Minimum 512 GB SSD Display 13.3” FHD IPS Touch Screen Minimum 2 USB Ports 3.1, 1 Type C Port, 1 HDMI Port, 1 Headphone/Microphone Port Windows 10 pro 64 bit Weight up to 1.5kg Spill Resistant Keyboard with backlit function Battery 3 Cell 45 WHr Atleast 50% charging in 30 minutes Certification UL, FCC Compliance, EPEAT Silver or Higher, Energy Star, MIL STD 810 G TPM Security Chip Body – Metallic/Aluminium 3 Year Comprehensive Warranty including battery from OEM
13.	<p>Electrical Networking and Virtual classroom cabling including all accessories</p> <p>Electrical networking for all the components in the classroom and earthing as per the specification below.</p> <ul style="list-style-type: none"> Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 4feet below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, alternate layers of salt and coke/charcoal, testing of earth resistance as required.
14.	<p>Capacity Building of the Teachers - Building the Capacity of the Teachers in a comprehensive manner.</p> <ul style="list-style-type: none"> Basic IT usage of all the virtual classroom’s components. Teaching them how to connect with the studio and main interaction center. Introduction of Multimedia Content and teach the usage of it. Main/sub Interactive centre Management and Soft Skills. Training shall be provided to a batch of 25 trainees. Schedule and scope as per training clause 5.33

Note:

- The bidder should quote the price inclusive of design, delivery, installation, commissioning, testing, functioning and onsite warranty of 3 years at the end client location for all the items of this solution in the financial bid.**
- The licenses for software/hardware as required shall be obtained by the selected bidder in the name of the end client/EdCIL.**

Terms and Conditions for both the solutions

The bidder can bid for either one solution or for both the solutions. Bidder should match with the specs provided in the solution.

5.18. App Development:

As a part of digital India initiative, the bidder need to develop and maintain a mobile app for browsing content by the registered users for both the solutions . This app should have simple intuitive interface and compatible with Android. This will help in after school study for the students and allow them access to the curriculum in the scenario when the school is unable to conduct physical live classes.

The bidder need to white label the app with the name of EdCIL/ End Client (As per the requirement).

For both the solutions, the L1 bidder need to develop the app for proposed solutions with no extra cost.

How students can access the app:

Download & Registration:

Students can download this app from Google Play Store and register with the mobile number and details - name, class, school, and locality.

Features:

- 24X7 online channel to watch LIVE streaming videos from the studio.
- Students can access to the recorded videos of the video library.
- Mark attendance during lectures.
- During the session send answers to MCQs in-app. This helps capturing program participation analytics, active districts, etc.
- Students 'raise a query' with audio/image/text which automatically gets routed to available teacher.
- Provides students a seamless learning experience.
- Teachers to administer tests, give assignments.
- Allows real time interaction between students and teachers.
- Helps in evaluation of student's performance in real-time.
- Allows reporting of a student's progress to the stake-holders.
- Allows communication between stake-holders.
- Students should also be to access the homework files uploaded by teachers.
- Student shall be able to upload the answers/response to homework file.
- Students with no access to smartphone, will be provided with an SMS link to homework files, which they can access even if 2G data is available.
- Student shall be able to give response on MCQ in real-time.
- There will be scope of further expansion of additional components as and when required.

5.19 Conditions for the IT related Hardware proposed for the Virtual classroom solution:

- I. The IT related Hardware supplied for the Virtual classroom solution under the contract must be brand new and in good working condition & should comply with the minimum specifications given in this Tender Document, although bidder is free to provide higher configurations as well.

- II. The selected bidder shall have to provide a detailed Bill of Material (BOM) with model numbers of each and every hardware along with the bid.
- III. The successful Bidder shall submit Satisfactory Quality Check Pass Reports from the OEM(s) for 100% of the equipment being supplied prior to offering them for pre-dispatch inspection.
- IV. Origin certificate for the hardware items.

5.20 Insurance & Transportation

- I. The selected Bidder shall be responsible for acquiring comprehensive insurance including transit insurance, liability insurance and any other insurance as required for all the equipment till the delivery, installation and commissioning at the respective end client location/school level (whichever applicable).
- II. For delivery of goods at the end clients location, the insurance should be obtained by the Supplier in an amount equal to 110% of the value of the goods from "supplier location to end client location" (final destinations) on "All Risks" basis including War Risks and Strikes. The insurance should be valid for a period of not less than 3 months after the completion of installation and commissioning. If orders placed on CIF/CIP basis, the insurance should be up to End Client place
- III. The Supplier should make all arrangements towards safe and complete delivery at End Clients Location. Such responsibility on part of the supplier will include taking care of insurance, freight, octroi, state level permits etc. as applicable.
- IV. The supplier should also take care of transit insurance, comprehensive insurance or any other insurance as required which may have direct bearing on the delivery of the items / equipments at End Clients location.
- V. It is the total responsibility of supplier to complete all formalities to transit of goods from the place of dispatch to End Clients Location.
- VI. The bidder should ensure that no person can engage in the business of a common carrier unless he has granted a certificate of registration to do so for supply of items at End Clients Location.
- VII. The transportation of goods through unregistered common carrier is illegal. The bidder should ensure to comply the carriage by latest Road Act and any other relevant.
- VIII. The supplier will keep EdCIL informed about various stages of deliveries & installation.
- IX. All costs related to insurance shall be borne by the selected Bidder for goods supplied under the Agreement against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery etc. A copy of Insurance Certificate should be provided to EdCIL.

5.21 Unloading and Unpacking:

Unless specified otherwise in the purchase order, Unloading and storage of the same at the designated place should be undertaken by the successful bidder. The Unpacking of the materials should also be arranged by successful bidder.

5.22 Inspection and Tests

- I. The successful Bidder shall facilitate and make available a random 20% sample of each equipment type being supplied by them for a Pre-dispatch Inspection (PDI) by a committee comprising of EdCIL and end client. The PDI will be a key requirement prior to shipment of the equipment. As part of the preparation for PDI, the successful Bidder will provide to EdCIL PDI preparation report.
- II. In the event of the hardware and software failing to pass the PDI, as per the specifications given, a period not exceeding 3 calendar days will be given to the selected Bidder to rectify the failure and clear the inspection, failing which, EdCIL reserves the right to cancel the Purchase Order and levy appropriate penalties in

- addition to the Liquidated Damages. EdCIL/client will not be responsible for any costs associated with such rejection. The bidder will be responsible for all equipment supplied till they are delivered and commissioned at the designated location/end client location.
- III. Additionally, the bidder shall replace the complete lot of equipment belonging to an equipment type, if more than 25% of the sample size for the equipment type are found defective during the PDI. If the lots for two consecutive types of equipment are rejected, the entire shipment of equipment by the manufacturer shall stand rejected and shall have to be replaced by the selected Bidder with a fresh batch of equipment for shipment and related PDI. Any cost impacts of rejection at any stage shall be borne by the Bidder. If the complete shipment is rejected, EdCIL reserves the right to cancel the Purchase Order and levy penalties in addition to the Liquidated Damages. All penalty calculation are explained in detail in SLA.

5.23 Delivery of all Equipments:

- I. Delivery, Installation and commissioning of all the IT related Hardware proposed for the Virtual classroom solution at the school level or the desired location should be made within a maximum of 90 calendar days from the date of placement of purchase order.
- II. The successful bidder to provide absolute supply and Commissioning schedule within 7 days from the receipt of Purchase Order.
- III. Within 24 hours of dispatch, the supplier should notify the EdCIL by cable/ telex/ fax/ e-mail the full details of the shipment.
- IV. Till the EdCIL/end client takes over/ receives the equipment/ items, the supplier should be responsible to keep the same in safe custody and the charges (if any) to be borne by the successful bidder.

5.24 Installation and Commissioning of all Equipments:

- I. As part of commissioning of the delivered equipment, the selected Bidder shall depute its technically qualified representative(s) to facilitate the conduct of inspection of 100% of the delivered quantity in presence of the EdCIL Official(s) and End Client (s), if required. This inspection shall start immediately after delivery of the equipments at the centralized location.
- II. After completion of the inspection, all the equipment shall be repackaged. Rejected equipment if any shall be returned back to the authorized representative of the selected Bidder. The numbers of such rejected equipment shall be struck off from the Delivery Receipt/Acceptance Receipt and from the Invoice claimed by the bidder.
- III. The equipment to be commissioned for a specific school shall be decided by EdCIL and End client. The power supply and internet connectivity for commissioning will be arranged by End Client. Until the equipment are handed over to respective school authorities/end client location, selected bidder will be solely responsible for the security of all the equipment.
- IV. The selected bidder shall carry out for delivery of all the IT related Hardware for the Virtual classroom to the school level/end client location/location provided by EdCIL and its subsequent installation in the classrooms.

5.25 Installation & Commissioning and Final Acceptance Sign off from End Client

Against the commissioning of all the IT related hardware in each school/interaction facility/ studio/end client location, the selected Bidder shall get a Installation and Commissioning Sign-off receipt from the school, interaction facility, studio and end

client. In all likelihood, the Installation and Commissioning Sign-off receipt for a school, Interaction facility, studio shall be provided to the selected Bidder on the same day of successful commissioning of the equipment for that school, interaction facility, studio. The bidder shall submit invoices along with the list of serial numbers of all the equipment supplied for a particular school, interaction facility, studio and corresponding Commissioning Sign-off receipt from the school, interaction facility, studio and end client. The damaged/defective equipment, if any shall be taken back by the selected Bidder representative and the corresponding serial numbers shall not be included in the serial number list enclosed with invoice, nor will the cost of returned equipment reflect in the submitted invoice.

5.26 Warranty Services

- I. The Selected Bidder is required to provide a standard onsite warranty support for a period of 3 year. The warranty would ensure that the goods/ articles would continue to conform to the standards and specifications as prescribed in the RFP for the entire duration of the Contract.
- II. All infrastructure procured by the selected bidder for this Project adheres to the service level requirements. IT Infrastructure proposed by the selected bidder which will not meet the minimum service level requirements will be upgraded without any additional fee to the EdCIL.
- III. The period of warranty for all equipment shall commence after project commissioning sign-off date from the end client.
- IV. The warranty shall cover the system software, pre-loaded software and all the hardware parts including patches and update (free of cost) of the Operating System.
- V. In case of offsite warranty, replacement of similar specification IT related hardware shall be provided to the end user.
- VI. Selected Bidder shall ensure adequate regular supply of spare parts needed for a specific type of machinery and equipments. None of the components and sub-components proposed for this Project are second-hand or used items. None of the components and sub-components are declared "End-of-sale" by the respective OEM in next two years as on date of submission of Bid.
- VII. All infrastructure procured by the Selected Bidder for this Project is purchased within last two months from the date of deployment and documentary proof for warranty and proof of purchase (unless existing infrastructure is being reused) should be produced at the time of deployment of infrastructure
- VIII. All infrastructure procured by the Selected Bidder for this Project is ready and functional before commencing any kind of services.

5.27 Post Warranty Support and Maintenance Services

The scope of post warranty support services will include preventive and corrective comprehensive maintenance and cover installation, diagnosis and resolution of hardware faults in response to the reported problems at the designated service centre. The selected bidder will also resolve all the problems detected during routine operational support activities and will ensure that the problems are resolved within the defined SLAs including appropriate replacement and /or replenishment of systems and equipment as and when required.

5.28 Service Centre Setup

The selected Bidder should have its own service centres or authorized local partner to operate a service centre in each region of India for the maintenance and warranty of all equipment supplied under this RFP.

Records of all calls/emails/visits made to the service centre shall be kept in a computerised system for easy tracking of complaints and calculating SLA.

5.29 Service Level Agreement

I. The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the Selected Bidder to EdCIL/ end client for the duration of this Agreement. EdCIL shall regularly review the performance of the services being provided by the Selected Bidder and the effectiveness of this SLA.

II. Definitions:

For purposes of this Service Level Agreement, the definitions and terms as specified in the Contract along with the following terms shall have the meanings set forth below:

- a. "Incident" refers to any event specifying the defect in all the IT related Hardware supplied for the Virtual classroom.
- b. "Service Centre Support" shall mean the Regional Service centres which will be set up by the Bidder in all the regions.
- c. "Resolution Time" shall mean the time taken (after the incident has been reported at the Online Ticketing Tool), in resolving (diagnosing, troubleshooting and fixing) or asking the school officials in case of a hardware or software technical issue which can only be resolved at or the incident resolved at the nearest Service Centre or the time taken by Service Centre to resolve a defective the IT related Hardware for Virtual classroom at this service centre.

III. Category of SLAs

1. This SLA document provides for minimum level of services required as per contractual obligations based on performance indicators and measurements thereof. The Bidder shall ensure provisioning of all required services while monitoring the performance of the same to effectively comply with the performance levels. The services provided by the Bidder shall be reviewed by EdCIL as following:

- a. Adherence of delivery as per the schedule.
- b. Regularly check performance of the Bidder against this SLA.
- c. Discuss escalated problems, new issues and matters still outstanding for resolution.
- d. Review of statistics related to rectification of outstanding faults and agreed changes.
- e. Obtain suggestions for changes to improve the service levels.
- f. Periodic inspection of selected Bidder's Help Desk Records like:
 - Volume of tickets
 - Types of Incidents and requests
 - Time to resolve and number of unclosed tickets
 - Systems involved
 - Areas involved

2. The SLA shall be logically segregated in the following categories:

- a. Pre-Dispatch Inspection
- b. Implementation Service levels/Delivery Schedule
- c. Warranty obligations
- d. AMC
- e. Compliance and Reporting Procedures

3. The following measurements and targets shall be used to track and report performance on a regular basis. The targets shown in the following tables are applicable for the duration of the Contract. All the targets for the measurements shall be calculated on a monthly basis. Please note that the selected bidder should provide comprehensive, end-to-end service including Installation, Commissioning and maintenance of virtual classroom solution and replacement of the defective in case of physical damage under the warranty and AMC period. No reason shall be entertained (unless those mentioned in Force Majeure) in case of un-availability of any service given in the Scope of Work in this RFP and the appropriate penalty shall be levied. All penalties shall be paid by the Selected Bidder to EdCIL.

Delivery Schedule

Sl. No.	Measurement	Target	Penalty
1.	Delivery of all the IT related Hardware supplied for the Virtual classroom at the centralized location.	Within 60 calendar days from issuance of LOA	Penalty of 1% for first week, 2% per week for every subsequent week subject to a maximum of 10% of the relevant Milestone payment.
2.	Commissioning of all the IT related Hardware supplied for the Virtual classroom at school level.	Within 90 calendar days from issuance of LOA	

Operations & Maintenance

The Virtual classroom and studios shall be operational as well as monitored & managed on all working days (Incl. Saturday) of the year as per the working hours defined below;

Indicative Time of Operations / Working: (To be decided by the End Client/EdCIL)

- Central Studio = from 8:00 AM to 6:00 PM
- Interaction centre = from 8:00 AM to 6:00 PM
- Virtual Classroom = from 8:00 AM to 6:00 PM

Upkeep of the Solution

"Uptime" shall mean the time period for which the specified solution with specified technical and service standards **are available** for the proper functioning & performance of the of the virtual classroom and studio services to end users of the VCRS.

"Downtime" shall mean the time period for which the specified services with specified technical an service standards **are not available** for the proper functioning & performance of the virtual classroom to end users of the VCRS.

The reference hours for calculation of Uptime

$$\text{Uptime (in \%)} = \frac{(\text{Total Expected time of Operations per quarter}) - \text{Downtime of solution}}{(\text{Total Expected time of Operations per quarter})} \times 100$$

Minimum guaranteed uptime per month required (without penalty)

#	Location of Solution deployed	% Uptime per month
A	Central Studio (For Solution 1&2)	99.90 %
B	Interaction centre (For Solution 1)	99.80 %
C	Virtual Classroom (For Solution 1&2)	99.50 %

Penalties based on downtime of the virtual classroom system

Penalties will be levied on the selected bidder based on the downtime as specified above in a quarter. For calculation of penalties, any four consecutive quarters taken together will be taken as one year. The penalty will be charged on the quarterly payment payable to the selected bidder towards the Total Project Cost. The mode of calculation for the same is given below. If the selected bidder performs as per the baseline metrics, then 100% of the amount of the quarterly payment due will be paid to the selected bidder as per the payment terms specified. However, if the selected bidder fails in the SLA resulting in lower performance or breach, then penalty deduction would be appropriately levied as per table below subject to maximum penalty of 10% of quarterly payment. In case the selected bidder's penalty crosses the maximum limit of 10% of quarterly for three consecutive quarters then the EdCIL may decide to terminate the selected bidder's contract. "QGR" denotes Quarterly Guaranteed Revenue (70% of the Total Project Cost/12 Quarters)

#	Service Level Parameters	Baseline	Breach		Basis of Measurement/ Remarks
			Metric	Deductions (%)	
1	Uptime at Central Studio (For Solution 1&2)	100%	≥ 99.90%	0	Measured using Help Desk call report. Penalty capped to 8% of QGR
			For every 0.5% drop uptime below 99.90%	2% of QGR	
2	Uptime at Interaction centre (For Solution 1)	100%	> 99.80%	0	Measured using Help Desk call report. Penalty capped to 8% of QGR
			For every 0.5 % drop uptime below 99.80%	1% of QGR	
3	Uptime at all Virtual Classrooms (For Solution 1&2)	100%	≥ 99.50%	0	Measured using Help Desk call report. Penalty capped to 8% of QGR
			For every 1 % drop uptime below 99.70%	0.5% of QGR	

*** Penalty for SLA violation for Operations and Maintenance shall be subject to a cap of 10% of QGR. However, in exceptional cases, EdCIL has the right to**
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remove this cap. In case of repeated SLA breach in three consecutive quarters then the selected bidder is liable for termination by EdCIL

Compliance & Reporting procedures SLAs

Sl. No.	Measurement	Definition	Target	Penalty
1.	Submission of SLA Reports	The selected Bidder shall submit the SLA reports as requested by the EdCIL.	Report for the previous month shall be submitted by the 7th of the next month.	INR 500 every 1 day of delay in submission on an incremental basis to a maximum of INR 2,500.

SLA Exclusions

- Any approved planned downtime of the solution
- Any issues which are outside the scope of the selected bidder.

5.30 SLA Review Process

- a. Either EdCIL or the selected Bidder may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of points of view of both and identifies specific points of disagreement with possible solutions.
- b. A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- c. EdCIL and the selected Bidder shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The selected Bidder will then communicate the resolution to all interested parties.
- d. In case the issue is still unresolved, the arbitration procedures described in arbitration clause will be applicable.

5.31 Penalties

- a. The total Penalty in the year shall not exceed 10% of the total value of the Order.
- b. Default beyond 10% of the total value of the order, on account of any reason whatsoever, will be deemed to be an event of default and termination.

Note:

EdCIL reserves the right to blacklist the bidder in case of default/penalty beyond 10% of the total value of the Order.

5.32 Language of the multimedia content:

EdCIL seeks digital multimedia content in English, Hindi and in various Regional languages as required.

5.33 Training

Building the capacity of the teacher in a comprehensive manner to enable them to use operate train other teachers and teach students. The bidder is required to provide comprehensive training to the end user personnel and handholding support to client and other stakeholders may be imparted for maximizing the turnout and utilization of the project / equipment.

Objective of training:

- The trainee becomes capable of using the Virtual classroom solution for normal operations.
- The trainee must understand the manner in which the topic is dealt with answer questions/queries from students on the topics.
- The trainee should be able to make his/her own lesson plans.
- The training should be hands on with the help of the Virtual classroom solution and educational content developed.
- The training should include presentation/ discussion by subject experts.
- A teacher's manual to be made available to all the trainees.
- Expected set of Questions and answers should be provided at the end of the training (For eg. FAQs).
- Should provide the Manual containing the solutions to the frequently encountered problem, compiled with the assistance of facility management personnel.

Training Delivery:

The training shall be conducted at the location provided by the end client.

Refresher Training:

Training in use of Virtual classroom solution in teaching should be provided to all teachers/ selected teachers.

Selected bidder will train the teachers on the usage of Hardware and software as per the following phased manner:

1. First Year: Two days training on half yearly basis
2. Second year: Two days refresher training
3. Third year: Two days refresher training

Training Module:

- The bidder should have the provision for physical trainings of the teachers. However, as per requirement, the bidder will have to provision for virtual trainings as well.

5.34 Technology Advancement

According to the technology advancement successful L1 bidder has to provide upgraded product without any extra cost to meet the technology advancement of the market.

5.35 Manuals and Drawings

- a. Before the goods and equipment are taken over by the EdCIL, the Supplier should supply operation and maintenance manuals. These should be in such details as will enable the EdCIL to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- b. The Manuals should be in the ruling language (English) in such form and numbers as stated in the contract.

- c. Unless and otherwise agreed, the goods equipment should not be considered to be completed for the purpose of taking over until such manuals and drawing have been supplied to the EdCIL.

5.36 Indemnity

- I. The selected Bidder shall execute and furnish to EdCIL a Deed of Indemnity in favor of "EdCIL" in a form and manner acceptable to EdCIL, indemnifying EdCIL from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Agreement period out of:
- a) Any negligence or wrongful act or omission by the selected Bidder or the selected Bidder's Team in connection with or incidental to this Agreement; or
 - b) A breach of any of the terms of selected Bidder Bid as agreed, the RFP and this Agreement by the Bidder or the selected Bidder's Team.
- II. The indemnity shall be to the extent of 100% in favor of EdCIL.

5.37 Duration of the Rate Contract:

Duration of the rate contract is for 1 year. The same can be extended based on satisfactory performance for one year at a time to maximum period of 2 years. However, the financials would be negotiated after every one year/at the time of renewal of contract based on the volume of business awarded or expected and any other related factors.

5.38 Price Review:

According to the market scenario the price would be reviewed for exploring downward revision and reasonability of the rates as per the normal trend in electronics industry on year-to-year basis.

5.39 Documentations to be produced by the successful bidder during project:

- I. Authorization letter in favor of System Integrator from the OEM in case of service is provided by the System Integrator/Distributor.
- II. Copy of agreement between OEM and SI in case of service is to be provided by System Integrator/Distributor.
- III. Original Delivery certificate issued by the client with sign and stamp for acknowledgement of delivery.
- IV. Original installation and commissioning certificate issued by the client with sign and stamp for acknowledgement of installation and commissioning.
- V. Warranty Certificate in original of all the items supplied to client.
- VI. Three level escalation matrix for the complaint's resolution and support.
- VII. The original attendance sheets of the users and the computer technicians trained along with the training report duly signed and stamped by client.
- VIII. Bidder is required to provide the school/studio wise coloured photographs and videos of 1-minute duration (in soft copy) of every school/studio when the product is installed within 30 days from the date of commissioning of the project. The video must capture the functionality of the device(s) in presence of any official/teacher.
- IX. Work Completion certificate duly signed and stamped by client
- X. Insurance certificate, if required
- XI. Origin Certificate
- XII. Third party audit certificate, if required any

XIII. Monthly report of complaints received and resolution provided should be submitted before the 7th of every month. The report must include the following:

- ◇ Volume of tickets
- ◇ Types of incidents and requests
- ◇ Time to resolve
- ◇ Systems involved
- ◇ Areas involved,
- ◇ Location of Complaint
- ◇ Date and time of complaint
- ◇ Device Unique Number
- ◇ User Name
- ◇ Problem statement
- ◇ Solution provided
- ◇ Onsite/offsite
- ◇ In case offsite, weather replacement provided or not.
- ◇ Others if requested

CHAPTER-VI

Eligibility and Bid Evaluation

6.1 Bid Evaluation Process

Evaluation will be based on the bidder meeting the eligibility criteria, Scoring minimum 70 marks in Technical evaluation and subsequently evaluation of financial bid. It is mandatory for the bidder to fulfil all the eligibility criteria to be qualified for technical evaluation.

6.2 Eligibility Criteria

Documents must be provided in support of the following otherwise bids will be summarily rejected.

S. No.	Eligibility Criteria	Supporting Document
1.	The Bidder should be registered under Companies Act, 2013 in India and should have been in operation in India for at least last five years executed as on date of release of tender. Consortium of companies/ firms is not allowed.	<ul style="list-style-type: none"> • Certificate of Incorporation • Memorandum and Articles of Association
2.	<p><u>For solution-1:</u> The bidder should have supplied, commissioned and maintained atleast 150 virtual classroom using VSAT technologies in India in any Govt Departments/autonomous Institutes in the last five year executed as on date of release of Tender</p> <p><u>For solution-2:</u> The Bidder should have Supplied, Commissioned and Maintained atleast 150 virtual classrooms using internet technologies in India in any Govt. Departments /autonomous institutes in the last five years executed as on date of release of tender.</p>	<p>a) Work Order + Certificate of Completion with satisfactory performance by client.</p> <p>OR</p> <p>b) Work Order + Certificate from the client showcasing that supply and commissioning of virtual classrooms is at least completed (for ongoing projects).</p> <p>For any client certificate submitted, it should mention the total number of classrooms commissioned.</p>
3.	<p>The Bidder should have an average annual turnover of at least INR 60 Crores from IT/ ITES services during the last three financial years i.e. 2017-2018, 2018-19 & 2019- 2020 with net profit and positive net-worth.</p> <p style="text-align: center;">And</p> <p>The Bidder should have a minimum average annual turnover of INR 30 Crores generated from supply, commissioning and maintenance of virtual classrooms /digital classrooms over the financial years 2017-2018, 2018-19 & 2019- 2020.</p>	<p>Audited Profit and Loss Statement and Balance sheets.</p> <p>Auditor Certificate clearly specifying the turnover from IT/ ITES services, virtual classroom solution along with Profit and Net-worth during the financial years 2017-2018, 2018-19 & 2019-</p>

	<p><u>For MSME registered with the concerned authority</u></p> <p>The Bidder should have an average annual turnover of at least INR 48 Crores from IT/ ITES services during the last three financial years i.e. 2017-2018, 2018-19 & 2019- 2020 with net profit and positive net-worth. Net-worth should be as per the definition mentioned in the section 2 (57) of Companies Act 2013.</p> <p style="text-align: center;">And</p> <p>The Bidder should have a minimum average annual turnover of INR 24 Crores generated from supply, commissioning and maintenance of virtual classrooms /digital classrooms over the financial years 2017-2018, 2018-19 & 2019- 2020.</p>	2020.
4.	The bidder should have the team strength of Min. 75 Number of employees on their direct rolls.	The bidder shall furnish an undertaking for the strength of minimum 75 employees on their pay roll.
5.	The bidder should have atleast 2 Service Office in any region (operational since min 5 years from the date of release of tender). Regions: North, West, South, East & Northeast, and Central India	Details of regional service support centre on the letter head duly signed by authorized signatory.
6.	The bidder should produce the Proof for Experience of maintaining and supporting 01 virtual classroom /digital classroom project in India in Govt. Department/ autonomous institute for a period of at least (36) months from the date of Go Live of worth not less than 10 Crore.	Proof of experience from the client.
7.	The bidder should possess ISO 9001:2013 or latest as on date of release of tender.	Copy of the valid ISO Certificate issued from the accreditation organization to be submitted as documentary proof.
8.	The bidder should neither have been debarred by any Central Government/ State Government/PSU/Government Bodies/Autonomous Bodies.	The bidder shall furnish an undertaking duly attested by notary in a non-judicial stamp paper of value INR100/- (Rupees One Hundred Only)
9.	The bidder should submit valid undertaking letter from the OEM for Hardware and System Software confirming following: <ul style="list-style-type: none"> • OEM(s) of the proposed product(s) shall provide support including spares, updates, patches, security patches, fixes, bug fixes, for the quoted products for the entire contract period and; 	A letter of undertaking by manufacturer (OEM) should be submitted as per Annexure-XIII provided in this RFP

	<ul style="list-style-type: none"> That the proposed products meet the technical & functional requirements & also products quoted are of the latest version / specification and are not nearing end of life. 	
10.	The bidder shall be a registered company in India with valid GST Registration and PAN number allotted by the respective authorities.	GST Registration Certificate and PAN number
11.	The Authorized Signatory signing the Bid on behalf of the Bidder - should have the Power of Attorney duly authorized by the Board of Directors to sign the Bid.	Power of attorney shall be submitted in prescribed format on Non-Judicial stamp paper

- Technical bids will also be reviewed for compliance with the necessary Instructions, terms and conditions, scope of work, formats etc. as outlined in this tender.
- The Technical bid will be evaluated by evaluation committee set-up by EDCIL.
- The bidder who meet all the eligibility criteria will be called for the presentation and shall be further evaluated on the basis of the marking scheme as mentioned below.

Technical Evaluation:

The Technical Evaluation will be conducted based on the relevant support documents submitted by the Bidders.

Sl. No.	Description	Evaluation Criteria	Criteria wise Marks	Max Marks	Supporting documents
1	For solution-1: Supply, commissioning and maintenance of atleast 150 virtual classroom using VSAT technologies in India in any Govt Departments/ autonomous Institutes in the last five year executed as on date of release of tender For solution-2: Supply, commissioning and maintenance of atleast 150 virtual classrooms using internet technologies in India in any Govt. Departments /autonomous institutes in the last five years executed as on date of release of tender.	751 or more classrooms	10	10	a) Work Order + Certificate of Completion with satisfactory performance by client. OR b) Work Order + Certificate from the client showcasing that supply and commissioning of virtual classrooms is at least completed (for ongoing projects). For any client certificate submitted, it should mention the total number of classrooms commissioned.
		501 – 750 classrooms	8		
		150- 500 classrooms	6		
2	Experience in implementation of Virtual/Digital Classrooms project in India with minimum 50 locations in each project for any Government Departments / autonomous	4 Projects or above	10	10	a) Work Order + Certificate of Completion with satisfactory performance by client. OR b) Work Order + Certificate from the client showcasing that supply
		3 Projects	8		
		2 Projects	6		
		1 Project	4		

	institutes in India.				and commissioning of virtual classrooms is at least completed (for ongoing projects). For any client certificate submitted, it should mention the total number of locations commissioned.
3	Experience in setting up studio with manpower services for any Government Department/ autonomous institutes in India.	3 or above	10	10	a) Work Order + Certificate of Completion with satisfactory performance by client. OR b) Work Order + Certificate from the client showcasing that supply and commissioning of studio is at least completed (for ongoing projects).
		2 Studios	8		
4	Experience of developing content in regional languages for schools/colleges under various programs in any Govt. Departments /autonomous institutes in last three years executed as on date of release of tender.	601 or more Schools	5	5	a) Work Order + Certificate of Completion with satisfactory performance by client. OR b) Work Order + Certificate from the client showcasing that deployment of content has been completed (for ongoing projects). For any client certificate submitted, it should mention the total number of schools in which the contents have been deployed.
		301- 600 Schools	4		
		100 – 300 Schools	3		
5	Average annual turnover of from IT/ ITES services during the last three financial years i.e. 2017-2018, 2018-19 & 2019-2020.	More than 80 Crore For MSME More than 64 Crore	15	15	Audited Profit and Loss Statement and Balance sheets. Auditor Certificate clearly specifying the turnover from IT/ ITES services, during the financial years 2017-2018, 2018-19 & 2019- 2020.
		More than 70 Crore For MSME More than 56 Crore	12		
		More than 60 Crore For MSME More than 48 Crore	10		
6	Average annual turnover generated from supply,	More than 75 Crore	15	15	Audited Profit and Loss Statement and Balance

	commissioning and maintenance of virtual classrooms /digital classrooms over the financial years 2017-2018, 2018-19 & 2019- 2020.	For MSME More than 60 Crore		12	sheets. Auditor Certificate clearly specifying the turnover from virtual/Digital classroom solution during the financial years 2017-2018, 2018-19 & 2019-2020.
		More than 50 Crore			
		For MSME More than 40 Crore			
		More than 30 Crore			
7	Project experience under Operations and Maintenance: Experience in execution of Virtual/ Digital classroom projects with operations and maintenance services in India in any Govt Departments / autonomous institutes of worth not less than 10 crores.	4 or more	10	10	a) Work Order + Certificate of Completion with satisfactory performance by client. OR b) Work Order + Certificate from the client showcasing that Operation and maintenance is ongoing (for ongoing projects).
		3 Projects	8		
		2 Projects	6		
		1 Project	4		
8	Technical Presentation (Max 20 Minutes) ➤ Program Understanding Solution Understanding - Technology & Functional understanding (5 Marks) ➤ Approach towards Field Issue Management and Connectivity needs Content Preparation Methodologies (5 Marks) ➤ Project Planning & Execution Capability (5 Marks) ➤ Team Deployment Methodology (5 Marks) ➤ Demonstration of the Solution and Client site visit (Virtually). (5 Marks)	25	25		
Total			100		

- The bidder who scores minimum 70 marks in the technical evaluation shall be declared as technically qualified bidder and those shall be notified for opening of their financial bid.

Evaluation of financial bids:

- The Financial bid shall be opened for only those bidders who have been found to be technically qualified in. They would also be advised to attend opening of the financial bid. EdCIL shall inform the date, place and time for opening of financial bids.
- Financial bid should be checked by bidders to ensure conformance to the format provided in the tender document.
- If there is any discrepancy between words and figures in any part of the financial bid, the amount indicated in words will prevail.
- The technically qualified bidder who has quoted the lowest price in the financial bid will be L1 and considered for the award of contract.
- The successful L1 bidder will have to match the lowest price for each of the line items as mentioned in Financial Bid quoted by any of the bidder.

Chapter-VII

Delivery Timeline & Payment terms

1. Duration & Timeline

Bidder shall make all the arrangements for the timely delivery and installation of equipment for successful completion of project. No other incidental/TA/DA/any other such expenditure shall be paid by EdCIL.

S.No.	Milestone	Timeline (In Calendar Days)
1.	Acceptance of LOA	T+5
2.	Bank Guarantee Submission and contract agreement execution	T+7
3.	Pre-Delivery Inspection of 20 % of the total quantity of order	T+25
4.	Delivery of all hardware items	T+60
5.	Installation and Commissioning of all hardware items at school level. However, support during necessary warranty and AMC period beyond this shall be provided as per the terms specified in this document. The warranty period shall start from the date of commissioning.	T+90
6.	Teacher Training shall be done within 15 days after agreement on dates by end client.	

Note:- * Here 'T' Indicates the date of LOA.

EdCIL reserves the right to change the timelines as per the requirement of the client. The milestones and timelines can be minimized as per the requirements of the individual projects/end client at the time of award of work order.

Chapter-VIII

Payment terms

1. Payment Term

S.No	Milestone	Payment % of the Contract Value
1.	<p>Payment shall be released after Satisfactory Pre-Delivery Inspection of equipments by PDI Committee and successful delivery of all hardware items at school level.</p> <p>Payment will be made if items are found in good condition as per term and conditions mentioned in the RFP.</p> <p>The bidder should submit the following documents to the EdCIL for the payment:</p> <ul style="list-style-type: none"> • Original Tax invoice showing contract number, goods description, quantity unit price, total amount. • Three level Escalation matrix • List of serial number of equipment supplied • PDI Certificate issued by the nominated inspection committee (signed and stamped) as applicable. • Delivery report duly signed and stamped from authorized official of end client as per term and conditions mentioned in the RFP. • Copy of Insurance Certificate. • Manufacturer's/ Supplier's warranty certificate. 	40%
2.	<p>Payment shall be released after successful installation & commissioning, training to end users and handing over of all hardware items at school level.</p> <p>The bidder should submit the following documents to the EdCIL for the payment:</p> <ul style="list-style-type: none"> • Installation and Commissioning report duly signed and stamped from end client. • Attendance sheet of the users trained along with the training report duly signed and stamped by authorized official of end client. • Work completion certificate duly signed and stamped by authorized official of end client. 	50%
3.	<p>The warranty/AMC will be for a total period of 3 years. Payment shall be released after successful completion of 2nd year AMC/warranty period i.e. after two year from the date of commissioning sign off with client.</p> <p>The bidder should submit the following documents to the EdCIL for the payment:</p> <ul style="list-style-type: none"> • Detailed Monthly SLA Reports of problems and solutions 	5%

4.	<p>The warranty/AMC will be for a total period of 3 years. Payment shall be released after successful completion of 3rd year AMC/warranty period i.e. after three year from the date of commissioning sign off with client. The bidder should submit the following documents to the EdCIL for the payment:</p> <ul style="list-style-type: none"> Detailed Monthly SLA Reports of problems and solutions 	5%
5.	<p>AMC charges</p> <p>The payment shall be released at the end of every year on submission of Detailed Monthly SLA Reports of problems and solutions</p>	To be paid annually

Note:

- Payments will be done only on the back to back basis on receipt of the related payment/funds from the end client, subject to satisfactory acceptance of the deliverables from the end client as per the submission of the required document.
- Warranty start will be reckoned from the date of commissioning as approved by the end client. Part payment can be made against commissioning in accordance to the progress of the project.

2. Performance Security/Performance Bank Guarantee

The successful bidder shall be required to deposit Performance Bank Guarantee equivalent to 10% of contract value to EdCIL within 7 days from the date of receipt of Work Order. The Performance Bank Guarantee shall be issued by a nationalised bank in favour of "**EdCIL (India) Limited**" to be valid for a period of 90 days beyond the date of completion of O&M period & contractual obligations. This Performance Bank Guarantee should be retained throughout the currency of the contract and shall be extended by the bidder from time to time, as required by EdCIL.

Chapter-IX

Key Contract Terms

1. Arbitration

- All disputes or differences, whatsoever, arising between the parties out of or relating to the interpretation, meaning and operation or effect of this contract or the breach thereof, shall be resolved through mutual consultation and negotiation.
- Any dispute not resolved by mutual consultations shall be settled through arbitration by arbitrator duly appointed by the designated officer of EdCIL India Limited. The award of the said Arbitrator shall be final and binding on both parties. The place of the Arbitration shall be at Delhi. It is the terms of this Contract that in the event of such arbitrator to whom the matter is originally referred, being transferred or on vacating his office, being unable to arbitrate for the aforesaid reason, his successor shall be appointed as Sole Arbitrator by the aforesaid authority and the new incumbent shall resume arbitration proceedings from the stage where his predecessor has left. The Arbitration may from time to time, with the consent of the parties, enlarge the time for making and publishing the award subject to the aforesaid, the Arbitration and Conciliation Act, 1996, shall apply to the aforesaid arbitration proceedings. The performance under this Contract shall not stop for any reason whatsoever during the said dispute / proceedings, unless the supplier / party are specifically directed by EdCIL India Limited to desist from working in this behalf. The award of Arbitrator so appointed shall be final and binding upon the parties hereto. Arbitration cost will be borne jointly by both the parties to the Contract.

2. Non-Disclosure

The firm and their personnel shall not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract, terms, prices or the client's business or operations details without the prior written consent of the client.

3. Risk Purchase Clause

In event of failure of supply of the item/equipment within the stipulated delivery schedule, the EdCIL has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause.

3. Compensation

In consideration of the Services hereunder, EdCIL India Limited shall pay BIDDER the fees and expenses ("Charges") as specified in Commercial. All amounts payable to BIDDER are exclusive of any Taxes. EdCIL India Limited shall be entitled to deduct from applicable payments to BIDDER, any tax on BIDDER' income deductible at source at the rates applicable as per the provisions of Income Tax Act 1961 and provide BIDDER with evidence or certificate of payment of such tax to the taxing authorities. BIDDER shall submit invoices to EdCIL India Limited in accordance with the payment schedule in Commercial of this document. Payment stages are available at Chapter-VIII

4. Representations and Warranties

Bidder warrants that the Services will be provided in a skillful and workman like manner and in conformity with the scope described in Scope of Work Proposed Functional Scope of this document. Notwithstanding the aforesaid, any Services which are provided by bidder free of charge or are otherwise not chargeable shall be provided on an 'AS IS'

basis without any warranties whatsoever. Each Party represents, warrants and covenants to the other that: (i) it is duly organized and validly existing and in good standing under the laws of the state of its incorporation or formation; (ii) it has the full right and authority to enter into and that this Agreement constitutes a legal, valid and binding obligation; and (iii) its execution, delivery and performance of this Agreement does not and will not conflict with, or constitute a breach or default under, its charter of organization, or any contract or other instrument to which it is a party. As set forth in this clause, bidder makes no warranties to EdCIL India Limited, expressed or implied, with respect to any services or deliverables provided hereunder or under scope of work including without limitation and implied warranties of Merchantability or fitness for a particular purpose. All such other warranties are hereby disclaimed by bidder.

5. Limitation of Liability

Neither EdCIL India Limited nor the bidder shall be liable to the other for any special, indirect, incidental, consequential (including loss of revenue, data and/or profit), exemplary or punitive damages, whether in contract, tort or other theories of law, even if the Party has been advised of the possibility of such damages. The total cumulative liability of either party under this Agreement shall not exceed in aggregate the amount paid to bidder by the EdCIL India Limited for the Service that gives rise to such liability during the twelve-month period immediately preceding such claim. The limitation on any Party's liability herein shall not apply to liability for damages, resulting from (i) the willful misconduct; (ii) breach of the use terms in respect of use of bidder Application System; and (iii) breach of confidentiality obligations. Bidder shall not be held liable for any delay or failure in its obligations, if and to the extent such delay or failure has resulted from a delay or failure by or on behalf of EdCIL India Limited to perform any of EdCIL India Limited's obligations. In such event, bidder shall be (a) allowed additional time as may be required to perform its obligations, and (b) entitled to charge EdCIL India Limited for additional costs incurred, if any, as may be mutually agreed upon between the Parties.

6. Confidential Information

Each Party (the "Receiving Party") acknowledges and agrees to maintain the confidentiality of Confidential Information (as hereafter defined) provided by the other Party (the "Disclosing Party") hereunder. The Receiving Party shall not disclose or disseminate the Disclosing Party's Confidential Information to any person other than those employees, agents, contractors, subcontractors and licensees of the Receiving Party, or its affiliates, who have a need to know it in order to assist the Receiving Party in performing its obligations, or to permit the Receiving Party to exercise its rights under this Agreement. In addition, the Receiving Party (i) shall take all such steps to prevent unauthorized access to the Disclosing Party's Confidential Information, as it takes to protect its own confidential or proprietary information of a similar nature, which steps shall in no event be less than a reasonable standard of care, (ii) shall not use the Disclosing Party's Confidential Information, or authorize other persons or entities to use the Disclosing Party's Confidential Information, for any purposes other than in connection with performing its obligations or exercising its rights hereunder, and (iii) shall require all persons and entities who are provided access to the Disclosing Party's Confidential Information, to execute confidentiality or non-disclosure agreements containing provisions substantially similar to those set forth in this Clause. The provisions of this Clause respecting Confidential Information shall not apply to the extent, but only to the extent, that such Confidential Information is: (a) already known to the Receiving Party free of any restriction at the time it is obtained from the Disclosing Party, (b) subsequently learned from an independent third party free of any restriction and without breach of this provision; (c) is or becomes publicly available through no wrongful act of the Receiving Party or any third party; (d) is independently developed by the Receiving Party without reference to or use of any Confidential Information of the Disclosing Party; or (e) is required to be disclosed pursuant to an applicable law, rule, regulation,

government requirement or court order, or the rules of any stock exchange. Upon the Disclosing Party's written request at any time, or following the completion or termination of this Agreement, the Receiving Party shall promptly return to the Disclosing Party, or destroy, all Confidential Information of the Disclosing Party provided under or in connection with this Agreement, including all copies, portions and summaries thereof.

7. **Force Majeure**

The selected Bidder should not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delays in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

- I. For purposes of this Clause, "Force Majeure" means an event beyond the control of the bidder and not involving the bidder's fault or negligence and not foreseeable. Such events shall include, but are not limited to, acts of the EdCIL either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- II. If a Force Majeure situation arises, the bidder should promptly notify the EdCIL in writing of such conditions and the cause thereof. Unless otherwise directed by the EdCIL in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and should seek all reasonable alternative means for performance not prevented by the Force Majeure event.

8. **Prices**

- I. The price should be quoted in per unit (with breakup) and must include all packing and delivery charges. The offer/bid should be exclusive of taxes and duties, which will be paid as applicable. However, the percentage of taxes and duties should be clearly indicated. The inter se merit position of the bids however shall be decided based on the composite price of the product including taxes, transportation, Warranty with all other incidental expenses indicated.
- II. The prices must be quoted in the Performa given in Financial Bid failing which the Bid would be treated as unresponsive. Any discount or any other offers affecting the package price must be mentioned in Financial Bid only. Discount or any other offers affecting the Package price mentioned at any other place of the bid other than Financial Bid will not be considered.
- III. The price quoted should be inclusive of 3 years on site comprehensive warranty including basic training and demonstration to the end client.

9. **Notices**

For the purpose of all notices, the following should be the address :

**Chief General Manager (DES)
EdCIL (India) Limited,
18 A, Sector-16A,
Noida-201301, Uttar Pradesh
Tel: 91-120-2512001 to 2512006**

Supplier: (To be filled in by the supplier)

- Any notice given by one party to the other pursuant to this contract/order should be sent to the other party in writing or e-mail and confirmed in writing from the other party's address.

- A notice should be effective when delivered or on the notice's effective date, whichever is later.

10. Resolution of Disputes

The dispute resolution mechanism to be applied pursuant should be as follows:

- I. Any matter arising out of or connected with this agreement, such disputes or difference should be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof should apply to the arbitration proceedings.
- II. The dispute should be referred to the Competent Authority, EdCIL and if he/she is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed should be final, conclusive and binding on all parties to this order.
- III. The venue of the arbitration should be the place from where the order is issued.

11. Supplier Integrity

The selected bidder is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.

12. Governing Language

The contract should be written in English language. English language version of the Contract should govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, should be written in the same language.

13. Applicable Law

The Contract should be interpreted in accordance with the laws of the Union of India and all disputes should be subject to place of jurisdiction. The place of jurisdiction would be New Delhi (Delhi) INDIA.

14. Right to Use Defective Goods

- I. If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, EdCIL should have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the EdCIL's operation.
- II. Replacement of Goods broken, damaged or short: In the event of any material or part thereof found broken or damaged or received short during transit or during installation or Commissioning or testing at site, before commissioning in service the suppliers should replace the same free of cost. However, EdCIL may recover amount equivalent to the cost of such damaged / broken / short supplied materials and will repay when actual replacement is given.
- III. Substitution and Wrong Supplies: Unauthorized substitution or materials delivered in error of wrong description or quality or supplied in excess quantity or rejected goods should be returned to the supplier at their own cost and risk.

15. Taxes

Selected Bidder should be entirely responsible for all taxes, duties, road permits, etc., incurred until delivery of the contracted Goods/Services. EdCIL shall only make payment towards the GST Charged in the invoice other than that no other taxes/ duties/ Charges will be paid.

16. Defective Equipment

- I.** If any of the equipment supplied by the Bidder is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment should be refunded by the Bidder with 18% interest if payments for such equipment have already been made.
- II.** All damaged or unapproved goods should be returned at suppliers' cost and risk and the incidental expenses incurred thereon should be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, should be replaced on receipt of the intimation from EdCIL/end client at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, EdCIL (INDIA) LTD may consider "Banning" the supplier.

17. Termination for Default

The EdCIL should, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- I.** If the Supplier fails to complete the work within the period(s) specified in the order, or within any extension thereof granted by the EdCIL; or
- II.** If the Supplier fails to perform any other obligation(s) under the Contract.
- III.** If the Supplier, in the judgment of the EdCIL has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- IV.** For the purpose of this Clause:
 - **"Corrupt practice"** means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
 - **"Fraudulent practice"** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;""
 - In the event the EdCIL terminates the Contract in whole or in part, the EdCIL should procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier should be liable to the EdCIL for any excess costs for such similar Goods or Services. However, the Supplier should continue the performance of the Contract to the extent not terminated.

18. Tender Conditions with Implementation of Insolvency and Bankruptcy Code, 2016 (IBC)

- a) It will be the responsibility of the bidder to inform EdCIL within 15 days from the date of order of insolvency resolution process or liquidation or bankruptcy proceeding passed by the Adjudicating Authority namely, National Company Law Tribunal (NCLT) or Debt Recovery Tribunal (DRT) under the Code.
- b) If bidder refuses or fails to share the information regarding their status of insolvency resolution process or liquidation or bankruptcy proceeding in their bid or at any later stage, their offer is liable to be rejected by EdCIL.
- c) EdCIL reserves the right to cancel/terminate the contract without any liability on the part of EdCIL immediately on the commencement of insolvency resolution process or liquidation or bankruptcy proceeding of any party under the contract.
- d) EdCIL reserves its right to evaluate and finalise the bid without considering the bid of any party undergoing insolvency resolution process or liquidation or bankruptcy proceeding under the Code regardless of the stage of tendering.
- e) A declaration / undertaking shall be submitted by the bidder in the Format (as per ANNEXURE-XX) along with techno commercial bid.

Guide lines for Evaluation & Short closure:

- a) After opening of price bid but before award, if a bidder(s) is(are) rejected due to initiation of insolvency resolution process or liquidation or bankruptcy proceeding under Insolvency and Bankruptcy Code, 2016 (Code), tender will be finalized ignoring such bid(s).
- b) During execution of contract, if insolvency resolution process or liquidation or bankruptcy proceeding under Insolvency and Bankruptcy Code, 2016 (Code) is initiated against a contractor and EdCIL shall have the right to short close the contract.

19. Disputes and Jurisdiction

Any legal disputes arising out of any breach of contract pertaining to this tender should be settled in the court of competent jurisdiction located within New Delhi.

20. Compliance certificate

This certificate must be provided on their letter head indicating conformity to the technical specifications.

21. Award of Contract

- I.** EdCIL reserves the right to accept or reject any proposal and to annul the bidding process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the Bidders. In case of annulment, all proposals submitted and specifically, proposal securities shall be promptly returned to the Bidder.
- II.** EdCIL has the right to review at any time prior to award of contract that the pre-qualification criteria, are still being met by the Bidder whose offer has been determined as first rank. A proposal shall be rejected if the eligibility criteria, are no longer met by the Bidder whose offer has been determined as first rank.

22. User List

Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items have been supplied must be provided.

23. Product Life

The Models offered should strictly conform to the specifications given in the product literature and these models should be supported for a minimum period of 5 years including warranty period. The Models proposed/ marked for withdrawal from the market and the models under quality testing should not be offered.

In addition to the above, if any additional/ enhanced configuration is suggested in view of technological changes, it may be furnished as optional feature with/without cost duly explaining the additional utility of the offered model in both the technical offer document as well as Commercial Offer document. However, the basic quote should be confined only to the configuration/ model offered for.

24. Acknowledgement

It is hereby acknowledged that we have gone through all the conditions mentioned above and we agree to abide by them.

25. Price Information

Price information shall not be there in Technical Bid.

26. Rates in Figures and Words

Rates Quoted by the Bidder in tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the bidder in figures and in words tally but the amount is not worked out correctly, the rates quoted by the Bidder will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s) and amount blank, it will be presumed that the Bidder has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

In the case of any tender where unit rate appear unrealistic, such tender will be considered as unbalanced and in case the tender is unable to provide satisfactory explanation such a tender is liable to be disqualified and rejected.

27. Fall Clause

The Bidder undertakes that the rates quoted by him in the financial bid for each item is not higher than the rate offered by him for similar work to any other PSU/ AB/ Govt. Department. In case, if the price charged by bidder is more, EdCIL will have the right to recover the excess charged amount from the subsequent/unpaid bill of the supplier, provided all condition of the work including time, scope, logistics, specifications and country are same.

ANNEXURE-I

Technical Compliance Sheet

I have also enclosed all relevant documents in support of my claims, (as above) in the following pages.

Signature of Bidder Name: _____

Designation: _____

Organization Name: _____

Contact No.: _____

Seal of the Company: _____

ANNEXURE-II

**<< Organization Letter Head >>
DECLARATION SHEET**

We, _____ hereby certify that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

We further certified that our organization meets all the conditions of eligibility criteria laid down in this tender document. Moreover, we will support on regular basis with technology / product updates and extend support for the warranty.

We, further specifically certify that our organization has not been Black Listed/ De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.	NAME & ADDRESS of the VENDOR/ MANUFACTURER/ AGENT
1 Phone	
2 Fax	
3 E-mail	
4 Contact Person Name	
5 Mobile Number	
6 TIN Number	
7 PAN Number	
(In case of on-line payment of EMD)	
8. UTR No. (For EMD)	
9. Kindly provide bank details of the bidder in the following format:	
a) Name of the Bank	
b) Account Number	
c) Kindly attach scanned copy of one Cheque book page to enable us to return the EMD to unsuccessful bidder	

(Signature of the Tenderer)
Name: _____

Seal of the Company

ANNEXURE III

Letter of undertaking
(ON THE LETTER HEAD OF THE BIDDER)

To

**Chief General Manager (DES)
EdCIL (India) Limited (EdCIL)
EdCIL House, 18 A, Sector-16 A,
NOIDA – 201301 (U.P.)**

Sir,

SUBJECT- Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution

This bears reference to EdCIL Bid No. **EdCIL/DES/Virtual Classroom Solution/2020/02** Dated We, hereby, accept all the terms and conditions for submitting bid as mentioned in this Bid Document.

We hereby certify that no terms and conditions have been stipulated by us in the Financial Bid.

We warrant that the services do not violate or infringe upon any patent, copyright, trade secret or other property right of any other person or other entity. We agree that we shall not prevent EdCIL from any claim or demand, action or proceeding, directly or indirectly resulting from or arising out of any breach or alleged breach of any of the terms & conditions of bid document and contract.

The above document is executed on at (place) _____ and we accept that if anything out of the information provided by us is found wrong, our bid/ work order shall be liable for rejection.

Thanking you,

Yours faithfully,

Name of the Bidder _____

Authorized Signatory _____

Seal of the Organization _____

Date:

Place:

ANNEXURE IV

UNDERTAKING OF NON BLACKLISTING

This is to confirm that we M/s _____ (give full address) have not been declared neither **failed to perform on any Agreement, nor have been expelled from any project or Agreement nor any Agreement terminated** for breach by the us (Agency) in any of the government department and public sector undertaking /enterprise or by any other Client in India, in last five year before release of advertisement.

If the above information found false at any stage after the placement of Work Order / Agreement, EdCIL (India) Limited (EdCIL), 18-A, Sector 16-A, Noida will have full right to cancel the Contact and forfeit the Performance Guarantee. All the direct and indirect cost related to the cancellation of the order will be borne by us besides any legal action by EdCIL which shall be deemed fit at that point of time.

Authorized Signatory

Note: The undertaking regarding the non-blacklisting of firm is to be submitted on a non-judicial stamp paper of Rs. 100/- (Rupees Hundred only).

ANNEXURE V

Annual Average Turn Over from IT/ITES

Sl. No.	Financial Year	Annual Turn over	Net Worth	Net Profit
1.	2017-18			
2.	2018-19			
3.	2019-20			
Total				
Average				

Note: Certificate from Statutory Auditor/ Chartered Accountant certifying balance sheet only for all three years to be attached.

Annual Average Turn Over from supply, commissioning and maintenance of virtual classrooms /digital classrooms

Sl. No.	Financial Year	Annual Turn over
1.	2017-18	
2.	2018-19	
3.	2019-20	
Total		
Average		

Note: Certificate from Statutory Auditor/ Chartered Accountant certifying balance sheet only for all three years to be attached.

Signature with Seal of the Chartered Accountant

Signature with Seal of the Bidder

ANNEXURE-VI

List of Orders Completed During Last 5 years for Govt. Organizations / Autonomous Institutes in India

Bid No.:
Date of opening of Bid:
Time:
Name of the Firm:

S.No	Name of Client	Name of the Project and brief description	Value (Exc Tax)	Date of award	Date of Completion	Current Status and duration of maintenance period for ongoing project	Name of Contact Person and other details
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

Signature of Bidder

(Signature with seal)

Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

Annexure VII

**Details of Projects Executed During Last 5 years for Govt. Organizations
/Autonomous Institutes in India**

Details of project executed for Government Organizations during last five years (must be supported with work orders) {Which are mentioned in the annexure VI}					
Name of the organization	Name of the Project and brief description and Year of Procurement	Total No. of virtual classrooms	Total Number of Studios	Technology Used (VSAT/Internet based)	Name of Contact Person and other details

Signature of Bidder

(Signature with seal)

Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

ANNEXURE-VIII

Power of Attorney

Know all men by these presents, we..... (name of firm and address of the registered office) do hereby constitute, nominate appoint and authorize Mr./Ms..... son/daughter/wife of and presently residing at....., who is presently employed with /retained by us and holding position of.....as our true and lawful attorney

(hereinafter referred to as the "Authorized Representative") to do in our name and on our behalf, all such acts, deeds and things are as necessary or required in connection with or incidental to submission of our proposal for and selection as the <project title> for the <name of the client>.....project, proposed to be developed by the

..... (the "client") including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre bid and other conferences and providing information /responses to the client, representing us in all matters before the Client, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with the client in all matter in connection with or relating to or arising out of our Proposal for the said project /or upon award thereof to us till the entering into of the Agreement with the client.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawful done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this power and Attorney and that all acts, and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

[IN WITNESS WHEREOF WE.....THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON

THIS DAY OF 2020.

For (Name and registered address of client)

(Signature, name, designation, and address)

Witness:

1. (Signature, name and address)
2. (Signature, name and address)

Notarized

Accepted

.....

(Signature, name, designation, and address of the attorney)

Notes:

1. The mode of the execution of the power of Attorney shall be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants (s) and when it is so required the same should be under seal affixed in accordance with the required procedure.
2. Wherever required, the applicant should submit for verification the extract of the charter documents and other documents such as a resolution/Power of Attorney in favor of the person executing this Power of Attorney for delegation of power hereunder on behalf of the applicant.
3. For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power and Attorney is being issued. However, the Power of Attorney provided by the applicants from countries that have signed The Hague Legislation Convention, 1961 are not required to be legalized by the Indian Embassy it is carries a conforming Apostle certificate.

LETTER OF BID SUBMISSION

**To
Chief General Manager (DES),
EdCIL (India) Limited,
EdCIL House, 18A, Sector- 16A,
NOIDA- 201 301 (U.P)**

SUBJECT- Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution

-Submission of Bid -

Sir,

Having examined the details given in Press Notice, Notice Inviting Bid & Bid Document for the above work, I/we hereby submit the relevant information.

1. I/We hereby certify that all the statements made and information supplied in the enclosed form _____ and accompanying statements are true and correct.
2. I / we certify that we have not changed/alterd any word/sentence or any figure in number/s or words appearing the original tender document uploaded by EdCIL on the designated web page for e-tendering. In case, if a fraudulent activity is found at any stage between tender submission to final closure of the tender/contract, our candidature/bid/contract shall be immediately cancelled and EMD/Performance security/ security deposit along with the due amount towards the work executed or advance shall be forfeited. EdCIL will not entertain any claim or entertain any reason for this intentional act. EdCIL may go for the legal action against the bidder for recovering any one or all damages caused to EdCIL or its client on this account.
3. I/We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
4. I/We submit the requisite **certified solvency certificate** and authorize the EdCIL to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize EdCIL to approach individuals, employers, firms and corporation to verify our competency and general reputation.
5. I/We submit the following **certificates** in support of our suitability, technical knowledge and capability for having successfully completed the following works:

S.No.	Name of Work	Certificate From

6. Earnest Money Deposit amounting to Rs.10,00,000 (Rs. Ten Lakh) in the form of DD/Pay Order No. ----- dated ----- issued by ----- Bank is submitted.
7. Demand Draft of Rs. (NIL)/- towards Bid document cost.: If applicable

Enclosures:

Date of Submission :

Bank Guarantee towards Bid Security (EMD)

Bank Guarantee No. _____

**To,
Chief General Manager (DES)
EdCIL (India) Limited
EdCIL House, 18 A,
Sector-16 A NOIDA – 201301 (U.P.), India**

Whereas (here in after called "the Bidder") has submitted its Bid dated(Date) in response to the RFP No:..... for Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution (here in after called "the Bid")

KNOW ALL MEN by these presents that We having our registered office at..... (hereinafter called the "Bank") are bound onto EdCIL India Limited, Noida (hereinafter called "EdCIL") in the sum of for which payment well and truly to be made to the said EdCIL itself, its successors and assignees by these presents.

The conditions of these obligations are:

1. If the Bidder withdraws its Bid during the period of Bid validity or
2. If the Bidder, having been notified of the acceptance of its Bid by EdCIL

during the period of Bid validity:

1. fails or refuses to execute the Agreement form if required; or
2. fails or refuses to furnish the performance security, in accordance with the Bid requirement

We undertake to pay EdCIL up to the above amount upon receipt of its first written demand, without EdCIL having to substantiate its demand, provided that in its demand EdCIL will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to (Date) and any demand in respect thereof should reach the Bank not later than the above date.

Dated: the Day of for

(indicate the name of bank)

Signature of Banks Authorized official

Witness (Name)_____

Designation with Code No. -----

1. Full Address-----

2.

Annexure XI

Name of the Bank: _____

To

**Chief General Manager (DES)
EdCIL (India) Limited
EdCIL House, 18 A, Sector-16 A
NOIDA – 201301 (U.P.)**

PERFORMANCE BANK GUARANTEE FORMAT

In consideration of the Chief General Manager EdCIL acting through _____ (Designation & address of Contract Signing Authority), (hereinafter called "The EdCIL (India) Ltd") having agreed under the terms and conditions of agreement/ Contract Acceptance letter No. _____

Dt : _____ Made between _____ (Designation & address of contract signing Authority) and _____ (here in after called "the said Agency" for the work _____ (here in after called "the said agreement") having agreed for submission of a irrevocable Bank Guarantee Bond for ₹ _____ (₹ _____ only) as a performance security Guarantee from the Agency for compliance of his obligations in accordance with the terms & conditions in the said agreement.

1. We _____ (Indicate the name of the Bank) hereinafter referred to as the Bank, undertake to pay to the EdCIL (India) Ltd an amount not exceeding ₹ _____ (₹ _____ only) on demand by the EdCIL (India) Ltd.
2. We _____ (Indicate the name of the bank, further agree that (and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from the EdCIL (India) Ltd through the CGM(DES), EdCIL (India) Ltd, Noida or _____ (Designation & Address of contract signing authority), stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the EdCIL (India) Ltd by reason of any breach by the said Agency of any of the terms of conditions contained in the said agreement or by reason of the Agency failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding ₹ _____ (₹ _____ Only).
3. (A) We _____ (indicate the name of Bank) further undertake to pay to the EdCIL (India) Ltd any money so demanded notwithstanding any dispute or dispute raised by the Agency in any suite or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

(B) The payment so made by us under this Performance Guarantee shall be a valid discharge of our liability for payment there under and the Agency shall have no claim against us for making such payment.

4. We _____ (Indicate the name of bank) to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the EdCIL (India) Ltd under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged by _____

(Designation & Address of contract signing authority) on behalf of the EdCIL (India) Ltd, certify that the terms and conditions of the said agreement have been fully and properly carried out by the said Agency and accordingly discharges this guarantee.

- 5 (a) Notwithstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the EdCIL (India) Ltd or until (date of validity/ extended validity) whichever is earlier and no claim shall be valid under this guarantee unless notice in writing thereof is given by the EdCIL (India) Ltd within validity/ extended period of validity of guarantee from the date aforesaid.

(b) Provided always that we _____ (indicate the name of the Bank) unconditionally undertakes to renew this guarantee or to extend the period of guarantee form year to year before the expiry of the period or the extended period of the guarantee, as the case shall be on being called upon to do so by the EdCIL (India) Ltd. If the guarantee is not renewed or the period extended on demand, we _____ (indicate the name of the Bank) shall pay the EdCIL (India) Ltd the full amount of guarantee on demand and without demur.

6. We _____ (indicate the name of Bank) further agree with the EdCIL (India) Ltd that the EdCIL (India) Ltd shall have the fullest liberty without our consent and without effecting in any manner out of obligations hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to the powers exercisable by the EdCIL (India) Ltd against the said Agency and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Agency for any bearance act or omission on the part of the EdCIL (India) Ltd or any indulgence by the EdCIL (India) Ltd to the said Agency for by any such matter or thing whatsoever under the law relating to sureties for the said reservation would relive us from the liability.

7. This guarantee will not be discharged by any change in the constitution of the Bank or the Agency.

8. We, _____ (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the EdCIL (India) Ltd in writing.

9. This guarantee shall be valid up to (Date of Completion plus 90 Days). Unless extended on demand by EdCIL (India) Ltd. Notwithstanding anything to the contrary contained hereinbefore, our liability under this guarantee is restricted to Rs..... (Rs.....only) unless a demand under this guarantee is made on us in writing

on or before..... we shall be discharged from our liabilities under this guarantee thereafter.

Dated:	The	Day of	For
		(indicate the name of bank)	
		Signature of Banks Authorized official	
Witness		(Name) _____	
		Designation with Code No. -----	
1		Full Address-----	
2.			

PROFORMA PRE CONTRACT INTEGRITY PACT

GENERAL

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ____ day of the month of 2020, between, on one hand, acting through Shri/Smt. _____, Designation, EdCIL (India) Limited (hereinafter called the "BUYER"/ "EdCIL" interchangeably, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part

AND

M/s _____ represented by Shri _____, Chief Executive Officer (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the EdCIL proposes to procure services towards "**Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution**".

For its clients and BIDDER/Seller is willing to offer the said services and related items as referred to in the Bid document No. **EdCIL/DES/Virtual Classroom Solution/2020/02** Dated 2020.

WHEREAS the BIDDER is a private company /public company / Government undertaking / partnership / registered expert agency, constituted in accordance with the relevant law in the matter and the EdCIL is a Public Sector Undertaking under Ministry of Human Resource Development performing its functions.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:

Enabling the EdCIL to obtain the desired services as referred to in the Bid document No. **EdCIL/DES/Virtual Classroom Solution/2020/02** dated2020 at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement and Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the EdCIL will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. Commitments of the EdCIL

- 1.1 The EdCIL undertakes that no official of the EdCIL, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the EdCIL will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the EdCIL with full and verifiable facts and the same is prima facie found to be correct by the EdCIL, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings shall be initiated by the EdCIL and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the EdCIL the proceedings under the contract would not be stalled.

3. Commitments of Bidders

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:

- 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the EdCIL, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the EdCIL or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract with the Government.

- 3.3 Bidders shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
- 3.4 BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
- 3.5 The BIDDER further confirms and declares to the EdCIL that the BIDDER is the original manufacturer/integrator/authorized government sponsored export entity and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the EdCIL or any of its functionaries, whether officially or unofficially to the award to the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation, as the case shall be for satisfactory performance of the proposed terms of Bidder.
- 3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the EdCIL or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the EdCIL as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the EdCIL, or alternatively, if any relative of an officer of the EdCIL has financial interest / stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of Bid.
- 3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the EdCIL.

4. **PREVIOUS TRANSGRESSION**

- 4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this integrity pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the bid process.
- 4.2 The BIDDER agrees that if it makes incorrect statement on this subject. BIDDER can be disqualified from the Bid process or the contract, if already awarded, can be terminated for such reason.

5. **EARNEST MONEY DEPOSIT**

- 5.1 While submitting Technical bid, the BIDDER shall deposit an amount of Rs. 10,00,000/- as Earnest Money with the EdCIL through Account Payee Bank Draft or a Pay Order in favor of EdCIL (India) Limited.
- 5.2 The instrument for Security Deposit made shall be valid up to the specified period and the bidder shall be liable to keep the said instrument valid for such extended period as the case shall be for satisfactory performance of the terms of Bidder above referred till the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the EdCIL, including O&M period, whichever is later.
- 5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining of Performance Bond in the corresponding Contract governing such agreement that the provisions of Sanctions for Violation shall be applicable for encashment of Performance Bank Guarantee deposited towards forfeiture of said amount in case of a decision by the EdCIL to forfeit the same without assigning any reason for imposing such sanction.
- 5.4 No interest shall be payable by the EdCIL to the BIDDER on Earnest Money Deposit for the period of its currency.

6. **SANCTIONS FOR VIOLATIONS**

- 7.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the EdCIL to take all or any one of the following actions, wherever required:
- i. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

- ii. The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit / Performance Bond (Bank Guarantee) (after the contract is signed) shall stand forfeited either fully or partially, as decided by the EdCIL and the BUYER (EdCIL) shall not be required to assign any reason therefore.
 - iii. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
 - iv. To recover all sums already paid by the EdCIL, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR as the case shall be. If any outstanding payment is due to the BIDDER from the EdCIL in connection with any other contract for any other stores or on any account whatsoever and by whatsoever name called, such outstanding payment could also be utilized to recover the aforesaid sum and interest thereto.
 - v. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the EdCIL, along with interest.
 - vi. To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the EdCIL resulting from such cancellation/rescission and the EdCIL shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
 - vii. To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which shall be further extended at the discretion of the EdCIL.
 - viii. To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
 - ix. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the EdCIL with the BIDDER, the same shall not be opened.
 - x. Forfeiture by way of encashment of Performance Bond in case of a decision by the EdCIL to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 6.2 The EdCIL will be entitled to take all or any of the actions mentioned at Para 6.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of any offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

- 6.3 The decision of the EdCIL to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, an Independent Monitor(s) shall be appointed by EdCIL, in case of breach of the provisions of the pact.

7. INDEPENDENT MONITORS

- 1.1 An Independent monitor (s) shall be appointed by EdCIL, in case of breach of the provisions of the pact.
- 1.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 1.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 1.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project / procurement, including minutes of meetings.
- 1.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the EdCIL.
- 1.6 The BIDDER(s) accept that the Monitor has the right to access without restriction to all Project documentation of the EdCIL including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Sub-bidders. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Sub-bidder(s) with confidentiality.
- 1.7 The EdCIL will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 1.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/within 8 to 10 weeks from the date of reference or intimation to him by the EdCIL / BIDDER and, shall the occasion arise, submit proposals for correcting problematic situations.

2. FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of this Pact or payment of commission, the EdCIL or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide

necessary information and documents in English and shall extend all possible help for the purpose of such examination.

3. LAW AND PLACE OF JURISDICTION

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the EdCIL. s

4. OTHER LEGAL ACTIONS

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that shall follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

5. VALIDITY

5.1 The validity of this Integrity Pact shall be governed by the terms of the Bid No. EdCIL/DES/Virtual Classroom solution/2020/02 towards complete execution of the contract to the satisfaction of both the EdCIL and the BIDDER/Seller, including O&M period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract awarding the Bidder with successful bidder.

5.2 Shall one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

6. The parties hereby sign this Integrity Pact at _____ on _____.

EdCIL (India) Limited
 Name of the Officer :
 Designation:

BIDDER
 CHIEF EXECUTIVE OFFICER

Witness:

Witness:

1. _____
 2. _____

(The Pre-Contract Integrity Pact shall be modified based in line with the conditions of the Bid Documents)

Manufacturer (OEM) Authorization Form

No. _____ dated _____

To

**Chief General Manager (DES)
EdCIL (India) Limited
EdCIL House, 18 A, Sector-16 A
NOIDA – 201301 (U.P.)**

Dear Sir:

Bid No. _____

We _____ who are established and reputed manufacturer of _____ (name and description of goods offered) having factories at _____ (address of factory) with factory registration no. _____ do hereby authorize M/s _____ (Name and address of Agent) to submit a bid, and sign the contract with you for the goods manufactured by us against the above bid.

We hereby extend our full warranty as per the required terms and conditions of Contracts, for the goods and services offered for supply by the above firm against this Invitation for Bid. We further certify that we shall support vendor with all related spares and maintenance during the entire contract period including the period of warranty and AMC and we also declare that the product proposed in this contract will not be end of life till the contract period.

Yours faithfully,

(Name): _____

(Name of manufacturers): _____

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

Tender Checklist

S. No.	Description	Yes/No with Page No.
1.	BID SECURITY(EMD) Whether the bidder has attached the Bid Security as per format of the Bid Security form?	
2.	Amount of Bid Security (EMD) as per bid requirement or not?	
3.	Form in which Bid security (EMD) enclosed (Bank Guarantee/Demand Draft).	
4.	Date of issue of Demand Draft for EMD	
5.	Bid validity 180 days beyond the last date of tender opening or not?	
6.	Legal Status/ Constitution of firm (any document & partnership deed etc.)	
7.	Whether the bidder has quoted for all the items in the financial bid for solution 1?	
8.	Whether the bidder has quoted for all the items in the financial bid for solution 2?	
9.	Whether price as per Financial Bid quoted or not?	
10.	Whether Project Timeline as per bid agreed or not?	
11.	Payment terms as per bid agreed or not?	
12.	Undertaking as per Annexure-III or not?	
13.	A brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the above said work is attached or not?	
14.	Letter of financial proposal signed and enclosed with the financial bid offer	
15.	Signed copy of Pre-contract integrity pact	

S. No.	Description	Yes/No with Page No.
16.	Letter of Bid submission	
17.	Signed copy of the tender document submitted	
18.	Power of Attorney	
19.	Declaration Sheet with all the balance of required credentials	
20.	Valid registration certificate issued by NSIC/MSME or other appropriate government authorities (For MSMES and start ups only)	
Pre-qualification Criteria		
21.	The Bidder should be registered under Companies Act, 2013 in India and should have been in operation in India for at least last five years executed as on date of release of tender. Consortium of companies/ firms is not allowed.	
22.	<p><u>For solution-1:</u> The bidder should have supplied, commissioned and maintained atleast 150 virtual classroom using VSAT technologies in any Govt Departments/autonomous Institutes in India in the last five year executed as on date of release of Tender</p> <p><u>For solution-2:</u> The Bidder should have Supplied, Commissioned and Maintained atleast 150 virtual classrooms using internet technologies in India in any Govt. Departments /autonomous institutes in the last five years executed as on date of release of tender.</p>	

S. No.	Description	Yes/No with Page No.
23.	<p>The Bidder should have an average annual turnover of at least INR 60 Crores from IT/ ITES services during the last three financial years i.e. 2017-2018, 2018-19 & 2019- 2020 with net profit and positive net-worth.</p> <p style="text-align: center;">And</p> <p>The Bidder should have a minimum average annual turnover of INR 30 Crores generated from supply, commissioning and maintenance of virtual classrooms /digital classrooms over the financial years 2017-2018, 2018-19 & 2019- 2020.</p> <p><u>For MSME registered with the concerned authority</u></p> <p>The Bidder should have an average annual turnover of at least INR 48 Crores from IT/ ITES services during the last three financial years i.e. 2017-2018, 2018-19 & 2019- 2020 with net profit and positive net-worth. Net-worth should be as per the definition mentioned in the section 2 (57) of Companies Act 2013.</p> <p style="text-align: center;">And</p> <p>The Bidder should have a minimum average annual turnover of INR 24 Crores generated from supply, commissioning and maintenance of virtual classrooms /digital classrooms over the financial years 2017-2018, 2018-19 & 2019- 2020.</p>	
24	The bidder should have the team strength of Min. 75 Number of employees on their direct rolls.	
25	<p>The bidder should have atleast 2 Service Office in any region (operational since min 5 years from the date of release of tender).</p> <p>Regions: North, West, South, East & Northeast, and Central India</p>	
26	The bidder should produce the Proof for Experience of maintaining and supporting 01 virtual classroom /digital classroom project in India in Govt. Department/ autonomous institute for a period of at least (36) months from the date of Go Live of worth not less than 10 Crore.	

S. No.	Description	Yes/No with Page No.
27	The bidder should possess ISO 9001:2013 or latest as on date of release of tender.	
28	The bidder should neither have been debarred by any Central Government/ State Government/PSU/Government Bodies/Autonomous Bodies.	
29	The bidder should submit valid undertaking letter from the OEM for Hardware and System Software confirming following: <ul style="list-style-type: none"> • OEM(s) of the proposed product(s) shall provide support including spares, updates, patches, security patches, fixes, bug fixes, for the quoted products for the entire contract period and; • That the proposed products meet the technical & functional requirements & also products quoted are of the latest version / specification and are not nearing end of life. 	
30	The bidder shall be a registered company in India with valid GST Registration and PAN number allotted by the respective authorities.	
31	The Authorized Signatory signing the Bid on behalf of the Bidder - should have the Power of Attorney duly authorized by the Board of Directors to sign the Bid.	

Annexure XV

Contract Form

THIS AGREEMENT made the day of 2020 between EdCIL (Hereinafter called "the Purchaser") of the one part and (Name & address of Supplier) (Hereinafter called "the Supplier") of the other part:

WHEREAS the Purchase is desirous that certain Goods and ancillary services viz. (Brief Description of Goods and Services) and has accepted a bid by the Supplier for the supply of those goods and services in the sum of (Contract Prize in words and Figures) (Hereinafter called "the Contract Price")

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and constructed as part of this Agreement, viz.,

- [a] The Price Schedule submitted by the Bidder;
- [b] The Schedule of Requirements;
- [c] The Terms & Conditions
- [d] The EdCIL's Notification of Award/ Purchase Order

3. In consideration of the payments to be made by the EdCIL to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the EdCIL to provide the goods and services and to remedy defects herein in conformity in all respects with the provisions of the Contract.
4. The EdCIL hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract prices or such other sum as shall become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services, which shall be supplied/ provided by the Supplier, are as under:

S. No.	Brief Description of Goods & Services	Quantity to be supplied	Unit Price	Total Price	Delivery Terms
--------	---------------------------------------	-------------------------	------------	-------------	----------------

TOTAL VALUE:

DELIVERY SCHEDULE:

IN WITNESS where of the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the
said (For the EdCIL)

in the presence of

Signed, Sealed and Delivered by the
said (For the Supplier)

in the presence of

Annexure XVI

FORM – A
DELIVERY CERTIFICATE

The items mentioned as per details given below, have been physically verified by way of opening the cartons/packing and verifying the machine/ equipment supplied and model of the Equipment/Items. It is certified and acknowledged that the same have been received at this Institution in good condition.

Sl. No.	Addresses	School Name	Description of Equipment	Serial No of Device	Make	Model	Quantity
1							

Please make appropriate column, as per requirement.

The items as per details given below was/were received in damaged conditions and therefore are not acceptable. This damaged goods / equipment have been returned to the supplier and supplier is required to supply the new equipment in lieu of damaged one.

Details of the Goods/Equipment received in objectionable condition

Sl. No.	Addresses	School Name	Description of Equipment	Serial No of Device	Make	Model	Quantity
1							

Signature of Supplier or its representative

Name: _____

Designation: _____

Date: _____

Rubber Seal: _____

Signature of School Representative

Name: _____
Designation: _____
Date: _____
Rubber Seal: _____

Annexure XVII

INSTALLATION CERTIFICATE

1. The following goods/equipment, supplied by the Supplier at this school have been successfully installed and commissioned by the Supplier.

Sl. No.	Addresses	School Name	Description of Equipment	Serial No of Device	Make	Model	Quantity
1							

Note: In case of need, a fresh form on these lines shall be prepared & issued by EdCIL. Serial Number of devices has to be recorded in the certificate.

2. The Supplier has fulfilled his contractual obligations related to supply & installation of the Virtual Classroom Solution

OR

3. The Supplier has not fulfilled his contractual obligation with regard to following.

(Mention here deviation, if any, related to successful installation.)

- _____
- _____

Remarks:

Signature of Supplier or its representative

Name: _____

Designation: _____

Date: _____

Rubber Seal: _____

Signature of School Representative

Name: _____

Designation: _____

Date: _____

Rubber Seal: _____

EdCIL/DES/Virtual Classroom Solution/2020/02

Equipment Specification Compliance

COMPLIANCE STATEMENT FORM

- a) Bidders shall respond to basic sections of this tender clause by clause/Clauses, using a compliance summary statement, the sample format of which is given below. This shall be in sequential order, the same as is given in this specification.

S.No.	Technical specification of each line items as per Scope of work	Compliance statement	Description
		Put Comply or not comply	Explain how the offered good is complaint or not compliant with the requirement of the technical specification attached (if the bidder does not mention justification for compliance, it might be considered as non-compliant)

- b) If no compliance is stated for a clause, the good will be assumed not to comply with that particular specification item, contract and standard commercial terms and Conditions
- c) For purpose of compliance verification, a document and page number cross-reference should be given (where applicable) in the reference column of the compliance summary statement.
- d) The supplier may include other relevant documentation by indicating a page number of document. It is mandatory to include detailed technical documentation, covering specification and quality performance of goods to be offered.
- e) Any clause marked with "comply" in the bidders' compliance summary statement is binding on the successful bidder to supply goods that meet the requirements of that clause. This shall apply for the lifetime of any awarded contract.

Pre-Bid Query Format

Pre-bid queries should be submitted in .XLS format.

RFP Description				
RFP No.				
Organization				
Address				
Contact Person				
Contact No.				
Mail Id				
S.No.	Section No.	Page No.	Clause as per RFP	Clarification Sought

PERFORMA FOR DECLARATION ON PROCEEDINGS UNDER INSOLVENCY AND BANKRUPTCY CODE, 2016

Tender No. :

Name of Work :

Bidder 's Name :

I/ We, M/s. _____ declare that:-

- a) I /We am / are not undergoing insolvency resolution Process or liquidation or bankruptcy proceeding as on date.
- b) I /We am / are undergoing insolvency resolution process or liquidation or bankruptcy proceeding as on date as per Details mentioned below. (Attached detail with technical bid)

Note: Strike out one of above which is not applicable.

It is understood that if this declaration is found to be false, EdCIL (India) Ltd. shall have the right to reject my / our bid, and forfeit the EMD, if the bid has resulted in a contract, the contract will be liable for termination without prejudice to any other right or remedy (including holiday listing) available to EdCIL (India) Ltd.

Place:

Date: Signature of Bidder Name of Signatory

BID DOCUMENT

NATIONAL COMPETITIVE BIDDING

SELECTION OF SERVICE PROVIDER FOR ENTERING INTO RATE CONTRACT FOR DESIGN, INSTALLATION, COMMISSIONING AND MAINTENANCE OF VIRTUAL CLASSROOM PLATFORMS SOLUTION

PART-II- FINANCIAL BID



EdCIL (India) Limited

A Govt. of India Category-I Mini Ratna CPSE

EdCIL House, Plot No. 18A, Sector 16A,

Noida-201301 (U.P.) India

Tel: 0120 – 2512001-006, FAX: 0120-2515372

Dated:

This document serially numbered from page number 144 to 156

Instructions to Bidders

1. Financial Bid shall be submitted with full price details.

Financial Bid shall contain only the prices duly filled in as per the format given in Schedule of Rates provided in the tender document. Price bid should not have any Commercial and/or Technical stipulation in addition to, what is already given in Part I – Technical bid.

Financial Bid Standard Form-1 shall be used for the preparation of the price quote according to the instructions provided.

2. The bid shall be evaluated on total Price as shown in financial bid.
3. The prices quoted by the bidder shall be fixed for the quantity mentioned for the duration of the contract.
4. The changes displayed in the corrigendum/addendum to the bid documents, particularly with the financial bid should be attached with the **Financial Bid Submission Form**, in the same packet, duly signed and stamped by the authorized signatory of the Bidder firm.
5. The financial bid form-1 along with financial bid submission form should be filled in all respect and uploaded in **.PDF** format (only) duly signed and sealed by the authorized representative. In case, the financial bid documents are not complete in all respect the same should be treated as incomplete at financial bid stage and shall be considered non-responsive.

FINANCIAL BID SUBMISSION FORM

To:

**Chief General Manager (DES)
EdCIL (India) Limited
EdCIL House, 18 A, Sector-16 A
NOIDA – 201301 (U.P.)**

Dated: ___/___/2020

Dear Sir,

We, the undersigned, offer to provide **“Selection of Service provider for Entering into Rate Contract for Design, installation, Commissioning and Maintenance of Virtual Classroom Platforms Solution”** in accordance with your request for proposal dated ___/___/2020.

Our attached Financial Bid for solution-I is for the amount of _____ [Indicate the corresponding to the amount(s), currency (ies) {Insert amount(s) in words and figures}].

Our attached Financial Bid for solution-II is for the amount of _____ [Indicate the corresponding to the amount(s), currency (ies) {Insert amount(s) in words and figures}].

Please note that all amounts shall be the same as in Form-1. Our Financial Bid shall be binding upon by us subject to the modifications resulting from Contract negotiations, if any, up to expiration of the validity period of the Proposal.

We remain,

Yours sincerely,

Authorized Signature {In full and initials}:

Name and Title of Signatory:

In the capacity of:

Address:

E-mail:

FORM-1 FINANCIAL BID

A. Solution- I:

1. High End Studio

Sl. No	BOM for High End Studio Description	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1	Digital Video Camera with accessories				
2	Teleprompter				
3	Camera Tripod				
4	Tripod for Teleprompter				
5	Video Switcher with accessories				
6	Audio mixer with accessories				
7	Microphone: Cordless Lavalier				
8	Wired Mic with Table Mic Stand				
9	Hard disk based HD Recorder				
10	Audio Monitor				
11	Digital SD/HD-SDI video distribution				
12	Audio Distribution Amplifier				
13	Interactive 360 Degree convertible laptop				
14	Telephone Hybrid				
15	55" Professional UHD 4K conferencing display				
16	Talk Back System				
17	Character Generator				
18	Playout System				
19	Transmission Server				
20	32" professional display with wall mount				
21	Laptop with application software				
22	SDI to HDMI				
23	Analog to SDI				
24	HDMI to SDI				
25	Document Camera				
26	Portable Transmitter and Receiver				
27	LED Studio Lights with ceiling Grid and mounting clamps/hooks				
28	Storage Server of 32 TB				
29	Furniture				

30	Electrical networking and Studio cabling including all accessories				
31	Acoustic, Fabric Above Acoustics with Air Condition (20x30)				
32	UPS (15KVA)				
33	Capacity building of the teachers				
Sub Total 1					

2. Broadcast Studio:

Sl. No	BOM for Broadcast Studio Description	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1	Digital Video Camera with accessories				
2	Video Switcher with accessories				
3	Audio mixer with accessories				
4	Camera Tripod				
5	Microphone: Cordless Lavalier				
6	Wired Mic with Table Mic Stand				
7	Hard disk based HD Recorder				
8	Audio Monitor				
9	Digital SD/HD-SDI video distribution				
10	Audio Distribution Amplifier				
11	HD web camera				
12	Interactive Panel with laptop				
13	Telephone Hybrid				
14	Talk Back System				
15	Laptop with HDMI output				
16	Satellite Receiving Antenna, Satellite Modem (Compatible with EDUSAT Network) and LNB Laptop with application software				
17	Storage Server of 16 TB				
18	Furniture				
19	Electrical networking and Studio cabling including all accessories				
20	Acoustic, Fabric Above Acoustics with Air Condition(20x20)				
21	UPS (10KVA)				
Sub Total 2					

3. Mini Studio:

Sl. No	BOM for Mini Studio Description	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1.	Digital Video Camera with accessories				
2.	Camera Tripod				
3.	Audio mixer with accessories				
4.	Microphone: Cordless Lavalier				
5.	Recording Server				
6.	Furniture				
7.	32" professional display for Studio with floor Mount				
8.	Electrical networking and Studio cabling including all accessories				
9.	Acoustic, Fabric Above Acoustics with Air Condition (15x20)				
10.	UPS (5 KVA)				
Sub Total 3					

4. Main/Sub Interaction Centre facility (10/4 Seaters)

Sl. No	BOM for Main/sub Interaction Centre Description	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1	Power Backup system-5 KVA for 10 seater				
2	Power Backup system-3KVA for 4 seater				
3	LED TV for studio				
4	Laptop Workstation with Application for facilitator to interact.				
5	10-inch Multi touch panel				
6	Portable AV interactive device with multi touch				
7	Communication System				
8	Wi-Fi Modem				
9	HD Web Camera				
10	Electrical networking and Interaction center cabling including all accessories for 4 seater				
11	Electrical networking and				

	Interaction center cabling including all accessories for 10 seater				
12	Capacity Building of the Teachers				
13	Furniture for 4 seater				
14	Furniture for 10 seater				
Sub Total 4					

5. Digital e- Content Development for LIVE teaching:

Sl. No.	Item of Work	Unit	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1	Digital e- Content Development for LIVE teaching	1				
Sub Total 5						

6. Centralized Application Software:

Sl. No.	Item of Work	Unit	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1.	Centralized Application Software for Upto 500 schools	1				
Sub Total 6						

7. Virtual Classroom:

Sl. No	BOM for Virtual Classroom set up Description	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1	Projector with ceiling mount				
2	Projector Screen				
3	Solar Hybrid Power Backup system				
4	Audio System				
5	Computing Device				
6	Application Software				
7	HD Web Camera				
8	Communication equipment				
9	Communication equipment 2 Way-VSAT				

10	Wi-Fi Modem				
11	Solar Panel				
12	Clicker Analytics system (50 handset and 1 receiver)				
13	Green Board				
14	Digital Notice Board-A				
15	Digital Notice Board-B				
16	Soft Board in classroom (per Sqft)				
17	Electrical networking and virtual classroom cabling including all accessories				
18	Laptop				
19	Capacity Building of the Teachers				
20.	Monitoring, Evaluation, analytics and assessments (per school)				
Sub Total 7					

8. On cloud Server Hosting costs per year:

Sl. No.	Description	Unit	Unit Price per year(A) (In INR)	Tax (%)	Tax Amount (B)	Total Price per year (Incl. Tax) (=A+B) (In INR)
1	On cloud Server for streaming in 0-500 schools	1				
Sub Total 8						

Summary of Solution-I:

Sl. No.	Item Description	Quantity	Units	Total Price (in INR)(Incl. Tax)
1	High End Studio	1	Nos.	
2	Broadcast Studio	1	Nos.	
3	Mini Studio	1	Nos.	

4	Main/Sub Interaction Centres Facility (10/4 Seater)	1	Nos.	
5	Digital e- Content development for Live teaching	20	Nos.	
6	Centralised Application Software	1	Nos.	
7	Virtual Classroom	20	Nos.	
8	On cloud Server Hosting cost per year	1	Nos.	
Total Financials 1(Incl. Taxes)				

Total Financials 1 (Incl. Taxes) (In words): _____

Note:

- **L1 for this solution will be decided on the basis of Total Financials 1 (Incl. Tax)**

Studio and School level Connectivity cost per year

Sl. No.	Item of Work	Unit	Price per year (in INR) (A)	Tax (%)	Tax Amount (B)	Total price per year (in INR) (Incl. Tax) (=A+B)
1	Studio Connectivity (leased line of minimum Bandwidth 10 mbps)	1				
2	Internet Connectivity per school (Minimum Bandwidth 2 mbps)	1				
3	Satellite Connectivity per studio (Minimum Bandwidth 2 Mbps)	1				

Note: The agreement may be signed between the EdCIL/end client and service provider for connectivity. The selected Bidder will be responsible for upkeep of the network and resolution of all the issues related with the network connectivity. The prices should be as per the TRI/Govt. guidelines.

Manpower - Running costs per year

Sl. No.	Description	Unit	Price per year (in INR) (A)	Tax (%)	Tax Amount (B)	Total per Year (Incl. Tax) (in INR) (=A+B)
1	Project Manager (MBA)	1				
2	Program Manager	1				
3	Studio Engineer	1				
4	Camera Man	1				
5	Studio Assistant	1				
6	Academic Manager	1				
7	Content Delivery Expert - Lead (For each Subject)	1				
8	Project coordinator and Analysts	1				
9	Manager Operations	1				
10	Quality Control – Audit Team	1				
11	Helpdesk/Tech Support	1				
12	Information Team	1				
13	Multimedia Coordinator	1				
14	Software Support	1				
15	Interaction Centre In charge	1				
16	School Level Volunteer (one for every school)	1				
17	Nodal Officer (one for every 20 school)	1				
18	Technical Engineer	1				

Note: Prices of the manpower services shall be compared with Govt. Rates./EdCIL Rate contract/ NICSI Rates before entering into rate contract for Manpower services.

Centralized Application Software (Add ons):

Sl. No.	Item of Work	Unit	Unit Price (A) (In INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (In INR)
1.	Centralized Application Software for Upto 1000 schools	1				
2.	Centralized Application Software for Upto 2000 schools	1				
3.	Centralized Application Software for Upto 3000 Schools	1				

On cloud Server Hosting costs per year(Add ons):

Sl. No.	Description	Unit	Unit Price per year(A) (In INR)	Tax (%)	Tax Amount (B)	Total per year (Incl. Tax) (=A+B) (In INR)
1	On cloud Server for streaming in 501-1000 schools	1				
2	On cloud Server for streaming in 1001-2000 schools	1				
3	On cloud Server for streaming in 2001-3000 schools	1				

AMC Charges per year after 3 years of Onsite warranty for Sr. No. 1,2,3,4,5,6,7

Sl. No.	Item Description	In Percentage	Remarks (If Any)
1	AMC Charges (in %) per year after completion of 3 years of onsite warranty for the complete project		

Note: The bidder who is bidding for solution 1 needs to quote the prices for all the items referred above.

B. Solution-II:

Sl. No.	Item Description	Unit Price (A) (in INR)	Tax (%)	Tax Amount (B)	Total (Incl. Tax) (=A+B) (in INR)
Server Room (On Premise)					
1	Virtual E-Learning portal				
2	Recording and Streaming server central recording facility				
Sub Total 1					
Server Room (On Cloud per year)					
1	Virtual E-Learning portal with same specs of above (per student)				
2	Recording and Streaming server central recording facility with same specs of above (per 100Gb per school)				
Sub Total 2					
Studio:					
1.	Digital E Podium With Visualizer and controller				
2.	Share Board				
3.	Wall Mount Speakers				
4.	Full HD PTZ Camera for Faculty with tracking facility (optical zoom 20x)				
5	Teacher Studio Control Device				
6	Codec Workstation Controller				
7	Headphone with Mic				
8	Acoustic, Fabric above Acoustics with Air Condition (Min. 500 Sqft)				
9.	Interactive Panel with OPS (65 Inches)				
10.	Interactive Panel with OPS (75 Inches)				
11.	Interactive Panel with OPS (86 Inches)				
12.	Camera Cable				
13.	HDMI Cable				
14.	Speaker Cable				
15.	Control Cable				
16.	Optical Cable USB 3.0				
17.	Electrical Networking and studio cabling including all accessories				
18.	Capacity Building of the Teachers				
Sub Total 3					
Virtual Classroom					
1.	Full HD PTZ Camera for students (optical zoom 20x)				
2.	Lecturn				
3.	Interactive pen and pad				
4.	Projector with mounting kit				
5.	Projector screen				
6.	Sine wave UPS with external batteries				

7	Student Device				
8	Storage Facility				
9.	Air Conditioner				
10.	HD Web cam video camera				
11.	Fixed wide angled camera with embedded microphone for classroom				
12.	Interactive 13.3 Touch Facilitator Notebook				
13.	Electrical Networking and Virtual classroom cabling including all accessories				
14.	Capacity Building of the Teachers				
Sub Total 4					

Summary of Solution-II:

Sl. No.	Item Description	Quantity	Units	Total Price (in INR)(Incl. Tax)
1	Server Room (On Premise)	1	Nos.	
2	Server Room (On cloud per year)	1	Nos.	
3	Studio	1	Nos.	
4	Virtual Classroom	10	Nos.	
Total Financials 2 (Incl. Tax)				

Total Financials 2 (Incl. Taxes) (In words): _____

Note:

- L1 for this solution will be decided on the basis of Total Financials 2 (Incl. Tax).

Studio and School level running cost per year:

Sl. No.	Item of Work	Unit	Price per year (in INR) (A)	Tax (%)	Tax Amount (B)	Total price per year (Incl. Tax) (In INR) (=A+B)
1	Studio Connectivity (leased line of minimum Bandwidth 10 mbps)	1				
2	Internet Connectivity per school (Minimum Bandwidth 2 mbps)	1				

Note: The agreement may be signed between the EdCIL/end client and service provider for connectivity. The selected Bidder will be responsible for upkeep of the network and resolution of all the issues related with the network connectivity. The prices should be as per the TRI/Govt. guidelines.

AMC Charges per year after 3 years of Onsite warranty:

Sl. No.	Item Description	In Percentage	Remarks (If Any)
1	AMC Charges (in %) per year after completion of 3 years of onsite warranty for the complete project		

Note: The bidder who is bidding for solution 2 needs to quote the prices for all the items referred above.

Note for both the solutions 1 & 2:

- Bidder can bid either for one solution or for both solutions.
- Evaluation of bid will be done separately for both the solutions 1 and 2.
- Evaluation will be done on the basis of total price (inclusive of taxes).
- L1 will be declared separately for both the solutions.
- Any discount or change in the price should be included in the price quoted above.
- The prices will be inclusive of 3 year onsite Warranty and support cost.
- The bidder shall quote the price including all duties as applicable. GST shall be paid extra as per applicable rates. All other incidentals including travel, stay etc would be included in the price quoted above. EdCIL shall only make payment towards the GST charged in the invoice. other than that no other taxes/duties/charges will be paid.
- The costs quoted above shall be inclusive of cost pertaining to travel/stay and any other allowance/incidentals payable to the staff deployed by the bidder for the assignment.
- If there is any discrepancy in price quoted in figures and words, the price quoted in words shall be considered for evaluation.