

NALANDA UNIVERSITY

**District- Nalanda, Rajgir,
Bihar. Pin Code 803116**



**Tender Package No: 5B under Phase-I
Dated: 22.07.2020**

For the Supply, Installation, Testing & Commissioning of Audio and Video System etc. for all the Priority Building at the Permanent Campus of Nalanda University, Rajgir, Bihar.

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NALANDA UNIVERSITY

Notice Inviting e-Tenders

The Registrar, Nalanda University on Behalf of the Vice Chancellor, Nalanda University invites online the bids from firms/contractors of repute in two bid system for the following work:

NIT No: NU/Engg/14/5B/NIT/2019-20/04 Dated 22.07.2020

NAME OF WORK: Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.

Estimated Cost: Rs. 6,38,26,299.00

Earnest Money: 12.77 Lacs,

Period of Completion: 6 Months,

Last time and date of submission of bid: 24.08.2020 up to 3.30 pm (as per cppp)

Summary of Scope of work

This tender is invited for Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar, comprising of the following:

1. Spaces

- a. Outreach and Outreach Extension
- b. Block A
- c. Lab Block 1
- d. Lab Block 2
- e. School Building

2. Services

- a. Audio reinforcement for the spaces including ceiling or wall mounted speakers, amplifiers and related accessories and connectors.
- b. Video System for the spaces including Projection systems, Screens, Video Conferencing systems, Lecture recording system and related supporting hardware's and accessories.
- c. Any other work mentioned in the BOQ

3. Complete operation and Maintenance of the installed equipment's and system included in the BOQ for DLP as well as AMC period.

Site is located along the Patna - Rajgir Highway and is well connected with the city of Rajgir, Bihar. Total area of the site is approximately 455 acres ("Site").

The proposed campus of Nalanda University is planned to be developed on a mostly flat terrain in the foot hill of Nalanda Hills. The site is located in Gangatic plains area of Southern Bihar.

Entire campus is planned to be constructed in two phases. The first phase will be of approximately 140,200 Smt. of built up area. The present tender is for five priority buildings listed above and any other work that may be necessary as per the Engineer-In-Charge.

The tender is for the Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.

SECTION I: INVITATION FOR BIDS (IFB)

The Registrar, Nalanda University on behalf of the **Vice Chancellor, Nalanda University** invites the Online two bid system tender **for the Supply, Installation, Testing & Commissioning of Audio and Video System etc. for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.**

Estimated Cost	Rs. 6,38,26,299.00
Earnest Money	Rs. 12.77 Lacs (to be refunded after submission of Performance Guarantee)
Performance Guarantee	5% of Tendered Value.
Security Deposit	2.5% of Tendered Value
e-Tender Processing Fee	Rs. 5000 (Fifteen Thousand Only)
Time Allowed	6 Months
Date of Uploading Notice Inviting Tender	
Pre-bid Meeting	03.08.2020 at 11.00AM at NU Rajgir, as per the CPPP.
Last Date of Submission of Tender Date & Time	24.08.2020 up to 3.30 PM Or as per the CPPP.
Date & Time of Opening of Technical Tender (Eligibility) Documents	25.08.2020 at 3.30 PM OR as per the CPPP.

1. Contact information -

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University
The Registrar,
Nalanda University,
Nalanda, District Rajgir,
Bihar - 803116
T: +91-6112-255330 / Fax: +91-6112-255766
Email: phase1.tender@nalandauniv.edu.in

2. **Two** bid System –

The two bid system will be followed for this e-tender. In this system, the bidder shall submit his offer online in two parts viz. Technical Bid and Commercial Bid. The offers submitted by telegram/ fax/ e-mail/ by hand or any other mode except e-tender shall not be accepted. No correspondence will be entertained in this matter. The tender document can be downloaded from the websites: www.nalandauniv.edu.in or www.eprocure.gov.in.

The general condition of contract is framed inline of the CPWD guidelines amended till publish of the last date of the submission of the tender. However, the main clauses of the GENERAL CONDITION OF CONTRCAT IS ENCLOSED SEEPERATELY as **ANNEXURE-GCC** which must be referred for the understanding to the bidders and shall form a part of the NIT document.

Part 1: "Technical Bid" shall be uploaded in the form of following documents:

- a. Copy of Tender Fee in the form of Demand Draft for INR. **5000/-** drawn from any Nationalized/ Scheduled Bank, in favour of '**Nalanda University**' payable at Rajgir.
- b. **Copy of Earnest Money Deposit in the form of Demand Draft / FDR / Bank Guarantee of INR 12.77 Lakhs from Nationalized / Scheduled Bank in favour of "Nalanda University" payable at Rajgir, Bihar.**

EMD shall be exempted in case of Micro & Small Enterprise (MSEs) as defined in MSE Procurement policy issued by Department of Micro Small & Medium Enterprises (MSME) or are registered with Central Purchase Organization of the Concerned Ministry or Department or Start-up as recognized by Department of Industrial Policy & Promotion (DIPP). The bidders registered with MSME / DIPP should upload a copy of Valid Registration Certificate along with the technical bid. **The certificate should be specifically applicable for IT Hardware, Audio & Video Equipment etc.**

Note: The original instrument in respect of Earnest Money Deposit & Tender Fee or NSIC/MSME Exemption certificate must be submitted to **Nalanda University** on the address mentioned above on or before bid submission date/time in a sealed envelope. Incase of non-submission of original payment instrument of Tender Fee, EMD or NSIC/MSME exemption certificate, the bid shall be rejected. The Demand Draft submitted towards tender fee is non-refundable.

- c. Duly filled Technical Bid with proper seal and signature of authorized person on each page of the bid submitted. The person signing the bid should be the duly authorized representative of the firm/ company whose signature should be verified and certificate of authority should be submitted. The power of attorney or authorization or any other document consisting of adequate proof of the ability of the signatory to bind the firm/ company should be annexed to the bid.

- d. Self-Attested copy of GST, PAN & other Registration certificate, as applicable.
- e. A certificate by the auditor/ CA/ CS indicating the turnover of the firm should be enclosed. The bidder should have minimum average turnover of **INR 3.20 Crores** in last three during the immediate last three consecutive financial years

The bidder should not have incurred any loss (Profit after tax should be positive) in more than two (2) years during available last three consecutive financial years balance sheets, ending 31st March 2019, duly certified and audited by the Chartered Accountant.

Note: Govt of India's PSU / Autonomous Bodies will be exempted from above criteria during evaluation. However, they will be required to submit the Balance Sheet & Profit Loss Statement along with Technical bid in support to the above.

- f. The bidder shall furnish a SOLVENCY CERTIFICATE of value not less than INR. **2.55 Crores** certified by his bankers. Such certificate shall not be of a date, which is more than six months prior to the date of submission of tender.
- g. All documents related with Firm Registration/ Partnership Deed/ Articles of Memorandum of Association or Proprietorship Deed, Certificate of Incorporation should be uploaded.
- h. Only the authorized distributors/ resellers are allowed to bid for the items mentioned in the tender document. The bidder shall enclose specific Manufacturer authorization letter from Original Equipment Manufacturer for the products i.e. **Video Signal Equipment's – Switcher, Scalar, DSP, Button Panel, Lecture Recording & Streaming System, Lecture Capture Camera, PTZ Camera, Document Camera, Video Conference System, Annotation Device, Digital Podium, Projector's, Projection Screen's, LED Display's, Microphone's, Speaker's, Amplifier's, Digital Audio Conference System, mixer's and Software**, failing which bid shall be rejected by Nalanda University.
- i. The copy of Supply Orders/ Contracts/ Agreements issued by/ signed with Government of India (Ministry/ Department/ Undertaking/ PSU/ Educational Institutions such as IIT's, NIT's, or other such Central Universities/ Autonomous Government Body) for similar works value as mentioned below herein executed by the bidders in last Seven years ending as on previous day of last date of submission of bids.

For the above experience, the bidder should enclose the completion certificate duly issued by the end user. The bidder should have completed Audio & video project/s of at least **ONE** similar job not less than **INR 5.10 Crore** OR **TWO** similar job not less than **INR 3.82 Crore** OR **THREE** similar works not less than **INR 2.55 Crore**. .

The similar work means supply & installation & on-site support of all/ most of the IT, audio & video items mentioned in this tender document in a single project on turn-key basis in last seven years in India.

- j. The installation and warranty services are required at Nalanda University premises at Rajgir, Bihar. The bidder should submit along with the technical bid; the detail plan for providing warranty service at site(s).
- k. **The detailed technical specification, make & model and compliance to the Schedule of Requirement (Section IV)** should be provided in the technical bid.
- l. Undertaking to the effect that all the tender terms & conditions are acceptable to the bidder.

- Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University
- m. Undertaking to the effect that a Performance Bank Guarantee (PBG) of 5% of the order value will be submitted within 15 (fifteen) days of the receipt of Letter of award (LOA) or Supply Order from Nalanda University, Bihar.
 - n. Other related documents, mentioned in the tender document but not listed here.

Part 2: “**Commercial Bid**” shall be uploaded in the form of following documents:

Price schedule should be submitted online only in the e-procure document available on the website/CPPP. The Bidders shall fill all the required details in the commercial bid as per the cells available.

3. Pre-Bid Meeting:

The pre-bid meeting shall be held on **03.08.2020** at **1100 Hrs** at The Registrar, Nalanda University, Nalanda, District Rajgir, Bihar - 803116

Maximum 2 (Two) participants per bidder will be allowed to participate in the Pre – Bid Meeting. The queries, if any, will have to be submitted in writing 2 (two) days before the day of Pre – Bid Meeting on email id [phase1.tender@nalandauniv.edu.in] and the answers to the queries will be made available on our website. The COVID-19 related SOP issued by the Govt to be followed.

No queries shall be entertained after the Pre – Bid Meeting.

4. Date of submission of “Online bids”, “Hard Copies of the Technical bids” and “Opening” of the “Technical bids”

Last date for submission of Online bids is by **24.08.2020** up to **1530 Hrs** on CPPP(eprocure.gov.in).

The Tender Fee, EMD or exemption certificate can be submitted in person or through post/ courier in a sealed envelope at the below mentioned address along with the technical bid by 3PM, 31.08.2020 :

To

(Tender Box Kept at Reception, NU's Interim Campus)

**The Registrar,
Nalanda University,
Nalanda, District Rajgir,
Bihar - 803116**

Technical Bid in HARD COPY to be dropped by 31.08.2020, 3PM at the above-mentioned address /tender box. The same original copy to be submitted as uploaded online on CPPP.

Online Technical bid will be opened next day i.e **on 25.08.2020** at **15:30 Hrs** at Nalanda University, District Rajgir, Bihar.

Nalanda University, District Rajgir, Bihar shall not be responsible for any postal delays resulting in disqualification/ rejection of any bid) so as to reach on or before the due date and time. The bidders 'authorized representative (maximum two) can attend the bid

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University opening/s.

The representatives of bidders may choose to attend the opening of the **Online Technical Bids**. In case bidder requires any clarifications / information they may contact Nalanda University, District Rajgir, Bihar address given in **Clause 2 of Section I**.

The technical bids will be evaluated to shortlist the eligible bidder. The technical bids of only the short listed bidders shall be considered for further processing (technical evaluation).

Bidder/s whose technical bid is found to be acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the price bid.

The tender shall be accompanied with the following documents:

- a) EMD and Demand Draft for the-Tender Processing Fee shall be placed in a sealed Envelope 1 super scribed as **“Earnest Money and Cost of e-Tender Processing Fee”** with name of Work and due date of opening of the tender also mentioned thereon.
- b) Copies of certificates of work experience and other prequalifying documents as specified in the NIT shall be deposited in a sealed Envelope 2A super scribed as **“Eligibility Documents”**.
- c) All the tender documents (Notice Inviting Tender, Schedule of Quantities, BOQ, Technical Specifications and Tender drawings) uploaded by the University shall be duly signed on each page by the authorized signatory of the bidder, stamped and placed in a sealed Envelope 2B super scribed as **“Signed Tender Documents”**. The documents in this envelop 2B to be uploaded the scan copy in the e-tendering website (<http://www.eprocure.gov.in/eprocure/app>).
- d) Both the envelopes, Envelop 2A & 2B shall be put in to a large envelop super scribed as **“Envelop 2 Technical Tender”** and with the name of the work.
- e) **The Financial Tender shall be filled in online only.**

5. Opening of Price bids

Price bids of the technically qualifying bidders only will be opened Online in the presence of the bidders or their authorized representative, who choose to attend, at the **time place and date** to be informed later.

The authorized representative of bidders, present at the time of opening of the bids shall be required to sign an attendance register as a proof of having attended the commercial bid opening.

The bidder's name, bid prices and such other details considered as appropriate by Nalanda University, District Rajgir, Bihar, will be announced at the time of the opening of the bids.

(Technically accepted competitive bids ONLY will be considered for the online opening of Price Bids).

6. The tender submitted shall become invalid if:

- i) The bidders are found ineligible; or
- ii) The bidders fail to upload all the documents (Including GST Registration) as stipulated in this tender document.
- iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of e-Tender and hard copies as submitted physically in the office of the tender opening authority.
- iv) The lowest bidder does not deposit physical EMD along with the physical documents submitted.
- v) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender of any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
- vi) If the Bidder submits a conditional tender.

END OF SECTION I

SECTION II: **INSTRUCTIONS** TO BIDDERS (ITB)

1. **SITE** VISIT

The bidder shall visit the Site of Work, at his own cost, and examine the Site and its surroundings to satisfy himself and collect all information that may be considered necessary for proper assessment of the scope of Work enumerated in this tender document.

Contact Person at Nalanda University for Coordination of Site Visit.

**Junior Engineer Electrical,
Nalanda University, Rajgir, Bihar.
Email: skrishna@nalandauniv.edu.in**

2. **Delivery** and Execution Period / Project Timelines

The delivery and installation at site(s) must be completed within **180 days** from the date of placement of supply order by Nalanda University, District Rajgir, Bihar. It is mandatory for the bidders who respond to this bid to meet these expectations as time is the essence of this contract and is tightly linked to completing the project within the available time frame.

Note:

Sr. No	DESCRIPTION	DETAILS
1	Owner	Vice Chancellor, Nalanda University, Rajgir, Bihar
2	Tender Accepting Authority	Registrar, Nalanda University, Rajgir, Bihar.
3	Engineer In charge	Authorized Engineer Officer appointed by Nalanda University Rajgir, Bihar
4	Project Manager	Nominated Person/PMC by NU
5	Designer & Architect Consultants	VSC or the Consultants, appointed by NU as Architect Consultants.
6	Total Time allowed for execution of work	6 (Six) Months i.e. 180 Days

2.1 Locations for the Supply, Installation & Warranty Services

The items as detailed in this document are required to be supplied and installed at Nalanda

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University University, District Rajgir, Bihar. The contact details for the supply& installation shall be communicated in the Supply Order.

3. Order Placements and Release of Payment:

The supply order, and payment after scrutiny of the consultants shall be released by:

**The Registrar,
Nalanda University,
Nalanda, District Rajgir,
Bihar - 803116**

4. Eligible Bidders

- 4.1. The Bidder should have Supply Orders/ Contracts/ Agreements issued by/ signed with Government of India (Ministry/ Department/ Undertaking/ PSU/ Educational Institutions such as IIT's, NIT's, or other such Central Universities/ Autonomous Government Bodies) for similar works value as mentioned below herein executed by the bidders in last Seven years ending as on previous day of last date of submission of bids.

For the above experience, the bidder should enclose the completion certificate duly issued by the end user. The bidder should have completed Audio & video project/s of at least **ONE** similar job not less than **INR 5.10 Crore** **OR TWO** similar job not less than **INR 3.82 Crore** **OR THREE** similar works not less than **INR 2.55 Crore**.

The similar work means supply & installation & on-site support of all/ most of the IT, audio & video items mentioned in this tender document in a single project on turn-key basis in last seven years in India.

- 4.2. The bidder should have minimum average turnover of **INR 3.20 Crores** during the immediate **last three consecutive** financial years. A certificate by the auditor/ CA/ CS indicating the turnover of the firm should be enclosed.

The bidder should not have incurred any loss (**profit after tax should be positive**) in more than two years during available **last five consecutive balance sheet**, duly audited and certified by the Chartered Accountant. The bidder(s) are required to submit at least the audited profit and loss statement sheet duly certified by the Chartered Accountant.

Note: Govt of India's PSU / Autonomous Bodies will be exempted from above criteria during evaluation. However they will be required to submit the Balance Sheet & Profit Loss Statement along with Technical bid in support to the above.

- 4.3. The bidder shall furnish a SOLVENCY CERTIFICATE of value not less than **INR 2.55 Crores** certified by his bankers. Such certificate shall not be of a date, which is more than six months prior to the date of submission of tender.
- 4.4. Bidder should be **authorized distributors/ resellers** for the items i.e. Video Signal Equipment's – Switcher, Scalar, DSP, Button Panel, Lecture Recording & Streaming System, Lecture Capture Camera, PTZ Camera, Document Camera, Video Conference System, Annotation Device, Digital Podium, Projector's, Projection Screen's, LED Display's, Microphone's, Speaker's, Amplifier's, Digital Audio Conference System, mixer's and Software as mentioned in the tender document.

- 4.5. Bidder should be registered with Sales Tax/ Income Tax Department of Government of India and should possess a valid **GST No, PAN No & other** registration documents as on date of bid submission.
- 4.6. Bidders should not have been blacklisted or declared ineligible for **corrupt and fraudulent** practices.
- 4.7. The bidder shall furnish the List of eligible similar works successfully completed during the last seven years ending as on ending previous day of last date of submission of tenders in '**Form C**' along with copy of Purchase Order/Agreement along with Certificate of Installation completion.
- 4.8. Manufacturer Authorization(MAF) Form from respective OEM to be enclosed along with Technical bid for line items i.e. **Video Signal Equipment's – Switcher, Scalar, DSP, Button Panel, Lecture Recording & Streaming System, Lecture Capture Camera, PTZ Camera, Document Camera, Video Conference System, Annotation Device, Digital Podium, Projector's, Projection Screen's, LED Display's, Microphone's, Speaker's, Amplifier's, Digital Audio Conference System, mixer's and Software** as per the OEM Format / Format given in tender document, failing which bid shall be rejected by Nalanda University.

Note: Nalanda University, District Rajgir, Bihar reserves the right to award/ reject the orders to any particular bidder without assigning any reason thereof. NU also reserve the right to cancel the tender at any stage without assigning any reason.

5. Amendment of Bidding Document

- 5.1 At any time prior to the deadline for submission of bids, Nalanda University, District Rajgir, Bihar may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder, modify the bid document.
- 5.2 All prospective bidders who have purchased the bidding document will be notified of the amendment in writing, and such amendments/ modifications will be binding on them.
- 5.3 Nalanda University, District Rajgir, Bihar at its discretion may extend the deadline for the submission of bids if the bid document undergoes changes during the bidding period, in order to give prospective bidders time to take into the consideration the amendments while preparing their bids.

A. PREPARATION OF BIDS

Bid Form should be submitted **Online** by all bidders as per format provided in the tender document of the bid document. In case Bid Form is not submitted by the Bidder as per format, their bid shall be liable for rejection. Bidder should avoid, as far as possible, corrections, overwriting, erasures or postscripts in the bid documents. In case however any corrections, alterations, changes, erasures, amendments and/or additions have to be made in the bids, they should be supported by dated signatures of the same authorized person signing the bid documents. The bidders shall sign all the Terms and Conditions of the tender document in each page in token of accepting the conditions and enclose with the bid.

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

Local Conditions: It will be imperative on each Bidder to fully acquaint himself of all the local conditions and factors that would have any effect on the performance of the contract and cost of the Goods. The Purchaser shall not entertain any request for clarifications from the Bidder regarding such local conditions. No request for the change of price, or time schedule of delivery of Goods shall be entertained after the Purchaser accepts the Bid.

6. Earnest Money Deposit (EMD)

6.1. The Earnest Money Deposit in the form of Demand Draft / FDR / Bank Guarantee of INR 12.77 Lacs from Nationalized / Scheduled Bank in favour of “Nalanda University” payable at Rajgir, Bihar.

EMD shall be exempted in case of Micro & Small Enterprise (MSEs) as defined in MSE Procurement policy issued by Department of Micro Small & Medium Enterprises (MSME) or are registered with Central Purchase Organization of the Concerned Ministry or Department or Start-up as recognized by Department of Industrial Policy & Promotion (DIPP). The bidders registered with MSME / DIPP should upload a copy of Valid Registration Certificate along with the technical bid. **The certificate should be specifically applicable for IT Hardware, Audio & Video Equipment etc.**

Note: The original instrument in respect of Tender Fee, Earnest Money Deposit or NSIC/MSME Exemption certificate must be submitted to **Nalanda University** on the address mentioned above on or before bid submission date/time in a sealed envelope. In case of non-submission of original payment instrument of Tender Fee, EMD or NSIC/MSME exemption certificate, the bid shall be rejected. The Demand Draft submitted towards tender fee is non-refundable.

a. The MSEs who intend to claim benefits under MSME act, shall fulfill the following, otherwise they run the risk of their bid being technically passed over as “INELIGIBLE” for the benefits applicable to MSEs and their bid will not be considered for further evaluation.

b. MSEs which are specified by the Ministry of Micro, Small and Medium Enterprises under MSMED Act 2006 and Public Procurement Policy, 2012 as Manufacturing/Service Enterprises should be registered with Office of Deputy Commissioner of Industries (ODCI) / NSIC under its Single Point Registration Scheme (SPRS).

c. Office of Deputy Commissioner of Industries (ODCI) / NSIC certificate with monetary limit should be valid on the scheduled date /extended date of submission of tender. Certificates without monetary limits on Investment Plant & Machinery will be considered for similar Products / Services.

d. The items of Product / Services mentioned under ODCI (MSME) /NSIC certificate should be the same or similar to the tendered items.

e. The monetary limit stipulated in the MSME/NSIC certificate of MSEs should be equal or more than the value of work(s)/Supply is/are “In hand(Progress)” awarded under MSME benefits during the financial year plus estimated cost of this tender for availing EMD exemption .

6.2. Bids submitted without Tender Fee, EMD or NSIC/MSME Certificate for EMD exemption will stand rejected. EMD will not be accepted in the form of cash/ cheque or any other form except DD / FDR or Bank Guarantee. No interest shall be payable on EMD. The bidders registered with NSIC/MSME may claim exemption from submission from EMD. In this case bidder should submit a copy of valid NSIC/MSME registration certificate

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University along with the technical bid. If bidder submits NSIC/MSME certificate in lieu of EMD then its technical competence to participate in the tender would be ascertained.

6.3. The EMD will be returned within 30 days to the bidder(s) whose offer is not accepted by Nalanda University, District Rajgir, Bihar. In case of the bidder(s) whose offer is accepted the EMD will be returned on submission of 5% Performance Bank Guarantee (Refer Clause 8 of Section III). However, if the return of EMD is delayed for any reason, no interest/ penalty shall be payable to the bidder.

6.4. The successful bidder, on award of contract / order, must send the contract/ order acceptance in writing by FAX / Email, within 7 days of award of contract/ order, failing which the EMD will be forfeited.

6.5. The EMD shall be forfeited:

If the bidder withdraws the bid during the period of bid validity specified in the tender.

In case a successful bidder, fails to furnish the Performance Bank Guarantee.

If the bidder fails to furnish the acceptance in writing, within 7 days of award of contract/ order.

7. Period of validity of bids

1.1. Bids shall be valid for minimum **75 days** from the date of submission. Bid valid for a shorter period shall stand rejected.

1.2. Nalanda University, District Rajgir, Bihar may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. The bidder is free not to accept such request without forfeiting the EMD. A bidder agreeing to the request for extension will not be permitted to modify his bid.

B. SUBMISSION OF BIDS

The Bid shall be neatly arranged, plain and intelligible. **Each page of the Technical bid should be signed by the authorized person before uploading.** They should not contain any terms and conditions, printed or otherwise, which are not applicable to the Bid. The conditional bid will be summarily rejected. Insertions, postscripts, additions and alterations shall not be recognized, unless confirmed by bidder's signature.

8. Deadline for Submission of Bids

1.3. Bids along with Tender Fee & EMD/Exemption Certificate Copy must be received by Nalanda University, District Rajgir, Bihar before the due date and time at the address specified in the tender document. In the event of the specified date for the submission of bids being declared as a holiday then the bid-closing deadline will stand extended to the next working day up to the same time.

1.4. Nalanda University, District Rajgir, Bihar may extend this deadline for submission of bids by amending the bid documents and the same shall be suitably notified in the websites.

9. Late Bids

Any bid inadvertently received by Nalanda University, District Rajgir, Bihar after the deadline for submission of bids, will not be accepted and returned unopened to the bidder.

C. BID OPENING AND EVALUATION OF BIDS

10. Opening of Bids

- 10.1. The technical bids will be evaluated to shortlist the eligible bidder INR. The technical bids of only the eligible bidders shall be considered for further processing (technical evaluation).
- 10.2. Bidder whose technical bid is found to be acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the commercial bid.
- 10.3. Nalanda University, Rajgir, Bihar will open Online price bids of only the technically short listed bids, in the presence of the bidder or their authorized representative who choose to attend the bid opening, at the time and date to be informed later.
- 10.4. The bidder's authorized representative who attends the bid opening shall sign an attendance register as a proof of having attended the bid opening.
- 10.5. The bidder's name, bid prices and such other details considered as appropriate by Nalanda University, District Rajgir, Bihar will be announced at the time of opening of the price bids.

11. Comparison of Bids

- 11.1 Only the eligible and technically short-listed bids after the technical evaluation shall be considered for price/ commercial comparison.
- 11.2 The bid not adhering to the terms as mentioned in above will stand rejected.

D. AWARD OF CONTRACT

12. Evaluation of Proposals & Award Criteria

- 12.1 The bidder must quote for all the items mentioned under Section IV – Schedule of Requirement. The lowest price criteria shall be applied on the total composite amount of all items taken together.
- 12.2 Preliminary scrutiny of the proposal will be made to determine whether they are

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University complete, required processing fee and bid security have been furnished, whether the documents have been properly signed, and whether the bids are generally in order. Proposals not conforming to such preliminary requirements will be prima facie rejected.

- 12.3 Bids complying with all the eligibility requirements mentioned under Section II Clause 4 of the tender document and fulfilling the specifications and requirement mentioned under Section IV – Schedule of requirement of the tender document shall be treated as substantially responsive bids. Responsiveness of the bids shall be determined on the basis of the contents of the bid itself and shall not be determined by extrinsic evidences. The bid form as per the format signed by the bidder shall supersede deviation(s) mentioned in other part of the bid if any.

12.4 Nalanda University would evaluate the technical bids based on the following Point criteria:

The bidders are requested to submit the forms as mentioned/tabulated below

S. No	Criteria	Points
A	Financial strength (Form “A” and “B”) A Turn over B Solvency	Maximum 20 marks 16 4
B	Experience in eligible similar nature of Work during last seven years. (Form “C”)	Maximum 20 marks
C	Performance on Works (time Over run) (Form “D”)	Maximum 15 marks
D	Performance on quality of eligible similar works executed (Form “D”) a) Technical capabilities and Eligibility Compliance Documents b) Relevant ISO Certificates c) Previous Work	Maximum 45 marks 20 5 20

The NU reserves the right of physical inspection of completed projects of bidders conducted by a tender evaluation committee constituted by the Competent Authority, NU for evaluating the quality of work. The tender evaluation committee may visit and inspect all the eligible works that have been executed and submitted by the bidders in the Technical tender. The marks for quality shall be given based on this inspection, if inspection is carried out. The Committee may also at its discretion, call for information from owners of eligible works carried out by bidders or the works in progress by bidders and evaluate the projects regarding all submission done by the bidder including litigations.

To become eligible for short-listing, the bidder shall secure at least 50 % marks in each section A, B, C, and D and sixty percent marks in aggregate. In case of eligible similar works being more than one, average value of performance of works for time overrun and quality shall be taken on the basis of performance report of these works.

Bidder will be awarded 60% marks for meeting minimum eligibility criteria for each Section A, B, C and D and 100% marks for meeting twice the minimum eligibility. In case of bidder meeting criteria in between the minimum and twice the minimum eligibility, marks would be awarded on pro-rata basis.

For example, if the minimum eligibility in similar work is to submit one project experience of 80% of the tender value and the bidder submits two such works, they would be awarded 100% marks, however if they submit only 1 as mandated minimum, they will be awarded 60% marks.

If the minimum requirement is to provide a 150W column type Left and Right speakers, however the bidder submits for 300W, the bidder would be awarded 100% marks else upon meeting minimum requirement, 60% would be awarded.

- 12.5 Price/ Commercial bids of only those bidders will be opened who are found to be substantially responsive and the work shall be awarded to the commercially lowest bidder.
- 12.6 Bidder should quote their rates in prescribed Performa of Commercial/Price Schedule in XLS file only for online submission.
- 12.7 The amount will be calculated automatically in CPPP BOQ/**XLS file** by multiplying correct price/unit with quantity and in case of any discrepancy, the corrected amount shall be considered and total of all corrected amount shall be bidder's total quoted amount.
- 12.8 In the copies of supply order/ contract/ agreement/ experience certificate submitted by the bidder, the currency is other than Indian Rupees, the value of work in Indian Rupees shall be determined by using the exchange rate declared by Reserve Bank of India as on the last date of submission of technical/ price bids and the eligibility of the bidder shall be determined accordingly.
- 12.9 No Bidder shall contact the Purchaser on any matter relating to his Bid from the time of the Bid opening to the time the contract is awarded.
- 12.10 Any effort by a Bidder to influence the Purchaser in the Purchaser's bid evaluation, Bid comparison or contract award decisions may result in the rejection of the Bidder's Bid.

13. Purchaser's Right to amend Scope of Work

- 1.5. If, for any unforeseen reasons, Nalanda University, District Rajgir, Bihar is required to change the Scope of Supply, this change shall be acceptable to the bidder without change in the unit price quoted.
- 1.6. Nalanda University, District Rajgir, Bihar reserves the right to reject one/ all the bids or cancel the tender without assigning any reasons there for.
- 1.7. Nalanda University, District Rajgir, Bihar reserves the right to accord relaxation uniformly to all the bidder in case the bid submitted by all the bidders are found to have minor deviation.

14. Corrupt or Fraudulent Practices

- 1.8. It is expected that the bidders who wish to bid for this project have highest standards of ethics.
- 1.9. Nalanda University, District Rajgir, Bihar will reject bid if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract;

- 1.10. Nalanda University, District Rajgir, Bihar may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

15. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity/ dispute in the interpretation of any of the clauses in this Tender Document; the GCC shall be preferred and beyond this, if situation arises, Registrar on behalf of Vice Chancellor, Nalanda University, District Rajgir, Bihar interpretation of the clauses shall be final and binding on all parties.

END OF SECTION II

SECTION III: SPECIAL CONDITIONS OF CONTRACT

(SCC)

1. Prices

The price quoted shall be considered firm and no price escalation will be permitted.

Bidder should quote the prices in INR as per the format given in BOQ CPPP file /xls format.

The prices quoted should be inclusive of freight, insurance, packing, applicable taxes including GST till destination including unloading and storage at site. The packing shall be transport worthy so as to prevent their damage or deterioration to goods during transit to their final destination as indicated in this document. The risk in good shall continue with supplier till goods are delivered in good condition and installed at end user's site.

2. Taxes and Duties:

The prices quoted should be inclusive of GST and /or duties.

Bidder shall arrange to deliver the consignment at Nalanda University, District Rajgir, Bihar. The cost and risk of the consignment rests with the bidder till it is delivered to the end user. This must be read with the GCC.

3. Completeness Responsibility:

The successful bidder shall provide shop drawings prior to commencing the installation work. The Quality Assurance Plan (QAP- Both (i) Material Supply & Field level as per the CPWD/Govt Department/Organization /Best Industry Practice) shall be drafted by the contractor before the consultant for its approval.

Notwithstanding the scope of work, engineering, supply and services stated in bid document, any equipment or material, engineering or technical services which might not be even specifically mentioned under the scope of supply of the vendor and which are not expressly excluded there from but which are necessary for the establishment of Nalanda University in Rajgir, Bihar in accordance with the specification and executing the contract to establish achievement of performance guarantee parameters, are to be provided for and rendered by the vendor without any extra charge so that the said project is completed in all respect.

The successful bidder must submit the final AS Built drawings as part of the handover process.

4. Warranty & DLP:

All the items covered in the schedule of requirements, shall carry minimum 2 (Two) years of DLP and further 3 years of onsite comprehensive warranty from the date of taking over. Beyond DLP period, the bidder must undertake to provide the installation

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University and warranty service in Rajgir, Bihar. The repairing/ rectification/ replacement/ configuration required, if any, must be done at site only. During the warranty, all complaints should be rectified confirming to the SLA. In any case, the issue must be resolved within maximum 7 days from the time of complaint confirming to the Service Level agreement and timeline matrix with respect to down & Uptime. In order to avoid the dependency, the stopgap or makeshift arrangement shall be made by the contractor in case of the delay confirming to the SLA. Failure to do so would result in the invoking of the PBG. The PBG will be released by Nalanda University, District Rajgir, Bihar only after the submission of satisfactory performance certificate issued by Nalanda University after the completion of warranty period.

The draft service level agreement (SLA) has been enclosed as Annexure. The successful bidder would be required to sign a SLA prior to AMC period on similar terms as outlined in the draft SLA in consultation with NU.

5. Payments:

Terms of payment:

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein;

- (i) 80% after initial inspection and delivery at site in good condition on prorata basis.**
- (ii) 10% after completion of installation in all respect,**
- (iii) Balance 10% will be paid after testing, commissioning, trial run and handing over to the department for beneficial use including fire inspection.**

Note:

(a) Rates The rates quoted by the tenderer shall be firm and inclusive of all taxes, duties, levies and all charges for packing, forwarding, insurance, freight, delivery, installation, testing and commissioning etc. at site including temporary construction of storage, risks, overhead charges, general liabilities/obligations and clearance from local bodies and State Fire Services, as applicable. However, the fee for these inspections shall be borne by the department.

(b) Storage and Custody of Material Watch and ward of the stores and their safe custody shall be the responsibility of contractor till the final taking over of the installation by the department.

The Owner shall release 75% of the value of the interim bill submitted by the contractor immediately on adhoc basis on preliminary scrutiny of the bill by Engineer-in-charge. Such adhoc payment shall be regarded as the advance payments against the submitted bill. The balance amount shall be released within 15 (Fifteen) working days after the verification in detail by the Engineer-in-charge and getting certification for the quality of the Work(s) from the Architect Consultants and Project Management Consultants (PMC) for which the Contractor shall provide assistance to the Engineer-in-charge in accordance with their direction. All payment will be subject to statutory or permissible deductions to be made by the Owner prior to the release of the amount to the Contractor.

Each bill shall be accompanied by the following documents.

Measurements and quantities of items of Work done since last bill.

Physical Progress Report along with relevant Photographs.

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Copies of quality control tests in specified format covering the Work done since last bill.

Copies of Material Bills for equipment's and items procured at site after initial inspecting and approval from Engineer In Charge.

Copies of instructions recorded in the site instruction book containing the instructions and compliance made thereof, covering the Work done since last bill.

Note:

- i. The AMC (Onsite support) shall begin from just next day after taking over of the system/job or as per the University directives for the effective date. The AMC payment shall be paid by Nalanda University on quarterly basis within 30 days from the receipt date of Invoice & maintenance report submission. The successful bidder must staff a minimum support resources on site at Nalanda University for the duration of AMC as per the SLA Agreement.
- ii. The contractor shall guarantee the entire AV / Job installation as per specifications both for components and for system as a whole. All equipments shall be guaranteed for minimum two year from the date of acceptance against unsatisfactory performance or break down due to defective design, manufacture and/or installation. The installation shall be covered by the condition that the whole installation or any part thereof found defective within two year from the date of taking over shall be replaced or repaired by the contractor free of charge to the entire satisfaction of Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk & cost of the contractor.
- iii. After sales service in addition of the onsite support and comprehensive and routine maintenance: The contractor shall ensure adequate and prompt after sales services in the form of maintenance personnel and spares as and when required with a view to minimize the break down period. Particular attention shall be given to ensure that all spares are easily available during the normal life of the installation.
- iv. The defective items shall be replaced during DLP period without any additional charge and as per the satisfaction of the University representative.
- v. The DLP (24 months) is given with onsite support at the site, and comprehensive annual maintenance along with onsite support with adequate spares at the site shall be maintained within quoted price, and it will be assumed as inkling all charges and taxes. Nothing extra will be paid on this account.

6. Performance Bank Guarantee (PBG):

The successful bidder must submit a Performance Bank Guarantee (PBG) of 5% of the order value within 30 days of receipt of supply order by Nalanda University, District Rajgir, Bihar as per the format provided in the tender document. This Bank Guarantee should remain valid Six months beyond the period of delivery, installation & warranty.

7. Documents for processing payment:

After the consignment is ready for dispatch, the successful bidder shall be required to furnish the following documents:

- i. Invoice in Original
- ii. Packing List in Original
- iii. Copy of Insurance Policy

Insurance: The Goods supplied under the contract shall be fully insured including transit insurance against various risks as required or approved by the Purchaser arising out of

8. (A) Delays in the Supplier's Performance:

The time and the date specified in the Contract for the delivery and installation commissioning of the Goods shall be deemed to be the essence of the Contract. Delivery, installation and commissioning of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser.

9. (B) Liquidated Damages: **If the Supplier fails to deliver, install and commission of any or all of the Goods or perform the Services within the time period(s) specified in the Contract and during the warranty period, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract price, as Liquidated Damages, a sum equivalent to 1% of the price of the delayed Goods or unperformed Services for each week of delay until actual delivery or performance, up to a maximum deduction of 10% of the value of the delayed portion of work.**

10. Payment of Final Bill

On the intimation to the Engineer-in-charge by the contractor for the completion of the work, the Engineer-in-charge shall arrange for the inspection of works by his representative, PMC and the Architect Consultants. Upon the inspection of works Engineer-in-charge will hand over a list showing the defects in works, if there are any, to the contractor. The final Bill shall not be paid till all such defects are not rectified to the entire satisfaction of the Engineer-in-charge.

The final bill shall be accompanied by:

All-technical documents on the basis of which the Work was carried out.

1. As-built drawings. Three sets of installation drawings for all Works, showing therein modifications, corrections and additions signed and confirmed by the Engineer-in-Charge to be "as built" drawings. The entire documentation shall be submitted in Compact Discs (CD), using latest version of AUTOCAD software.
2. Completion certificates for embedded and covered-up Works issued by the Engineer-in-Charge.
3. Certificates for tests carried out for various items of Work.
4. Manufacture's operating and maintenance manuals as well as guarantee/warranty papers, commissioning and handing over reports for whatever equipment/Materials installed.
5. Security Deposit of 2.5% (Two Decimal Five per cent) of the Contract Value in the form of bank guarantee valid for a Defect liability period from the date of certificate.

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The contractor shall submit an extra 5% of performance guarantee valid for the period of DLP as well as AMC period which shall be released after the successful completion of the AMC period. The final Bill shall be released only after the contractor submits additional 5% performance guarantee.

11. Jurisdiction:

The disputes, legal matters, court matters, if any shall be subject to Nalanda District, Bihar jurisdiction only. In case of high court- Patna High Court, if required.

12. Force Majeure:

Nalanda University, District Rajgir, Bihar may consider relaxing the penalty and delivery & execution requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of a Force Majeure. Force Majeure is defined as an event or effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion, strikes or pandemic situation (such as current COVID19 situation) at successful bidder's / OEM - premises/country.

13. Conditions for GRIHA:

As the campus is a net Zero campus and is been considered for GRIHA rating, the contractor shall abide to all the necessary work practice which are in line with the GRIHA requirements during the execution of work and at handover of the work as per CPWD and GRIHA guidelines. Nothing extra shall be paid for the fulfilment of these conditions.

14. CPWD Safety Codes and Rules:

The contractor shall abide and follow the safety codes and rules as laid down by CPWD as per the latest guidelines while execution of work at site.

END OF SECTION III

BID FORM

Date:

Bid Reference:

**To,
The Registrar
Nalanda University,
District Rajgir,
Bihar**

NIT Ref. No:

Dear Sir,

Having examined the Bidding Documents including Addenda Nos., if any issued by Nalanda University, the receipt of which is duly acknowledged, we, the undersigned, offer to supply and deliver..... (Description of Goods and Services) in conformity with said bidding documents.

We, undertake, if our bid is accepted, to deliver the goods in accordance with the delivery and Installation schedule specified in the aforesaid bid document.

If our bid is accepted, we will submit performance bank guarantee in a sum of equivalent to 5% of the Contract Price for the due performance of the contract warranty period.

We agree to abide by this bid for a period of **75 (Seventy Five) days** after the date fixed for bid opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this bid together with your written acceptance thereof shall constitute a binding contract between us.

We confirm that stipulated EMD/Exemption Certificate is enclosed herewith as a part of bid.

We accept all your terms and conditions stipulated in this bid document without deviations, both technical & techno-commercial.

Dated this.....Day of..... 2020.....

(Signature)

(In the capacity of)

Duly authorised to sign Bid for and on behalf of

Signed**SECTION IV – Schedule of Requirement****Description of Work:**

The successful bidder will be required to timely deliver, install and set up the classroom, conference room & meeting room equipment as per specification and bill of quantity defined in the tender document. The broad overview of work but not limited to is outlined below:

- (A) 99-Seater conference room-01 no.
- (B) 230-Seater class room-01 no.
- (C) 40-Seater Classroom-06 no.
- (D) 30+62-Seater conference room-01 no.
- (E) 40-Seater conference room-01 no.
- (F) 14-Seater Meeting room-01 nos.
- (G) VC room room-01 no.
- (H) 15-Seater Meeting room-01 no.
- (I) 14-Seater Meeting/Common room-02 nos.
- (J) 14-Seater Meeting room-01 no.
- (K) 08-Seater Meeting room-01 no.
- (L) 08 & 04-Seater Meeting/Discussion room-09 nos.
- (M) 08-Seater Meeting room-04 nos.
- (N) Software's

The Bill of material & quantity for understanding designed by the consultants

Sr. No	Items Descriptions	Qty
		(X)
1	SITC of modular configurable type flush mount / table top AV signal aggregation unit for various AV inputs. It should be complete with enclosure, inner frame, power socket and power cord etc. for min. requirement of 1 x HDMI, 1 x Display port, 1 x VGA+ 3.5mm audio, 1 x RJ-45 Ethernet LAN, 1 x 10Amps power outlet.	31
2	SITC of 3 I/P Switcher cum Transmitter with Audio embedding; supporting video output on a cable length up to 230 ft. (70 meters) on CAT6; Input: 2 x HDMI / Display port, 1 x VGA + Audio 3.5mm; Output: video output shall be on a single CAT6 shielded twisted pair cable; Auto switching between inputs; the device shall be HDCP compliant and with EDID support.	31
3	SITC of HDMI Twisted Pair Receiver, for receiving HDMI, control and analog audio up to 230 ft. (70 meters) over a shielded CAT6 cable; Input: One CAT6 twisted pair input on RJ-45; Outputs: One HDMI and one Audio; the device shall be HDCP compliant and with EDID support. Shall have RS-232 & IR.	55
4	SITC of HDMI Twisted Pair Extender, Transmits HDMI and control signal up to 230 feet (70 meters) over a shielded CAT6 cable, Output: One CAT6 twisted pair output on RJ-45, Inputs: One HDMI, Supports EDID and HDCP transmission.	37

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5	SITC of HDMI active transmitter with face/wall plate, 1 x HDMI input & 1 x CAT6 output supporting up to 230 ft. (70 meters), device should support HDCP and EDID transmission.	3
6	SITC of passive HDMI plate.	5
7	SITC of Wireless Presentation Unit of HD content using laptops, tablets, and smart phones. Compatible with Windows OS X, Apple iOS, and Android, Supports Full HD 1080p display resolutions; shall provide minimum 1 x HDMI output.	10
8	SITC of matrix switcher having minimum six inputs - 4 x HDMI and 2 x CAT6, and minimum three video outputs - 2 x HDMI and 1 x CAT6, and 1 x audio output. It shall support resolutions upto 1920 x 1200. It shall support auto selection of inputs and the device shall be EDID and HDCP compliant. Control port for IR, RS-232, Relay & 40W Amplified audio output.	6
9	SITC of matrix switcher having minimum six inputs - 4 x HDMI and 2 x VGA + Audio, minimum 2 x HDMI outputs and 1 x audio output; It shall support resolutions up to 1920 x 1200. It shall support auto selection of inputs and the device shall be EDID and HDCP compliant. Control port for IR, RS-232, Relay & 40W Amplified audio output.	8
10	SITC of 1:8 Distribution Amplifier having 1 x HDMI input and minimum 8 x HDMI outputs, shall be EDID and HDCP compliant.	4
11	SITC of 1:4 Distribution Amplifier having 1 x HDMI input and minimum 4 x HDMI outputs, shall be EDID and HDCP compliant.	6
12	SITC of Control Processor, with Minimum 2 x bidirectional RS-232/RS-485 serial port with hardware and software handshaking, 4 x IR/Serial ports for one-way control of external devices, 4 x Digital I/O ports, 4 x relays for controlling room functions, 1 x RJ-45 Ethernet monitoring and control, Supports 10/100/1000Base-T.	10
13	SITC of podium mountable, minimum 8-Button wired control panel for controlling various devices; it shall have - one volume control knob; minimum 1 x RS 232, 2 x Relays and 1 x IR ports, 1 x LAN, to control the devices.	4
14	SITC of minimum 9" Wireless Touch Screen device for Control (iOS or Android based).	5
15	Supply of Audio and Video Recording and Streaming hardware with following built-in Inputs (HDMI / VGA/ IP LAN), HDMI / VGA Out, Audio Inputs, with ability to record upto 4 full motion video inputs in single frame along with audio, Should have minimum 1TB inbuilt storage.	5
16	SITC of Lecture Recording and Video Live Streaming server application Solution - It shall be inclusive of Live Recording Application Software, industry grade Intel based Server Hardware for hosting the recording application and storage of Video for VoD, Hosting Platform and associated charges as per the technical specifications. The AV integrator shall provide a complete end-to-end solution by integrating mix of platforms. Any onsite customization, development and integration such as providing YouTube type of experience over intranet, proprietary media player, customer's logo etc. shall be within the scope of the AV integrator.	1
17	SITC of Full HD/1080p, PTZ Camera for presenter capturing having minimum 20 x optical zoom, minimum 60 presets and minimum output- 1 x HDMI or HD-SDI or OEM specific output, 1 x RS- 232/422 for control. However, if supported output format is other than HDMI, same shall be converted to HDMI using suitable interface unit or cable convertor.	5
18	SITC of Full HD/1080p, ceiling mounted Document Camera with minimum 16x optical zoom — 1 x HDMI or DVI output and 1 x LAN port. DVi models shall be acceptable with external DVi to HDMI convertor interface unit or cable.	1
19	SITC of Full HD/1080p, Table Top Mountable Document Camera with minimum 20x optical zoom— 1 x HDMI or DVI output. DVi models shall be acceptable with external DVi to HDMI convertor interface unit or cable.	14

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20	SITC of Full HD Video Conferencing System endpoints (codecs), capable of multi-party conferencing via the MCU; the codec shall have minimum 2 video inputs (1 x HDMI/HDCI and 1 x HDMI/DVi as per OEM's camera), minimum 2 x HDMI video outputs, output resolution supported shall be minimum up to 1920 x 1080p at 60fps. Audio Inputs - 1 x Digital Microphone pod, 1 x RCA Stereo; Audio Outputs - 1 x HDMI embedded, 1 x Stereo, 1 x RCA. The device shall be supplied with required licences. All components of the VC system like Codec, Camera, Touch panel and Microphones should be from the same OEM. The system shall be inclusive of - 1 x Codec, minimum 1 x Full HD 1920 x 1080 resolution supporting camera providing HDMI or DVi output having min. 12x optical zoom with connecting cable, The codec must be based on ITU standards & hardware based. No software-based solution will be accepted. It should support latest video standards H.264/H.265.	2
21	SITC of Annotation Device having minimum 2 x HDMI inputs and minimum 2 x HDMI outputs. Device shall be capable of printing captured content with the help of a printer.	11
22	Supplying, installation, testing and commissioning of Sleek Digital Podium built in Metallic Frame and Wooden Top with built-in 22" Interactive Panel (Electromagnetic Technology) with Motorized Tilting, Motorized Height Adjustment of the Podium as per user height, Built-in Connectivity for HDMI, USB, Power for External Laptop at the Top, Space to place CPU.	6
23	SITC of Desktop PC with Intel Core i7 or higher with min. 8GB of RAM DDR4, 1TB SATA II hard drive, 10/100/1000 Mbps Ethernet Network Interface Card, including additional 2-port Matrox or NVidia Graphics Card with minimum 1GB dedicated Graphics RAM for providing HDMI output to switcher for projection and another HDMI output for connecting 21/22" LED PC monitor for local display supporting minimum resolution upto 1920x1200. It shall be provided with licensed Operating System Windows 10 or above, Licensed Microsoft Office latest version, USB wireless Keyboard, USB wireless Mouse, minimum 1 x USB2.0 spare port.	6
24	SITC of Ultra Short Throw Projector - LCD/DLP Technology, minimum ANSI 3600 Lumens, 16:10 Aspect Ratio, WXGA 1280 x 720 Native Resolution, Minimum Ports - 1 x HDMI, 1 x D-Sub 15 pin VGA + 3.5 mm Audio Jack, 1 x wired (RJ-45) LAN Port or wireless connectivity for configuration, 1 x USB or 1 x RS232/LAN for control	8
25	SITC of Laser type Projector -LCD/DLP Technology, minimum 6500 ANSI Lumens, 16:10 Aspect Ratio, Resolution : WUXGA (1920 x 1200), Contrast Ratio: 3000000:1 Minimum Ports - 1x HDMI, 1 x D-Sub 15 pin VGA + 3.5 mm Audio Jack, 1 x HDBaseT (RJ-45) for receiving video over CAT6 or twisted pair, 1 x wired (RJ-45) LAN port or 1 x RS232 for control. The projector shall be complete with mounting brackets and all such accessories for mounting including poles/rods for ceiling installation, as may be required.	3
26	SITC of minimum 80" diagonal High Gain Material Tubular Motorized Projection screen with 16:10 Aspect Ratio. (approx. 1771mm x 996mm, 2032mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.	8
27	SITC of minimum 137" diagonal High Gain Material Tubular Motorized Projection screen with 16:10 Aspect Ratio. (approx. 3010mm x 1694mm, 3454mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.	1
28	SITC of minimum 150" diagonal High Gain Material Tubular Motorized Projection screen with 16:10 Aspect Ratio. (approx. 3320mm x 1868mm, 3810mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.	3
29	SITC of 65" narrow bezel LED Professional 4K UHD display, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.	4

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30	SITC of 65" narrow bezel LED Professional Display, 1920 X 1080 Resolution, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.	9
31	SITC of 55" narrow bezel LED Professional Display, 1920 X 1080 Resolution, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.	12
32	SITC of maximum 19" LED Monitor, minimum 1366 X 768 Resolution, 16:9 Aspect ratio, should have minimum 1 x HDMI port, inclusive of all mounting brackets and customization for flush mounting as required at site.	4
33	SITC of Gooseneck Microphone with Cardioid polar pattern with a high gain before feedback, Filter to suppress wind or pop noise Non-glare surface, Connection via 3-pin XLR male connector length of gooseneck microphone 450mm or better Max. SPL 124 dB [SPL @ 1% THD] , Signal-to-noise ratio 64 dB [A, rms] ,Equivalent SPL 30 dB [A, rms]	10
34	SITC of wireless Lapel microphone, with receiver (UHF),18 Channel Preset or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Omni directional , Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Body pack Transmitter . Receiver dynamic range 80dB (A-weighted) switching bandwidth Minimum 40Mhz Or better	12
35	SITC of wireless head worn microphone with True diversity receiver (UHF),12 Channel Present or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Omni directional/Super Cardioid, Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Transmitter .Receiver dynamic range 80 dB (A-weighted) Or better, switching bandwidth Minimum 40mHz Mhz Or better	2
36	SITC of wireless handheld microphone with receiver (UHF),18 Channel Pre-set or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Cardioids , Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Transmitter , Receiver dynamic range 80 dB (A-weighted) Or better , switching bandwidth Minimum 40 Mhz Or better.	15
37	UHF antenna divider, 4-way, active, 19" housing, 1 U, for wireless systems with BNC connector, incl. mic. cable set and rack mount brackets. All cables and connectors for wireless system shall be original OEM supplied.	10
38	UHF Passive Omni directional antenna, for wireless microphone system and compatible with wireless microphone frequency range.	18
39	Antenna Cable 25 m (82 ft.). All cables and connectors for wireless system shall be original OEM supplied.	16
40	Antenna Combiner (2 inputs / 1 output), to combine the antenna signals and compatible with the wireless microphone system All cables and connectors for wireless system shall be original OEM supplied.	12
41	Supply and laying of 2 core 20 AWG shielded twisted pairs cable with individual drain wires or 20AWG copper braided shielded cable for microphones.	400
42	Supply and Laying of 2 core 14 AWG speaker cable for high performance audio.	900
43	Supply and Laying 2 core 20 AWG shielded twisted pairs cable with individual drain wires for Rs- 232/Control/IR.	1350
44	SITC of 12x8 DSP - Digital Matrix Processors, with 12 mic/line inputs and 8 outputs with AEC - Acoustic Echo Cancellation features.	4

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45	SITC of 6x4 DSP - Digital Matrix Processors, with 6 mic/line inputs and 4 outputs.	9
46	SITC of full-range or 2-way minimum 3" or better ceiling mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 95 Hz - 17 kHz (-10dB), Power handling@70/100V : 20W or better, Sensitivity : SPL/W@1 Mtr - 86 db or better, Max SPL@1 Mtr - 103dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.	4
47	SITC of full-range, minimum 5" surface/wall mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 60 Hz - 20KHz (-10dB), Power handling@70/100V : 30W or better, Sensitivity : SPL/W@1 Mtr - 90 dB SPL or better, Max SPL@1 Mtr - 110dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.	16
48	SITC of full-range 150W or better column type left and right loudspeaker, 8-ohm impedance, frequency response: 80 Hz - 20 KHz, Sensitivity: SPL/W@1 Mtr - 93 dB SPL or better, Max SPL@1 Mtr - 115 dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.	16
49	SITC of Class D Power Amplifier, 4 x 300 W, selectable 4/8 ohms or 70/100V operation, Power @ 70/100V: 300W or better, supporting short circuit, thermal, and under-voltage protection, 1U/2U form factor.	4
50	SITC of Dual Channel Class D or Class AB Power Amplifier, 2 x 80 W @ 8 ohms, Comprehensive short circuit, thermal, and under-voltage protection, 1U/2U form factor.	8
51	SITC of 17U AV Rack: AV equipments rack, minimum 600mm x 600mm floor mounted rack, castor wheels for free movement, front glass door, heat dissipation fans minimum 2 x 90cfm; power distribution units minimum 8 x 6/16Amps sockets.	10
52	SITC of 22U AV Rack: AV equipments rack, minimum 600mm x 600mm floor mounted rack, castor wheels for free movement, front glass door, heat dissipation fans minimum 2 x 90cfm; power distribution units minimum 8 x 6/16Amps sockets.	2
53	SITC of 36U AV Rack: AV equipments rack, minimum 800mm x 800mm floor mounted rack, castor wheels for free movement, front glass door, heat dissipation fans minimum 4 x 90cfm; power distribution units minimum 8 x 6/16Amps sockets.	3
54	Central control unit should have the following features, the central unit for powering, configuring and Controlling connected Chairman, Delegate units, and option to control up to 100 units without any power supply. The system should have in built digital processing and control/ transmission of the Digital audio signals. It should have basic management facilities with at least 8 open microphones should have recording facility SD Card.	3
55	The digital Table Top wired Chairman Unit, should have clear button for deactivating all the microphone headphone connector and headphone volume control, that included detachable gooseneck microphone should be free from interference caused by mobile phones. Include the inbuilt Loudspeaker. It should combine several functionalities in one single panel. Must have detachable Gooseneck microphone with GSM immunity and LED ring, Microphone on/off button RJ 45 connectors for separate loop through cabling, Microphone length should not be less than 450 mm or better , 3.5 mm jack socket for headphone, microphone should be programmed to track the camera during video conferencing etc. as required.	3
56	The digital Table top wired delegate unit, should have headphone connector and headphone volume control, that include detachable gooseneck microphone, should be free from interference caused by mobile phones. Inbuilt Loudspeakers, it should combine several functionalities in one single panel. Must have detachable Gooseneck microphone with GSM immunity and LED ring, Microphone on/off button, RJ45 connectors for separate loop	65

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	through cabling, Microphone length should not be less than 450 mm or better , 3.5 mm jack socket for headphone, microphone should be programmed to track the camera during video conferencing etc. as required	
57	Supply and Laying Flexible High Speed HDMI Cables. 20 Mtrs.	6
58	Supply and Laying Flexible High Speed HDMI Cables. 15 Mtrs.	20
59	Supply and Laying Flexible High Speed HDMI Cables. 10 Mtrs.	16
60	Supply and Laying Flexible High Speed HDMI Cables. 5 Mtrs.	15
61	Supply and Laying Flexible High Speed HDMI Cables. 1.5 Mtrs.	185
62	Supply and Laying of VGA + Audio Cables. 1.5 Mtrs.	35
63	Supply and Laying of VGA + Audio Cables. 5 Mtrs.	4
64	Supply and Laying of VGA + Audio Cables. 10 Mtrs.	4
65	Supply and Laying Flexible High Speed Display port Cables. 1.5 Mtrs.	35
66	Supply and Laying 24 AWG, 4 Pair, Shielded UTP Category 6 Cable (300mtr/1000ft box) with connectors.	5
67	Supply and Laying of USB cable 1.5 Mtrs.	10
68	SITC of USB Extender, Pair of Transmitter and Receiver to transmits and receive the USB signal minimum 230 ft. (70 meters) over a shielded CAT6 cable.	4
69	SITC of Layer2 manageable networking switch, minimum 12 # 10/100/1000Tx ports, all ports capable of providing PoE+ as per 802.3at, switch having a PoE power budget of minimum 350 Watts, minimum 2 dedicated SFP ports.	14
70	SITC of Wireless IEEE 802.11ac Wave2 compliant Access Point supporting dual radios (2.4GHz & 5GHz) operation, 3 x 3 MIMO, One 10/100/1000 Base-Tx auto-sensing (RJ45) PoE port. The AP shall be wall mountable as well as ceiling mountable (provide both options).	14
71	SITC of min. 22 Channel high performance Audio Mixer unit with 16 Mic/Line + 4 Mic/Stereo Line Channels, 4 x AUX, USB-Audio Interface, with integrated digital FX processors and Dual Graphic- EQ's, low noise and low distortion discrete microphone preamps built-in, Group-switch-able +48V phantom power	1
72	SITC of Corded Vocal Microphone , with frequency response 80Hz-16kHz, Cardioid, Super-Cardioid polar pattern or better pattern, sensitivity of min. 2.2mV/Pa or better and min. impedance 600 ohm or better including microphone stand.	5
73	SITC of 1x12" or better passive loudspeaker, Inclusive of all mounting brackets, assemblies, hardware and standard accessories for portable/outdoor application.	2
74	SITC of 1x15" or better passive subwoofer Max. power handling capacity of 1600 Watts with 8 Ohm impedance. Inclusive of all mounting brackets, assemblies, hardware and standard accessories for portable /outdoor application.	2
75	SITC of Class D Power Amplifier, 2 x 600 W, selectable 8 ohms operation, Power @ 70/100V: 450W or better, supporting short circuit, thermal, and under-voltage protection, 1U/2U form factor.	2
76	40 Users Network License forSelf Paced Learning Modules – Communication in English A)Grammar, B)Pronunciation (Customizable) with Speech Recognition and Intelligibility Guide	1

77	40 User License for Self Paced Learning content inHindi, Thai, Sinhala, Bahasa, Bengali, Tamil, Telugu, Chinese, French, Spanish, Korean, Burmese, Dzongkha, Malay, Japanese, German, Russian, Urdu, Arabic, Malayalam, Punjabi, Kannada, Assamese, Vietnamese, Khmer. b) Results Tracking and Customizing Software for above content	1
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78	Media Processor System for Lecture Recording and Distance Learning with Supports upto 1080p 60fps video recording, multiple inputs like HDMI/DVI/Display Port/LAN with capability of Reording and Streaming minimum 3 Full Motion Video Inputs in single frame, Flexible scaling and window processing, supports PIP, PBP and up to 3 windows layout and mixing, should have min Built-in 1TB HDD storage for upto 300 Hr recording and for external storage 1 USB 3.0 port, should have options to upload recordings to an external USB device or the FTP server, should support Streaming Protocol Pull: RTSP. Push: RTMP / RTMPS / MPEG-TS TCP, UDP, HTTP DHCP Client. should supports USB mouse, keyboard. Layout switch (Single, PIP, PBP, min 3 windows layouts). Video Compression H.264/AVC 4:2:0 8bit color Encoding profile: High, Main, Baseline. Bitrate 200 kbps to 10 Mbps.	1	Lot
79	Full HD (1920x1080) PTZ Camera for capturing the Presenter and professor, Optical Zoom 20X , min 100 Presets, 60 Frames per Second, Ethernet Out, HDMI Out, 3G-SDI Out, Audio In, RS232/422/Ethernet Controls, -170° ~ +170° Panning angle, -30° ~ +90° Tilting angle , Should support PoE+. camera shall supplied with all necessary cable, tripod stand etc.	1	Nos

80	Digital presenter with Optical Zoom 20 x , Digital Zoom 12x ,Output Resolution XGA, SXGA, WXGA, 1080p Frame Rate 30 fps , Shooting Area Max. 440 x 330 mm, A3 size Built-in Back Light Size 210 x 297 mm Lamps Dual LED side lamps supported by a gooseneck Input Interface VGA, HDMI Output Interface VGA x 2, HDMI, C-Video USB Image Transmission USB 2.0 (480 Mbps) high-speed transmission Audio & Video Recording One-touch records image and sound synchronously Built-in Memory 240 JPEG USB Flash Drive for USB flash drives (up to 4TB) or wired / wireless mouse for annotation Built-in Microphone -Yes , Image Capture Single or continuous capturing Image Rotation, 0-180° , flip, mirror ,Anti-Theft / anti-theft lock device.	1	Nos
81	Interactive Display: Interactive Panel Size of 21.5" Diagonal, Panel Type: IPS LCD , Display Ratio: 16:9, Resolution: 1920 x 1080 Pixel . Minimum Brightness: 400cd/m ² , Contrast Ratio: 1000:1, Response Time : 14ms, Viewing Angle: Horizontal 178° , Vertical 178° , Surface Treatment: Tempered Glass. Touch Technology: Electromagnetic Touch Digitizer Battery less Pen with back side eraser.	1	Nos
82	HDMI to USB 3.0 video converter. Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video input and output. simultaneously streaming the audio and video signal at 1080p to a USB connected PC for capture or re-broadcast. Automatically scales 4K sources to 1080p for USB capture. Video timing stabilization feature helps to ensure that the USB capture stream won't lock up or drop, even if the HDMI input source is intermittent or becomes disconnected. Digital stereo audio from either HDMI (LPCM 2.0) or the 3.5mm analog audio input will be captured with the HDMI video source and is selectable within the configuration software. Inputs 1x HDMI, 1x 3.5mm [1x Stereo(L/R)]. Outputs 1x HDMI [1x Uncompressed AV and Data]. 1x USB Type-B etc.	1	Nos

83	Audio Mixer : 4 studio-grade compressors with super-easy "one-knob" functionality and control LED for professional vocal and instrumental sound mixer. Built-in stereo USB/Audio Interface to connect directly to your computer. Premium ultra-low noise, high headroom mixer with 4 state-of-the-art, phantom-powered XENYX Mic Preamps comparable to stand-alone boutique preamps. 3-band EQs for warm and musical sound. 2 aux sends per channel: 1 pre fader for monitoring applications, 1 post fader for external FX devices. Control room/phones outputs with multi-input source matrix.	1	Nos
84	Wireless Lapel microphone, with receiver (UHF), 18 Channel Preset or better, Display on Transmitter and Receiver, RF Power output 50mW or Better, Polar Pattern :- Omnidirectional, Carrier frequency range 500Mhz to 865Mhz, Frequency response 20Hz to 20Khz, Mute Button on Transmitter, Battery Operation time Minimum 8hr, Should have Charging Contact in Body pack Transmitter. Receiver dynamic range 80dB (A-weighted) switching bandwidth Minimum 30Mhz Or better.	2	Nos
85	Headphone for monitoring of live audio recording.	1	Nos
86	2-way active studio monitors ideally suited for computer studios, audio and multimedia workstations and keyboard monitoring Built-in powerful 2 x 20-Watt amplifiers with immense headroom Powerful woofers and high-resolution tweeters provide an ultra-linear frequency response Ultra-high resolution 24-bit/192 kHz D/A converters for an incredible dynamic range Optical and coaxial inputs to directly connect digital audio sources by S/PDIF interface.	1	Nos
87	Desktop Computer- Intel Core i5 processor @ 3 GHz or higher, 4 GB DDR4 expandable to 16 GB, 1 TB SATA HDD, Integrated High Definition (HD) Audio), Integrated Gigabit Ethernet port, Minimum 4 USB, Microphone & Headphone, 1 PS2, 1 VGA/HDMI, microphone-in (3.5mm)/ Headphone port. Integrated DVD RW, Keyboard & Mouse, Preinstalled Windows 10 64 Bit, Energy Star & EPEAT Compliant.	1	Nos

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88	Control Monitor and Video editing software : 22 INCH Full HD (1920x10180) resolution Display with minimum dual (2) HDMI input , wireless Keyboard and wireless Mouse to control studio setup. Video editing software shall be supplied along with the control monitor from day 1.	1	Nos
89	42 Inch or above presenter preview monitor with Inbuilt Speaker. Resolution- 3840*2160, Brightness(Typ.)- 350 nit, Contrast Ratio- 4000:1, Input/Output:- DVI-D/Display Port 1.2 (1), HDMI 2.0 (2), Stereo mini Jack, USB 2.0 x 2. and HDMI 2.0 (Loop-out) output. Viewing Angle(H/V)- 178/178 Speaker- Built in Speaker(10W + 10W) accessories: Wallmount / ceiling mount Bracket remote control and other required accessories shall be supplied as per room/ interior design. .	1	Nos
90	Rack mountable Layer II Managed Gigabit Ethernet standalone chassis provides 8 xPoE RJ-45 10/100/1000 BaseT, 2 SFP/RJ-45 10/100/1000 BaseT or 100/1000 BaseX combo ports with internal AC power supply (Minimum 78W PoE), complete as required	1	Nos
91	22 U AV Media rack along with tray, PDU , key lock , HDMI Cable, Cat-6 Cable, Audio cable, control cable & power cable	1	Lot
92	Onsite Support with suitable & Highly skilled minimum 2nos IT Professional to ensure daily basis support During DLP Period. The DLP including comprehensive Annual Maintenance	24.000	Months

93	3rd Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel's for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.	1.000	Third Year
94	4th Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel's for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.	1.000	Fourth Year

95	5th Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.	1.000	Fifth Year
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Requirement of technical Staff

Technical Staff

The bidder shall deploy sufficient number of technical and administrative employees for smooth execution of the Work. However Minimum Technical Staff to be deployed at site at all times during the execution of the work will be as per following table. The bidder shall submit a list of employees stating clearly the responsibility to be assigned to each of such employees. Further, the bidder shall have the capability and resources to arrange at least 15 $\pm 10\%$ numbers of skilled and 20 $\pm 10\%$ numbers of unskilled laborers per day continuously for various stages of the Work. The bidder shall have to demonstrate the capability to arrange such workers and additional numbers as per the requirement assessed by the Engineer-in-Charge for timely completion of various stages of the Work. The capability as claimed by the bidder shall be supported by the past performance and an undertaking.

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Technical Staff	Requirement of Technical staff		Minimum experience of Execution work (Years)
	Qualification	Number	
Electrical/ Electronics/ IT Engineers	Project Manager Graduate Engineer	1	10
	Project Engineer Graduate Engineer	1	5
	Site Engineers Graduate Engineer Or Diploma Engineer	2	2
		2	5
Sound Engineer	Site Engineers Graduate Engineer Or Diploma Engineer	1	2
		1	5

TECHNICAL SPECIFICATION

(Bidder need to filled up this and submit along with the Technical Bid for its evaluations)

<u>Sr. No</u>	<u>Technical Specification</u>	<u>Make& Model</u>	<u>Compliance (Yes/No)</u>
		<p><u>To be filled up by the prospective Bidder for its evaluation. The marks will be awarded based on this evaluation as mentioned in 12.4 of SECTION II: INSTRUCTIONS TO BIDDERS (ITB)</u></p>	

1	<p>Modular configurable type flush mount/table top AV signal aggregation Cable Cubby/ Hydraulic Pop-Up box unit: It should be complete with enclosure, inner frame, power socket and power cord etc. for min. requirement of 1 x HDMI, 1 x Display port, 1 x VGA+ 3.5mm audio, 1 x RJ-45 Ethernet LAN, 2 x power Socket outlet.</p> <p>Certified: CE/UL. Certificates to be enclosed along with Catalogue.</p>		
2	<p>3 I/P SWITCHER PLUS TRANSMITTER WITH AUDIO EMBEDDING:</p> <p>Should supporting video output on a cable length minimum 230 ft. (70 meters) on CAT6; Input: 2 x HDMI / Display port, 1 x VGA + Audio 3.5mm; output: 1 x HDMI, video output shall be on a single CAT6 shielded twisted pair cable; Auto switching between inputs; the device shall be HDCP compliant and with EDID support.</p> <ul style="list-style-type: none"> • Input signals requirements: Minimum 2 x HDMI / Display port, 1 x VGA on + 1 x unbalanced analog audio on 3.5mm connector. • Output signals requirements: 1 x RJ-45 connector for HDMI video to be transmitted over CAT6 based shielded twisted pairs cable conforming EIA/TIA568 compliant transmission • Video transmission: shall support video transmission over CAT6 up to (100 mtr) • Other ports: minimum 1 x RJ-45 based Ethernet port supporting TCP/IP at minimum 100Mbps or 1 x RS232 or 1 x USB port for control • Video standards supported: the unit shall be EDID & HDCP compliant 		
3	<p>HDMI TWISTED PAIR RECEIVER</p> <p>HDMI Twisted Pair Receiver, for receiving HDMI, control and analog audio length minimum 230 ft. (70 meters) over a shielded CAT6 cable; Input: One CAT6 twisted pair input on RJ-45; Outputs: One HDMI and one Audio; the device shall be HDCP compliant and with EDID support.</p> <ul style="list-style-type: none"> • The device shall receive HDMI plus control signal up to 330 feet (100 meters) over a shielded twisted pair CAT6 cable • Input: 1 x twisted pair on RJ-45 • Outputs: 1 x HDMI with audio • Shall be able to accept additional RS232 and IR signals over CAT6 cable • Video standards supported: the unit shall be EDID & HDCP compliant 		

4	HDMI TWISTED PAIR EXTENDER TRANSMITTER HDMI Twisted Pair Extender, Transmits HDMI and control signal length minimum 230 ft. (70 meters) over a shielded CAT6 cable, Output: One CAT6 twisted pair output on RJ-45, Inputs: One HDMI, Supports EDID and HDCP transmission. <ul style="list-style-type: none"> • The device shall transmit HDMI plus control signal up to (70 meters) over a shielded twisted pair CAT6 cable • Inputs: 1 x HDMI • Output: 1 x twisted pair output on RJ-45 • The device shall be capable of transmitting RS232 and IR signals over CAT6 cable • Video standards supported: the unit shall be EDID & HDCP compliant 		
5	HDMI ACTIVE WALL/FACE PLATE HDMI active transmitter wall/face plate, 1 x HDMI input & 1 x CAT6 output supporting length minimum 230 ft. (70 meters) device should support HDCP and EDID transmission. <ul style="list-style-type: none"> • The device shall transmit HDMI plus control signal up to 100 meters over a twisted pair shielded CAT6 cable • Inputs: 1 x HDMI • Output: 1 x Twisted pair output on RJ-45 • The device shall be capable of transmitting RS232 and IR signals over CAT6 cable • Video standards supported: the unit shall be EDID & HDCP compliant 		
6	HDMI PASSIVE WALL PLATE		
7	USB WIRELESS PRESENTOR SYSTEM Wireless Presentation Unit of HD content using laptops, tablets, and smartphones. Compatible with Windows OS X, Apple iOS, and Android, Supports Full HD 1080p display resolutions; shall provide minimum 1 x HDMI output. 2 Nos of USB dongle required with device. <ul style="list-style-type: none"> • Wireless connection for up to 64 devices • Should support collaboration features • Should support Web Browsers such as Internet Explorer, Mozilla and Chrome • Should support third party app such as Microsoft Office, Skype, Lync, and webex. • Simultaneous content display :- 4 user or higher • Support Operating Sys :- Windows / Android / Mac etc. • Should have minimum 1 x HDMI output • Should have Audio output • Should have minimum 1 x USB port , Wi-Fi • 802.11 ac/b/g/n 2.4GHz/ • Antenna/Internal 2T2R up to 300 Mbp 		

8	<p>HDMI SCALAR CUM MATRIX SWITCHER – Minimum 6 video inputs:</p> <p>4 x HDMI and 2 x CAT6, and minimum three video outputs - 2 x HDMI and 1 x CAT6, 1 x audio output. It shall support resolutions upto 1920 x 1200. It shall support auto selection of inputs and the device shall be EDID and HDCP compliant.</p> <ul style="list-style-type: none"> • Input signals requirements: minimum 4 x HDMI plus minimum 2 x CAT6 inputs for accepting video over length minimum 230 ft. (70 meters) over a shielded twisted pair CAT6 cable. • Output signals requirements: minimum 2 x HDMI plus minimum 1 x CAT6 output for transmitting video over length minimum 230 ft. (70 meters) over a shielded twisted pair CAT6 cable • Other ports: minimum 1 x RJ-45 based Fast Ethernet port supporting TCP/IP at 10/100Mbps or 1 x RS232 or, 1 x IR port for control port for Relay & 40W amplified audio output. • Video standards supported: the unit shall be EDID & HDCP compliant • The device shall support automatic input selection via last detected input source • Resolutions supported – minimum up to 1920 x 1200 		
9	<p>HDMI SCALAR PLUS MATRIX SWITCHER – Minimum 6 video inputs, outputs - minimum 2 x video and 1 x audio</p> <p>Scalar cum matrix switcher having minimum six inputs - 4 x HDMI and 2 x VGA + Audio, and minimum 2 x HDMI outputs; It shall support resolutions up to 1920 x 1200. It shall support auto selection of inputs and the device shall be EDID and HDCP compliant.</p> <ul style="list-style-type: none"> • Input signals requirements: minimum 4 x HDMI plus minimum 2 x VGA + Audio. • Output signals requirements: minimum 2 x HDMI • Other ports: minimum 1 x RJ-45 based Fast Ethernet port supporting TCP/IP at 10/100Mbps or 1 x RS232 or, 1 x IR port for control port for Relay & 40 amplified audio output. • Video standards supported: the unit shall be EDID & HDCP compliant • The device shall support automatic input selection via last detected input source • Resolutions supported – minimum up to 1920 x 1200 		
10	<p>1 x 8 HDMI DISTRIBUTION AMPLIFIER</p> <p>1:8 Distribution Amplifier having 1 x HDMI input and minimum 8 x HDMI outputs, shall be EDID and HDCP compliant.</p> <ul style="list-style-type: none"> • Input signals requirements : minimum 1 x HDMI • Output signals Requirements: minimum 8 x HDMI • Video standards supported: the unit shall be EDID & HDCP compliant . Approved Make: Crestron/Extron/AMX/Lightware 		

11	<p>1 x 4 HDMI DISTRIBUTION AMPLIFIER</p> <p>1:4 Distribution Amplifier having 1 x HDMI input and minimum 4 x HDMI outputs, shall be EDID and HDCP compliant.</p> <ul style="list-style-type: none"> • Input signals requirements: minimum 1 x HDMI • Output signals requirements: minimum 4 x HDMI • Video standards supported: the unit shall be EDID & HDCP compliant. 		
12	<p>CONTROL PROCESSOR</p> <p>Control Processor, with minimum ports as follows: Minimum 2 x bidirectional RS-232/RS-485 serial port with hardware and software handshaking, 4 x IR/Serial ports for one-way control of external devices, 4 x Digital I/O ports, 4 x relays for controlling room functions, 1 x RJ-45 Ethernet monitoring and control, Supports 10/100/1000Base-T.</p> <p>Control Processor shall have:</p> <ul style="list-style-type: none"> • At least two bidirectional RS-232 serial ports. • At least one bidirectional RS-232/RS-422/RS-485 serial port. • At least four IR/Serial ports for one-way control of external devices. • At least four Digital I/O ports. • At least four relays for controlling room functions. • At least Ethernet port supporting 10/100/1000Mbps for monitoring and control. • The device shall be rack mountable. 		
13	<p>WIRED CONTROL PANEL</p> <p>Podium mountable, minimum 8-Button wired control panel for controlling various devices; it shall have - one volume control knob; minimum 1 x RS 232, 2 x Relays and 1 x IR ports, 1 x LAN, to control the devices. A wired button control panel shall be provided for control of devices - minimum 8 buttons or more, with required no. of RS232, IR and RJ-45 based Ethernet IP Ports to control up to 1 projectors, 1 screens, 1 - 6x2 switcher, 1 annotation processor, 1 video recording device, 1 – 3 Input transmitter + receiver for (input switching) and audio system DSP as per the requirements of individual room.</p> <p>Minimum requirement of ports shall be as:</p> <ul style="list-style-type: none"> • Should have minimum 1 x Ethernet on RJ45 for monitoring and control over TCP/IP protocols, supporting minimum Fast Ethernet (10/100Mbps) speeds 1 x bi-directional RS232 ports for control • Should have minimum 1 x IR ports (source/emitter), 2 x relay ports • Should have minimum 8 x programmable buttons with backlighting/LED indication for various AV control functions assignments, including input selections • Should have minimum 1 x rotary dial/knob for volume control 		
14	<p>Supply of Minimum 9" Wireless Touch Screen device or Minimum 32GB Ipad for Control (iOS or Android based), Approved Make- Apple/ Samsung</p>		

15	Supply of Audio and Video Recording and Streaming hardware with following built-in Inputs (HDMI / VGA/ IP LAN), HDMI / VGA Out, Audio Inputs, with ability to record upto 4 full motion video inputs in single frame alongwith audio, Should have minimum 1TB inbuilt storage.		
16	<p>SPECIFICATIONS FOR VIDEO MANAGEMENT PLATFORM (OVERVIEW): The video streaming platform should provide a complete solution to upload, manage, publish and measure video content. It should be possible to broadcast live events, upload existing videos and organize & distribute videos using the video streaming platform. Devices such as iPhones, iPads, Android phones, Android tablets, Windows tablets and all leading browsers and operating systems shall be recognized and supported.</p> <p><u>ESSENTIAL COMPONENTS OF VIDEO MANAGEMENT PLATFORM Admin features:-</u> <u>Ø User, Teacher, Students General information</u> <u>Ø Admin can delete or add videos, student or teacher information</u> a. MEDIA/VIDEO LIBRARY with Inbuilt Memory. The provided solution shall include Audio video library so as to sort, manage and organize the entire media library. Devise Inbuilt memory should be 1TB. b. LIVE VIDEO STREAMING The video platform shall provide streaming facility. It shall be capable of delivering high-quality live HD video streaming broadcasts to any device or browser besides allowing sharing of desktop presentation. c. MOBILE DEVICE SUPPORT Via the video management platform, it shall be possible to play any video on any device. Using features such as intelligent video encoding and video player. Login system: - Ø First students Register then easily access his favourite Videos. Ø Fully password protected videos. Ø Mobile OTP generate password automatically Ø Students can access videos for his mobile, laptop, and tablet. Filters: - Ø Semester & Study topic wise filter. Ø Teacher wise filter & class wise filter</p>		
17	<p>SITC of Full HD/1080p, PTZ Camera for presenter capturing having: Minimum 20 x optical zoom, minimum 60 presets. Minimum output- 1 x HDMI or HD-SDI or OEM specific output, 1 x RS- 232/422 for control. However, if supported output format is other than HDMI, same shall be converted to HDMI using suitable interface unit or cable convertor.</p>		

18	<p>CEILING MOUNT DOCUMENT CAMERA</p> <p>SITC of Full HD/1080p, ceiling mounted Document Camera with minimum 16 x optical zoom — 1 x HDMI or DVI output and 1 x LAN port. DVi models shall be acceptable with external DVi to HDMI convertor interface unit or cable.</p> <ul style="list-style-type: none"> • Type: Full HD/1080p Document Camera, Ceiling mounting • Output Resolution: XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), WXGA (1280 x 800), HD720p and Full HD 1080p • Frame Rate: Up to 30 fps or better with all resolutions • Zoom Capacity: Minimum 14 x optical zoom or better § Output Interfaces: 1 x HDMI preferred or 1 x DVI with DVI to HDMI cable adaptor inclusive § Protocols: Ethernet or RS-232 as either RS-232 port on 9-pin D-Sub or via RJ45 connector § Power Supply: POE preferred or else via OEM's adaptor § Type of mounting: ceiling mounted 		
19	<p>TABLE TOP MOUNTABLE DOCUMENT CAMERA</p> <p>SITC of Full HD/1080p, Table Top Mountable Document Camera with minimum 20 x optical zoom — 1 x HDMI or DVI output and 1 x LAN port. DVi models shall be acceptable with external DVi to HDMI convertor interface unit or cable.</p> <ul style="list-style-type: none"> • Type: Full HD/1080p Document Camera, • Output Resolution: XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), WXGA (1280 x 800), HD720p and Full HD 1080p • Frame Rate: Up to 30 fps or better with all resolutions • Zoom Capacity: Minimum 20x optical zoom or better § Output Interfaces: 1 x HDMI preferred or 1 x DVI with DVI to HDMI cable adaptor inclusive § Protocols: Ethernet or RS-232 as either RS-232 port on 9-pin D-Sub or via RJ45 connector § Power Supply: via OEM's adaptor § Type of mounting: table top, movable. 		
20	<p>Full HD Video Conferencing System endpoints (codec), capable of multi-party conferencing via the MCU; the codec shall have minimum 2 video inputs (1 x HDMI/HDCI and 1 x HDMI/DVi as per OEM's camera), minimum 2 x HDMI video outputs, output resolution supported shall be minimum up to 1920 x 1080p at 60fps. Audio Inputs - 1 x Digital Microphone pod, 1 x RCA Stereo; Audio Outputs - 1 x HDMI embedded, 1 x Stereo, 1 x RCA. The device shall be supplied with required licenses. All components of the VC system like Codec, Camera, Touch panel and Microphones should be from the same OEM. The system shall be inclusive of - 1 x Codec, minimum 1 x Full HD 1920 x 1080 resolution supporting camera providing HDMI or DVi output having min. 12x optical zoom with connecting cable, The codec must be based on ITU standards & hardware based. No software-based solution will be accepted. It should support latest video standards H.264/H.265.</p>		

(b)	<ul style="list-style-type: none"> • The MCU and Video Conferencing endpoints, camera and microphones and associated software shall be from the same OEM/vendor • The endpoints shall support H.323, and SIP standards for communications. • The endpoints shall support 1080p60fps, 1080p30fps and 720p30 resolutions. • It shall be included with a High Definition autofocus camera with automatic exposure and automatic white balance supporting up to the 1080p30 format, a minimum horizontal field of view of 65°, at least a 12x optical zoom and a minimum range for PAN of +/-90° and for TILT of +/- 20°. • The endpoint shall be able to support up to two cameras directly on codec or through additional module and two screens, and support dual video capabilities both in H.323 (H.239) and SIP (BFCP based). • It shall support the ITU-T standards H.263, H.264, H.264 High Profile, SVC for video and the ITU-T standards G.711, G.722, G.722.1 Annex C for narrowband, wideband and super wideband audio. • It shall provide full band (20 kHz) audio capability and support both the ITU standard (G.719) and ISO/MPEG low delay standard. • It shall allow to connecting multiple microphones having echo cancellation feature for each microphone. • It must be capable of capturing high definition content from a laptop/PC/DVI source up to 1920x1080 at 30fps. • It must include multipoint conferencing capabilities supporting up to at least 6 parties (1+5) in continuous presence and support for dual video while in a multipoint session. • It must support embedded AES confidentiality for both room video channel and content video channel simultaneously. • It must provide security tools for authentication and integrity (for SIP) 		
C)	<ul style="list-style-type: none"> • It must provide simultaneous support for IPv4 and IPv6, and tools for QoS. • Minimum 1 x RJ-45 LAN network port for private network connection must be available. • It must provide support for skype & other soft vc platform. • It must have a WEB interface for management. • It must provide the network administrator management tools to control and administer conferences. • It must have an API command set. • It must support H.460.18/.19 Firewall Traversal. • Audio I/O interface of the VC Room System must support both Digital and Analog. • Administrator tools such as for Remote Management of the GUI, TCP Dump shall be possible. • Codec shall have minimum 2 video inputs (1 x HDMI/HDCI and 1 x HDMI/DVi as per OEM's camera), minimum 2 x HDMI video outputs, output resolution supported shall be minimum upto 1920 x 1080p at 30fps. <p>Audio Inputs -</p>		

	<p>Digital Microphone pod x 1, RCA Stereo x 1; Audio Outputs - 1 x HDMI embedded, Stereo x 1, RCA x 1.</p> <ul style="list-style-type: none"> • It shall include one Full HD 1920 x 1080 resolution supporting camera providing HDMI or DVi output and having min. 12x zoom. 		
21	<p>HARDWARE BASED ANNOTATION PROCESSOR</p> <p>Hardware based annotation processor with Capability of live annotation on presentation as well as video, Scaling and auto input switching between the inputs.</p> <p>However, following minimum requirement shall be met:</p> <ul style="list-style-type: none"> • Input: 1x HDMI /DVI/ Display port or more. • Output: 1x DVI/HDMI, 1 Twisted Pair on RJ 45 (Inbuilt or External) • Support: At least 10 or more devices on USB for annotation • Resolution: min 1920 x1200 or more • Storage: On USB drive , internal memory a network location • Control Option: USB, RS 232/ Ethernet 		
22	<p>Sleek Digital Podium built in Metallic Frame and Wooden Top with built-in 22" Interactive Panel (Electromagnetic Technology) with Motorized Tilting, Motorized Height Adjustment of the Podium as per user height, Built-in Connectivity for HDMI, USB, Gooseneck Microphone, Power for External Laptop at the Top, Space to place CPU.</p> <p>Podium touch monitor shall be compatible with Annotator hardware device.</p>		
23	<p>Desktop PC with Intel Core i7 or higher with min. 8GB of RAM DDR4, 1TB SATA II hard drive, 10/100/1000 Mbps Ethernet Network Interface Card, including additional 2-port Matrox or NVidia Graphics Card with minimum 1GB dedicated Graphics RAM for providing HDMI output to switcher for projection and another HDMI output for connecting 21" LED PC monitor for local display supporting minimum resolution up to 1920x1200 and inclusive of 21" HDMI LED monitor with mounting accessories and customization for flush mounting in furniture.</p> <p>It shall be provided with licensed Operating System Windows 10 or above, Licensed Microsoft Office latest version, USB wireless Keyboard, USB wireless Mouse, minimum 1 x USB2.0 spare port.</p>		
24	<p>ULTRA SHORT THROW PROJECTOR</p> <p>Ultra Short Throw Projector - LCD/DLP Technology, minimum ANSI 3600 Lumens, 16:10 Aspect Ratio, WXGA 1280 x 720 Native Resolution, Minimum Ports - 1 x HDMI, 1 x D-Sub 15 pin VGA + 3.5 mm Audio Jack, 1 x wired (RJ-45) LAN Port or wireless connectivity for configuration, 1 x USB or 1 x RS232/LAN for control. The projector shall be complete with mounting brackets and all such accessories for mounting including poles/rods for ceiling installation, as may be required. Should support LAN, USB for display.</p> <p>Inclusive of standard or optional lens as per OEM to</p>		

	<p>project on a 80" diagonal (1771mm W x 996mm H) size screen.</p> <ul style="list-style-type: none"> • Type of projection technology: LCD/DLP • Should support wall installation, and shall be supplied with all requisite mounting accessories such as brackets, rods and cables • Lens specification: It should permit projection on an approximately 80" diagonal projection screen. This may be a standard or optional accessory; however, cost for the same shall be inclusive. • Brightness: Minimum 3600 ANSI lumens or better • Resolution: WXGA (1280 x 720) or better with 16:10 Aspect ratio • Supported Interfaces: 1 x HDMI, 1 x VGA on 15 pin, 1 x 3.5 mm audio, 1 x Wired (RJ45) or Wireless LAN for configuration, 1 x RS232 or 1 x USB for control. 		
25	<p>6500 LUMENS PROJECTOR</p> <p>SITC of Laser type Projector -LCD/DLP Technology, minimum 6500 ANSI Lumens, 16:10 Aspect Ratio, Resolution : WUXGA (1920 x 1200), Contrast Ratio: 3000000:1 Minimum Ports - 1x HDMI, 1 x D-Sub 15 pin VGA + 3.5 mm Audio Jack, 1 x HDBaseT (RJ-45) for receiving video over CAT6 or twisted pair, 1 x wired (RJ-45) LAN port or 1 x RS232 for control. The projector shall be complete with mounting brackets and all such accessories for mounting including poles/rods for ceiling installation, as may be required.</p> <p>Inclusive of standard or optional lens as per OEM to project on a 150" diagonal (3320mm W x 1868mm H)</p> <ul style="list-style-type: none"> • Type of projection technology: LCD/ DLP, Laser based • Should support ceiling suspended installation, and shall be supplied with all requisite mounting accessories such as brackets, rods and cables • Lens specification: It should permit projection on an approximately 150" diagonal screen from a throw distance of not more than 6000mm from the screen. Lens may be a standard or optional accessory; however, cost for the same shall be inclusive • For providing projection on a High Gain Material Tubular Motorized Projection screen of size approximately 150" diagonal (3320mm W x 1868mm H, 3810mm diagonal approx.) having aspect ratio of 16:10 • Brightness: Minimum 6500 ANSI lumens or better. • Resolution: WUXGA (1920 x 1200) or better with 16:10 Aspect ratio. • Supported Interface: 1 x HDMI, 1 x Base (RJ-45), 1 x VGA on 15 pin, 1 x 3.5 mm audio, 1 x Wired (RJ45) or Wireless LAN for configuration, 1 x RS232 or 1 x USB for control. 		
26	<p>Minimum 80" diagonal High Gain Material Tubular Motorized Projection screen with 16:9 Aspect Ratios. (approx. 1771mm x 996mm, 2032mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.</p>		

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27	Minimum 136" diagonal High Gain Material Tubular Motorized Projection screen with 16:9 Aspect Ratios. (approx. 3010mm x 1694mm, 3454mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.		
28	Minimum 150" diagonal High Gain Material Tubular Motorized Projection screen with 16:9 Aspect Ratios. (approx. 3320mm x 1868mm, 3810mm diagonal minimum), inclusive of all items such as relay box, LVC unit or any other IOs for motorized operation as required.		
29	Minimum 65" narrow bezel LED Professional 4K UHD display, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.		
30	Minimum 65" narrow bezel LED Professional Display, 1920 X 1080 Resolution, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.		
31	Minimum 55" narrow bezel LED Professional Display, 1920 X 1080 Resolution, 16:9 Aspect ratio, min. 2 x HDMI Interfaces, inclusive of all mounting bracket.		
32	Minimum 19" LED Monitor , minimum 1920x1080 Resolution, 16:9 Aspect ratio, should have minimum 1 x HDMI port, inclusive of all mounting brackets and customization for flush mounting as required at site.		
33	SITC of Gooseneck Microphone with Cardioid polar pattern with a high gain before feedback, Filter to suppress wind or pop noise Non-glare surface, Connection via 3-pin XLR male connector length of gooseneck microphone 450mm or better Max. SPL 124 dB [SPL @ 1% THD] , Signal-to-noise ratio 64 dB [A, rms] ,Equivalent SPL 30 dB [A, rms]		
34	SITC of wireless Lapel microphone, with receiver (UHF),18 Channel Preset or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Omni directional , Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Body pack Transmitter . Receiver dynamic range 80dB (A-weighted) switching bandwidth Minimum 40Mhz Or better		

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35	SITC of wireless head worn microphone with True diversity receiver (UHF),12 Channel Present or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Omni directional/Super Cardioid, Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Transmitter .Receiver dynamic range 80 dB (A-weighted) Or better, switching bandwidth Minimum 40mHz Mhz Or better		
36	SITC of wireless handheld microphone with receiver (UHF),18 Channel Pre-set or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Cardioids , Carrier frequency range 500Mhz to 865Mhz , Frequency response 45Hz to 15Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Transmitter , Receiver dynamic range 80 dB (A-weighted) Or better , switching bandwidth Minimum 40 Mhz Or better.		
37	UHF antenna divider, 4-way, active, 19" housing, 1 U, for wireless systems with BNC connector, incl. mic. cable set and rack mount brackets. All cables and connectors for wireless system shall be original OEM supplied.		
38	UHF Passive Omni directional antenna, for wireless microphone system and compatible with wireless microphone frequency range.		
39	Antenna Cable 25 m (82 ft.). All cables and connectors for wireless system shall be original OEM supplied.		
40	Antenna Combiner (2 inputs / 1 output), to combine the antenna signals and compatible with the wireless microphone system All cables and connectors for wireless system shall be original OEM supplied.		
41	2 core 20 AWG shielded twisted pairs cable with individual drain wires or 20 AWG copper braided shielded cable for serial control/audio signals, non-plenum		
42	14 AWG Speaker Cable in existing conduit. Two X 14 AWG conductors, High performance cable for audio signals, Non-Plenum		
43	2 core 20 AWG shielded twisted pairs cable with individual drain wires or 20 AWG copper braided shielded cable for serial control/audio signals, non-plenum		

44	<p>12 x 8 AUDIO DSP (with AEC feature) Digital Matrix Processors, with 12 mic/line inputs and 8 outputs with AEC - Acoustic Echo Cancellation features.</p> <ul style="list-style-type: none"> • No. of Inputs Channels: should have minimum 12 mic/line inputs • Audio Input DC Phantom Power: should have +48 VDC • Audio Output Interface: should have minimum 8 balanced/unbalanced outputs • Acoustic echo cancellation (AEC) shall be supported • Control Interface: Minimum 1 x RJ-45 based Ethernet port supporting TCP/IP at minimum 100Mbps or RS232 or USB port for control and configuration. • Frequency response: should be between 20 Hz to 20 kHz • THD + Noise: should have minimum 0.001% , 20 Hz to 20 kHz • Input Impedance: should be minimum 8K ohm or better. • Output Impedance: should be minimum 150 Ohms or better. • S/N or Dynamic range: should have minimum 104 dB, 20 Hz to 20 kHz. • Mounting Type: should be rack mountable. 		
45	<p>6 x 4 AUDIO DSP Digital Matrix Processors, with 6 mic/line inputs and 4 outputs.</p> <ul style="list-style-type: none"> • No. of Inputs Channels: should have minimum 6 mic/line inputs • Audio Input DC Phantom Power: should have +48 VDC • Audio Output Interface: should have minimum 4 balanced/unbalanced outputs • Control Interface: Minimum 1 x RJ-45 based Ethernet port supporting TCP/IP at minimum 100Mbps or RS232 or USB port for control and configuration • Frequency response : should be between 20 Hz to 20 kHz • THD + Noise : should have minimum 0.001%, 20 Hz to 20 kHz • Input Impedance : should be minimum 8K ohm or better • Output Impedance : should be minimum 150 Ohms or better • S/N or Dynamic range : should have minimum 104 dB, 20 Hz to 20 kHz • Mounting Type : should be rack mountable 		
46	<p>20W Ceiling Mount Speaker full-range or 2-way minimum 3" or better ceiling mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 95 Hz - 17 kHz (-10dB), Power handling@70/100V : 20W or better, Sensitivity : SPL/W@1 Mtr - 86 db or better, Max SPL@1 Mtr - 103dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.</p> <ul style="list-style-type: none"> • Frequency range (-10dB) : should be between 95 Hz 		

	<p>to 17 kHz or better</p> <ul style="list-style-type: none"> • Power Rating : minimum 20 W or better • Maximum Peak SPL @ 1m : 103dB or better • Drivers: Full range driver or 2-way - minimum 1 x 3" LF Driver & minimum 1 x 0.75" HF Driver • Coverage (conical): 130 degrees or higher • Sensitivity 1W @1m : 86dB or better • Impedance : 4/8 Ohms or 70/100V tapping operation 		
47	<p>30W Surface/Wall Mount Speaker</p> <p>Full-range, minimum 5" surface/wall mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 60 Hz - 20KHz (-10dB), Power handling@70/100V : 30W or better, Sensitivity : SPL/W@1 Mtr - 90 dB SPL or better, Max SPL@1 Mtr - 110dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.</p> <ul style="list-style-type: none"> • Frequency range (-10dB): should be between 60 Hz to 20 kHz or better • Power Rating: minimum 30 W or better • Maximum Peak SPL @ 1m : 110dB or better • Drivers: Full range driver or 2-way - minimum 1 x 5" LF Driver & minimum 1 x 0.5" HF Driver • Coverage (conical): 100 degrees or higher • Sensitivity 1W @1m : 84dB or better • Impedance: 4/8 Ohms or 70/100V tapping operation. 		
48	<p>150W Column Loudspeaker</p> <p>full-range 150W or better column type left and right loudspeaker, 8-ohm impedance, frequency response: 80 Hz - 20 KHz, Sensitivity: SPL/W@1 Mtr - 93 dB SPL or better, Max SPL@1 Mtr - 115 dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.</p> <ul style="list-style-type: none"> • Frequency range : should be between 80 Hz to 20 kHz or better • Power Rating (Average) : minimum 150 W or better • Power Rating (Max/Peak): minimum 600 W or better • Maximum Peak SPL @ 1m : 115dB or better • Sensitivity 1W @ 1m : 93dB or better • Coverage (conical): 125H x 20V degrees or better • Driver : should be full range type or three way driver • Impedance : 8 Ohms or better 		
49	<p>Four Channel Power Amplifier 4 x 300 W</p> <p>Class D Power Amplifier, 4 x 300 W, selectable 4/8 ohms or 70/100V operation, Power @ 70/100V: 300W or better, supporting short circuit, thermal, and under-voltage protection, 1U/2U form factor.</p> <ul style="list-style-type: none"> • Frequency Response: should be between 20 Hz to 20 KHz or better • No. of Channels : should have minimum 4 channels • Output Power per Channel: minimum 300 Watts per channel • selectable 4/8 ohms or 70/100V operation • S/N Ratio : minimum 108dB or better. • THD 20 Hz - 20 kHz, 1 W: • Input Impedance : minimum 10kOhms to 05kOhms or better 		

	<ul style="list-style-type: none"> • Amplifier Class : Class D Amplifier • Cooling requirement : temperature level controlled fans for front to rear airflow • Protection : should have overload protection, mains under-voltage and overvoltage protection 		
50	<p>Dual Channel Power Amplifier 2 x 80 W</p> <p>SITC of Dual Channel Class D or Class AB Power Amplifier, 2 x 80 W @ 8 ohms, Comprehensive short circuit, thermal, and under-voltage protection, 1U/2U form factor.</p> <ul style="list-style-type: none"> • Frequency Response : should be between 40 Hz to 20 KHz • No. of Channel : should have minimum 2 Channels • Output Power per Channel: minimum 80 Watts per channel at 8 ohms • S/N Ratio or dynamic range : minimum 75dB or higher • Total Harmonic Distortion: less than 0.5% • Channel Separation (Crosstalk) : 60dB or better • Input Impedance: minimum 10kOhms or better • Amplifier Class: Class AB or Class D • Cooling requirement: minimum 1 fan for front to rear airflow • Protection: should have overload protection 		
51	<p>19" Floor Standing AV Racks – 15U,</p> <ul style="list-style-type: none"> • Construction shall be high strength robust aluminum extruded frame structure with ventilation slots on the sides and top & bottom covers with provision to mount 4 fans on top cover. • Front and rear open-able doors shall be provided. • Front glass door shall be made of toughened glass, tinted with easily detachable hinges. • Two Pair of slotted vertical cable channel shall be provided at front and back for managing cables. • Lockable industrial grade castors with foot brakes. • Rack shall be supplied with equipment mounting hardware in pack of 100s such as mounting nuts and screws either 12-24 or M6 type as applicable • Rack shall be equipped with minimum 2 nos. of 8 x 5/15 Amps power supply sockets, 2 nos. of vertical cable managers and 2 no. of 19" 1U size horizontal cable managers. • Finish – cabinet shall be black or grey epoxy powder-coated of durable quality. • Powder Coating – at least 80 Microns. • Rack sizes – 600mmW x 600mmD for 15U 		

52	<p>19" Floor Standing AV Racks –22U</p> <ul style="list-style-type: none"> • Construction shall be high strength robust aluminum extruded frame structure with ventilation slots on the sides and top & bottom covers with provision to mount 4 fans on top cover. • Front and rear open-able doors shall be provided. • Front glass door shall be made of toughened glass, tinted with easily detachable hinges. • Rack shall be supplied with equipment mounting hardware in pack of 100s such as mounting nuts and screws either 12-24 or M6 type as applicable • Rack shall be equipped with minimum 2 nos. of 8 x 5/15 Amps power supply sockets, 2 nos. of vertical cable managers and 2 no. of 19" 1U size horizontal cable managers. • Finish – cabinet shall be black or grey epoxy powder-coated of durable quality. • Powder Coating – at least 80 Microns. • Rack sizes – 600mm (W) x 600mm (D) for 15U & 22U, 		
53	<p>19" Floor Standing AV Racks – 36U</p> <ul style="list-style-type: none"> • Construction shall be high strength robust aluminum extruded frame structure with ventilation slots on the sides and top & bottom covers with provision to mount 4 fans on top cover. • Front and rear open-able doors shall be provided. • Front glass door shall be made of toughened glass, tinted with easily detachable hinges. • Two Pair of slotted vertical cable channel shall be provided at front and back for managing cables. • Lockable industrial grade castors with foot brakes. • Rack shall be equipped with minimum 2 nos. of 8 x 5/15 Amps power supply sockets, 2 nos. of vertical cable managers and 2 no. of 19" 1U size horizontal cable managers. • Finish – cabinet shall be black or grey epoxy powder-coated of durable quality. • Powder Coating – at least 80 Microns. • Rack sizes – 800mmW x 800mmD for 36U. 		
54	<p>Central control unit should have the following features, the central unit for powering, configuring and Controlling connected Chairman, Delegate units, and option to control up to 100 units without any power supply. The system should have in built digital processing and control/ transmission of the Digital audio signals. It should have basic management facilities with at least 8 open microphones should have recording facility SD Card.</p>		

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55	The digital Table Top wired Chairman Unit, should have clear button for deactivating all the microphone headphone connector and headphone volume control, that included detachable gooseneck microphone should be free from interference caused by mobile phones. Include the inbuilt Loudspeaker. It should combine several functionalities in one single panel. Must have detachable Gooseneck microphone with GSM immunity and LED ring, Microphone on/off button RJ 45 connectors for separate loop through cabling, Microphone length should not be less than 450 mm or better , 3.5 mm jack socket for headphone, microphone should be programmed to track the camera during video conferencing etc. as required.		
56	The digital Table top wired delegate unit, should have headphone connector and headphone volume control, that include detachable gooseneck microphone, should be free from interference caused by mobile phones. Inbuilt Loudspeakers, it should combine several functionalities in one single panel. Must have detachable Gooseneck microphone with GSM immunity and LED ring, Microphone on/off button, RJ45 connectors for separate loop through cabling, Microphone length should not be less than 450 mm or better , 3.5 mm jack socket for headphone, microphone should be programmed to track the camera during video conferencing etc. as required		
57	Flexible High Speed HDMI Cables. 20 Mtrs. Male to Male - Molded Connector, 1080p/60 verified, Gold plated contacts		
58	Flexible High Speed HDMI Cables. 15 Mtrs. Male to Male - Molded Connector, 1080p/60 verified, Gold plated contacts		
59	Flexible High Speed HDMI Cables. 10 Mtrs. Male to Male - Molded Connector, 1080p/60 verified, Gold plated contacts		
60	Flexible High Speed HDMI Cables. 5 Mtrs. Male to Male - Molded Connector, 1080p/60 verified, Gold plated contacts		
61	Flexible High Speed HDMI Cables. 1.5Mtrs. Male to Male - Molded Connector, 1080p/60 verified, Gold plated contacts		
62	VGA + Audio Cables. 1.5 Mtrs. Male to Male VGA Cables With Audio- Molded Connectors. VGA Cable: 15-pin HD Male to Male Molded & Mini Stereo Audio Cable: 3.5 mm Stereo- 6' (1.5 m)		
63	VGA + Audio Cables. 5 Mtrs. Male to Male VGA Cables - Molded Connectors, High performance cable designed for transmission of computer video and ID bit signals, Pin 9 is passed through from end to end, Terminated with high quality VGA moulded connectors		
64	VGA + Audio Cables. 10 Mtrs. Male to Male VGA Cables - Molded Connectors, High performance cable designed for transmission of computer video and ID bit signals, Pin 9 is passed through from end to end, Terminated with high quality VGA molded connectors		

65	Flexible High Speed Display port Cables. 1.5 Mtrs.		
66	22 AWG, 4 Pair, Shielded / FTP UTP Category 6/7a Cable (300mtr/1000ft box).		
67	USB cable 1.5 Mtrs.		
68	USB EXTENDER USB transmitter and receiver with below features: Transmitter: <ul style="list-style-type: none"> • Input: 1 female USB Type B • Output: 1x Rj45 Receiver: <ul style="list-style-type: none"> • Input: 1x Rj45 • Output: 2x female USB hub Type A or more • USB Support: USB 2.0 or better • Data Rates: Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps) • Distance Support: Minimum 70 mtr or better Approved make- Extron/Crestron/AMX		
69	12 PORT or Above POE LAYER 2 MANAGEABLE NETWORKING SWITCH <ul style="list-style-type: none"> • The switch should have 12 X 10/100/1000 Base-Tx ports; and min 2 SFP Min 12 ports shall be 802.3at-compliant PoE+ capable, with the switch capable of providing minimum 120 Watts of PoE power budget. • Switch should complying to IEEE 802.3, IEEE 802.3at, IEEE 802.3u and 802.3ab standard, supporting half duplex mode, full duplex mode and auto negotiation on each port. • Switch should support both IPv4 and IPv6 – Switch should support features like Neighbor Discovery, Syslog, Telnet, SSH, Web GUI, SNMP, NTP, DNS, RADIUS over IPv6 • Switch should have non-blocking switching bandwidth of minimum 24Gbps. • Switch should have forwarding rate of minimum 14Mpps. • Switch should be IPv6-Ready from Day 1 Layer 2 Features <ul style="list-style-type: none"> • IEEE 802.1Q VLAN tagging • 802. 1Q VLAN on all ports with support for minimum 255 VLANs. • Support for minimum 4k MAC addresses. • Spanning Tree Protocol as per IEEE 802.1d. • Multiple Spanning-Tree Protocol as per IEEE 802.1s. • Rapid Spanning-Tree Protocol as per IEEE 802.1w. • Self-learning of unicast & multicast MAC addresses per switch port. (LACP) as per IEEE 802.3ad. Security Features <ul style="list-style-type: none"> • Switch should support MAC Address based Filters / Access Control Lists (ACLs) on all switch ports. • Switch should support Port based Filters / ACLs. • Secure Shell (SSH) Protocol, HTTP and DoS protection. • ARP spoofing, DHCP snooping etc. • Switch should support static ARP, Proxy ARP, UDP forwarding and IP source guard. Management Features <ul style="list-style-type: none"> • The switch should support CLI as well as web-based 		

	<p>Management.</p> <ul style="list-style-type: none"> • Switch should be SNMP manageable with support for SNMP Version. • Switch should support TELNET and SSH Version-2 for Command Line Management. • Switch should support System & Event logging functions as well as forwarding of these logs to multiple syslog servers. • Switch should support on-line software reconfiguration related to Layer-2 & 3 functions, VLAN, STP, Security, QoS should not require rebooting of the switch. 		
70	<p>WIRELESS ACCESS POINT</p> <ul style="list-style-type: none"> • IEEE 802.11ac compliant, dual radio (2.4 GHz & 5GHz) concurrent operation • 3X3 Multiple Input / Multiple Output (MIMO) access point • Internal/external antennas for 2.4Ghz & 5GHz operations • One 10/100/1000 Base-Tx auto-sensing (RJ45) PoE port • AP must have two radios (2.4GHz & 5GHz) • Maximum Associated Users: 240 (120 per radio) • Power Supply: via an 802.3at POE switch port or OEM supplied Power Injector • IEEE 802.3 10-BASE-T, IEEE 802.3u 100BASE-TX, 1000BASE-T, IEEE 802.3ab 1000BASE-T • AP must include OEM supplied mounting brackets and accessories for both mounting options such as ceiling or wall 		
71	<p>22 CHANNEL AUDIO MIXER</p> <p>Min. 22 Channel high performance Audio Mixer unit with 16 Mic/Line + 4 Mic/Stereo Line Channels, 4 x AUX, USB-Audio Interface, with integrated digital FX processors and Dual Graphic EQ's, low noise and low distortion discrete microphone preamps built-in, Group-switch-able +48V phantom power</p> <ul style="list-style-type: none"> • No. of Channels: Should have Min 22 channel • Inputs : 16 Mic / Line + 4 Mic / Stereo Line Channels, 4 x AUX • Frequency response : Should have 20 Hz to 20 kHz • THD + Noise : Should have <0.1%, @ 1 KHz • USB-Audio Interface with integrated digital FX processors and Dual Graphic EQ's. • Shall have built in low noise and low distortion discrete microphone preamps. 		
72	<p>Corded Vocal Microphone CORDED VOCAL MICROPHONE</p> <p>Corded Vocal Microphone with Dynamic Neodymium Magnet microphone element, with frequency response 80Hz-16kHz, Cardioid, Super-Cardioid polar pattern or better pattern, sensitivity of min. 2.2mV/Pa or better and min. impedance 600 ohm or better including microphone stand.</p>		

	<ul style="list-style-type: none"> • Frequency response: 80Hz to 15 KHz • Transducer Type: Dynamic • Polar pattern: Cardioid, Super-Cardioid or better • Connection: 3-pin XLR 		
73	<p>1x12" OR BETTER PASSIVE LOUDSPEAKER</p> <p>Loudspeaker • 2-Way Loudspeaker System with 1 x 12" LF</p> <ul style="list-style-type: none"> • Frequency Range (-10 dB): 37 Hz – 20 kHz • Frequency Response(±3 dB): 43 Hz – 18 kHz • Coverage Pattern: 120° x 60° • Crossover Modes: Bi-amp/Passive switchable • Passive Crossover Frequency: 1.5 kHz • Transducer Power Rating: LF: 1600 W peak • HF: 160 W peak • Bi-amp mode SPL LF: 128 dB peak, HF: 135 dB peak • Passive mode SPL: 127 dB peak • System Sensitivity (1W @ 1m) Passive mode: 96 dB SPL • Low Frequency Driver: 1 x 12 in driver with 50.8 mm (2 in) dual voice coil • High Frequency Driver: 1x (1.5 in) compression driver, (1.5 in) voice coil • Enclosure: Trapezoidal with 15 degree side angles • Suspension Attachment: 15 points (10MM) • Grille: Powder coated 14 gauge perforated steel • Input Connector: NL4 Neutrik /Speak on and CE-compliant covered barrier strip terminals. • serial 18 mm multi-ply hardwood plywood 		
74	<p>1x15" OR BETTER PASSIVE SUBWOOFER</p> <p>1x15" or better passive subwoofer Max. power handling capacity of 1600 Watts with 8 Ohm impedance. Inclusive of all mounting brackets, assemblies, hardware and standard accessories for portable /outdoor application.</p> <ul style="list-style-type: none"> • 15" High Power Subwoofer System • Frequency Range (-10 dB) : 32 Hz - 250 Hz , • Frequency Response (±3 dB) : 40 Hz - 250 Hz , • System Sensitivity (1w @ 1m) : 94 dB ,Nominal Impedance 8 ohms , • Maximum SPL(1m) : 126 dB peak , • Power Rating (Peak) : 1600 W , Low Frequency Driver 1 x 15" woofer , 385 mm (15 in) driver with 75 mm (3 in) voice-coil , • Input Connector Dual Neutrik NL4MP connectors plus covered barrier trip terminals • Impedance : 8 Ohms or better 		

75	<p>2 x 600 W Class D Power Amplifier</p> <p>Class D Power Amplifier, 2 x 600 W, selectable 8 ohms operation, Power @ 70/100V: 450W or better, supporting short circuit, thermal, and under-voltage protection, 1U/2U form factor.</p> <ul style="list-style-type: none"> • Two Channel Digital Power Amplifier, 600W@4 Ohms • On-board Digital Signal Processor and includes these integrated features: Input Router , Input Delay – Up to 1000ms , Input Parametric EQ – 8 band , Crossover , Output Parametric EQ – 8 band ,Output Delay – Up to 100ms , Limiter • Should be controllable, configurable and monitor be through standard TCP/IQ Network. • Each output channel should be capable of providing either 70V or 100V for high impedance applications. • Completely configure the amplifier using an intuitive front-panel interface. • Should have GPIO/AUX Port to Recall presets, mute channels, monitor faults, power on/off the amplifier, and more through a combined • Digital Signal Processing :96kHz, 32-bit floating point • Voltage Gain (at maximum level) 4/8Ω, 70Vrms and 100Vrms Operation : 34dB • Frequency Response (8Ω, 20Hz - 20kHz): +/-0.25dB • Total Harmonic Distortion (at full rated power, from 20Hz - 20kHz) : 0.35% • Analog Input Signal to Noise Ratio (ref. rated power, 100V,20Hz - 20kHz): >104dB • Damping Factor (20Hz to 100Hz) : >1000 • Crosstalk (below rated power, 20Hz to 1kHz) : >80dB • Shall have digital audio interface with 2 nos of RJ45 network port • Protection: should have overload protection, mains under-voltage and overvoltage protection 		
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Item No: - 76

IMPORTANT ELIGIBILITY CRITERIA FOR SOFTWARE HERE BELOW

1. The supplier should be OEM/ OEM partner/authorized reseller for the content software. Incase of Partner or Authorized reseller a latest letter of authorization issued by the OEM should be attached in Technical Bid.
2. The bidder should quote for all products and offer the entire solution on turnkey basis.
3. Content may be supplied in a single or several modules as per the specifications.
4. The bidder should strictly offer compliance to the specifications as drawn in tender here below in order to meet the specific requirements of this University. Note: A presentation may be called if required by the University to check compliance.

SPECIFICATIONS

Sr. No.	Description of Product/Service	Quantity	Specifications Mandatory/ Desirable	Compliance Yes/No Indicate
1	<p>SELF PACED LEARNING MODULES-COMMUNICATION IN ENGLISH,</p> <p>A) Grammar,</p> <p>B) Pronunciation (Customizable) with Speech Recognition and Intelligibility Guide</p> <p>Specifications and pre-requisites for English Content Software</p> <p>Content should be available in Indian/British English as options and prepared by English Language experts for S. No A).</p> <p>Maybe supplied in single or several modules.</p> <p>The content software should be scalable, truly interactive and should also track, score and correct the learner for S. No A, & B,.</p> <p>The content should be available in three levels (Beginner, Intermediate & Advance levels) as an option for S. No. A & B.</p> <p>The pronunciation, software should allow customization for different learning levels for S. No B.</p> <p>The, pronunciation software in (S. No. A, B) should allow to record and playback learner's voice production and compare with the native speaker</p> <p>The Grammar learning module (S. no A) should have enhanced listening and speaking activities for Elementary to advanced users; and learners should generate tests on single or multiple grammar areas.</p> <p>The Pronunciation module as in S. No B) should allow the learner to practice the International Phonetics Alphabet (IPA), show similar sounds, word and phrasal tests, stress and rhythm, with variety of lessons including audio and video graded in difficulty.</p>	40 Users Network License	Mandatory for all features listed	

	<p>The software should be compatible to windows 10 OS. (S. No A, B,)</p> <p>The software should provide instant feedback when attempting the exercises. (S. No A, B)</p> <p>Content should be supplied in single or different modules either through CDROMs/electronically but should have a Manual and installation instructions (S.No A, B,)</p> <p>Specifications for Speech Recognition and Intelligibility Guide S. No. (b)</p> <p>Should have speech recognition inbuilt or as a separate model to give feedback via an intelligibility score</p> <p>Should record speech and compare with original</p> <p>Should have at least 30 lessons built in on the pronunciation subject.</p> <p>Should allow webcam for video recording.</p> <p>Should contain video of mouth & lips in pronunciation & video of speech anatomy.</p> <p>Should have video showing tongue contact with the palette.</p> <p>Should have phonetic symbols (IPA) and sounds</p> <p>Should have wave form amplitude for viewing timing, pitch and speech intensity</p> <p>Should have a built in Offline dictionary of at least 20,000 words and sounds with a feature to custom create word lists.</p> <p>The dictionary should arrange the words in alphabetical order, vowel order, consonant order and word order using separate tabs</p> <p>Should have an interactive guide on pronunciation</p> <p>Should clearly depict labial sounds, dental sounds. Alveolar, palatal sounds, velar sounds and voiced sounds.</p> <p>Should display clear mouth positions in English pronunciation</p>			
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	<p>Should display the tongue palate contact when producing lingual consonants.</p> <p>Should have a lesson on vowel sounds, and diphthongs</p> <p>Speech intensity on loudness and pitch should be displayed in waveform amplitude.</p> <p>Should have a text to speech facility with a input of at least 200 characters.</p> <p>Recorder should be voice activated. Should Automatically stop recording when you've finished speaking</p> <p>Text to speech facility should support multiple male and female voices.</p> <p>Should have the ability to adjust the speaking rate of the text to speech voices</p> <p>Should have comprehensive help documentation</p>			
2.	<p><u>a) Self Paced Learning content in <u>Hindi, Thai, Sinhala, Bahasa, Bengali, Tamil, Telugu, Chinese, French, Spanish, Korean, Burmese, Dzongkha, Malay, Japanese, German, Russian, Urdu, Arabic, Malayalam, Punjabi, Kannada, Assamese, Vietnamese, Khmer – 40 users</u></u></p> <p>b) Results Tracking and Customizing Software for above content</p> <p><u>Specifications and pre-requisites for Self Paced Learning content</u></p> <p>Content should be with audio by Native speakers of the given languages</p> <p>Content should be suitable for teacher training also.</p> <p>Content should be available in native accents of the above languages.</p> <p>The Content learning packages should be used internationally .(Attach supporting documents)</p> <p>The software should have a results tracking software enabling the teacher to keep track of the performance of each student through different parameters such as no of hrs spent, points scored, log-in dates, courses attended etc.</p>			

	<p>The content should have authentic auditory and visual resources.</p> <p>Should have a picture dictionary for Chinese.</p> <p>Should have a business vocabulary module for Hindi and Chinese</p> <p>Should have an option to print the phrase book sheets and the program</p> <p>The software Should have a Course deployment tool</p> <p>The software should have audio and video recordings of words and dialogues in both male and female voices.</p> <p>The supplier should be an OEM partner or Distributor for the content software. A latest letter of authorization issued by the principal company should be attached.</p> <p>The content modules should be scaled up periodically as an when new content is released by developer.</p> <p>The content software should be truly interactive and should also track, score and correct the learner</p> <p>The content should be available in multiples levels of difficulty for Hindi, Chinese, Arabic, Japanese, German, French and Spanish.</p> <p>The Content software should follow a methodology of - concept introduction, testing, and evaluation.</p> <p>. The content software should allow customization for different learning levels and language options through tracking software.</p> <p>The content should be based on sound educational pedagogy</p> <p>The software should allow to record and playback learner's voice production and compare with the native speaker</p> <p>The software modules should be available in both offline and online versions and can be supplied in different modules.</p>			
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	<p>The software should be compatible to windows 10 OS.</p> <p>The software should provide instant feedback when attempting the exercises.</p> <p>The software modules should offer a secure log-in.</p> <p>Content should be supplied either through CDROM or electronically but should have a Manual and installation instructions</p>			
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78	<p>Media Processor System for Lecture Recording and Distance Learning with Supports upto 1080p 60fps video recording, multiple inputs like HDMI/DVI/Display Port/LAN with capability of Reording and Streaming minimum 3 Full Motion Video Inputs in single frame, Flexible scaling and window processing, supports PIP, PBP and up to 3 windows layout and mixing, should have min Built-in 1TB HDD storage for upto 300 Hr recording and for external storage 1 USB 3.0 port, should have options to upload recordings to an external USB device or the FTP server, should support Streaming Protocol Pull: RTSP. Push: RTMP / RTMPS / MPEG-TS TCP, UDP, HTTP DHCP Client. should supports USB mouse, keyboard. Layout switch (Single, PIP, PBP, min 3 windows layouts). Video Compression H.264/AVC 4:2:0 8bit color Encoding profile: High, Main, Baseline. Bitrate 200 kbps to 10 Mbps.</p>		
79	<p>Full HD (1920x1080) PTZ Camera for capturing the Presenter and professor, Optical Zoom 20X , min 100 Presets, 60 Frames per Second, Ethernet Out, HDMI Out, 3G-SDI Out, Audio In, RS232/422/Ethernet Controls, -170° ~ +170° Panning angle, -30° ~ +90° Tilting angle , Should support PoE+. camera shall supplied with all necessary cable, tripod stand etc.</p>		

80	Digital presenter with Optical Zoom 20 x , Digital Zoom 12x ,Output Resolution XGA, SXGA, WXGA, 1080p Frame Rate 30 fps , Shooting Area Max. 440 x 330 mm, A3 size Built-in Back Light Size 210 x 297 mm Lamps Dual LED side lamps supported by a gooseneck Input Interface VGA, HDMI Output Interface VGA x 2, HDMI, C-Video USB Image Transmission USB 2.0 (480 Mbps) high-speed transmission Audio & Video Recording One-touch records image and sound synchronously Built-in Memory 240 JPEG USB Flash Drive for USB flash drives (up to 4TB) or wired / wireless mouse for annotation Built-in Microphone -Yes , Image Capture Single or continuous capturing Image Rotation, 0-180° , flip, mirror ,Anti-Theft / anti-theft lock device.		
81	Interactive Display: Interactive Panel Size of 21.5" Diagonal, Panel Type: IPS LCD , Display Ratio: 16:9, Resolution: 1920 x 1080 Pixel . Minimum Brightness: 400cd/m ² , Contrast Ratio: 1000:1, Response Time : 14ms, Viewing Angle: Horizontal 178°, Vertical 178°, Surface Treatment: Tempered Glass. Touch Technology: Electromagnetic Touch Digitizer Battery less Pen with back side eraser.		
82	HDMI to USB 3.0 video converter. Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video input and output. simultaneously streaming the audio and video signal at 1080p to a USB connected PC for capture or re-broadcast. Automatically scales 4K sources to 1080p for USB capture. Video timing stabilization feature helps to ensure that the USB capture stream won't lock up or drop, even if the HDMI input source is intermittent or becomes disconnected. Digital stereo audio from either HDMI (LPCM 2.0) or the 3.5mm analog audio input will be captured with the HDMI video source and is selectable within the configuration software. Inputs 1x HDMI, 1x 3.5mm [1x Stereo(L/R)]. Outputs 1x HDMI [1x Uncompressed AV and Data]. 1x USB Type-B etc.		

83	Audio Mixer : 4 studio-grade compressors with super-easy "one-knob" functionality and control LED for professional vocal and instrumental sound mixer. Built-in stereo USB/Audio Interface to connect directly to your computer. Premium ultra-low noise, high headroom mixer with 4 state-of-the-art, phantom-powered XENYX Mic Preamps comparable to stand-alone boutique preamps. 3-band EQs for warm and musical sound. 2 aux sends per channel: 1 pre fader for monitoring applications, 1 post fader for external FX devices. Control room/phones outputs with multi-input source matrix.		
84	Wireless Lapel microphone, with receiver (UHF), 18 Channel Preset or better, Display on Transmitter and Receiver, RF Power output 50mW or Better, Polar Pattern :- Omnidirectional, Carrier frequency range 500Mhz to 865Mhz, Frequency response 20Hz to 20Khz, Mute Button on Transmitter, Battery Operation time Minimum 8hr, Should have Charging Contact in Body pack Transmitter. Receiver dynamic range 80dB (A-weighted) switching bandwidth Minimum 30Mhz Or better.		
85	Headphone for monitoring of live audio recording.		
86	2-way active studio monitors ideally suited for computer studios, audio and multimedia workstations and keyboard monitoring Built-in powerful 2 x 20-Watt amplifiers with immense headroom Powerful woofers and high-resolution tweeters provide an ultra-linear frequency response Ultra-high resolution 24-bit/192 kHz D/A converters for an incredible dynamic range Optical and coaxial inputs to directly connect digital audio sources by S/PDIF interface.		
87	Desktop Computer- Intel Core i5 processor @ 3 GHz or higher, 4 GB DDR4 expandable to 16 GB, 1 TB SATA HDD, Integrated High Definition (HD) Audio), Integrated Gigabit Ethernet port, Minimum 4 USB, Microphone & Headphone, 1 PS2, 1 VGA/HDMI, microphone-in (3.5mm)/ Headphone port. Integrated DVD RW, Keyboard & Mouse, Preinstalled Windows 10 64 Bit, Energy Star & EPEAT Compliant.		

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88	Control Monitor and Video editing software : 22 INCH Full HD (1920x10180) resolution Display with minimum dual (2) HDMI input , wireless Keyboard and wireless Mouse to control studio setup. Video editing software shall be supplied along with the control monitor from day 1.		
89	42 Inch or above presenter preview monitor with Inbuilt Speaker. Resolution- 3840*2160, Brightness(Typ.)- 350 nit, Contrast Ratio- 4000:1, Input/Output:- DVI-D/Display Port 1.2 (1), HDMI 2.0 (2), Stereo mini Jack, USB 2.0 x 2. and HDMI 2.0 (Loop-out) output. Viewing Angle(H/V)- 178/178 Speaker- Built in Speaker(10W + 10W) accessories: Wallmount / ceiling mount Bracket remote control and other required accessories shall be supplied as per room/ interior design. .		
90	Rack mountable Layer II Managed Gigabit Ethernet standalone chassis provides 8 xPoE RJ-45 10/100/1000 BaseT, 2 SFP/RJ-45 10/100/1000 BaseT or 100/1000 BaseX combo ports with internal AC power supply (Minimum 78W PoE), complete as required		
91	22 U AV Media rack along with tray, PDU , key lock , HDMI Cable, Cat-6 Cable, Audio cable, control cable & power cable		
92	Onsite Support with suitable & Highly skilled minimum 2nos IT Professional to ensure daily basis support During DLP Period. The DLP including comprehensive Annual Maintenance		

93	<p>3rd Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel's for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.</p>		
94	<p>4th Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel's for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.</p>		

95	<p>5th Year after Taking over of the system for the beneficial use by the University- Comprehensive Maintenance + O&M with Onsite Support with suitable Highly Qualified/skilled (minimum 2 nos) IT Professional to ensure daily basis support of all the AV Systems BoQ items executed under the scope SUB HEAD I of this NIT installed in areas such as, but not limited, to the Class Rooms, Lecture Halls, Seminar Rooms, VC Room, Conference Rooms, Board Room, Meeting Rooms etc.; inclusive of all materials and spare parts, which are to be provided by the integrator/bidder free of cost for the following years after the Defects Liability Period as specified in the GCC of this NIT, inclusive of all integrator's resources such as trained manpower and operational personnel for all services including makeshift arrangement as on required basis, routine maintenance, preventive maintenance, breakdown maintenance, software/firmware upgrade, repair and replacement of defective or damaged or worn-out items for the specified years after the DLP.</p>		
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Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University
LIST OF ACCEPTABLE MAKES / MANUFACTURERS

Sr. No.	Item Description	Acceptable Make / Brand / Manufacturer
1	Video Signal Equipment – Switcher, Scalars, Extenders for HDMI, VGA, Distribution Amplifiers, Control Processor, Wired Button Panel etc.	Crestron / Extron / AMX.
2	Wireless Touch Screen device for Control (iOS or Android based).	Apple / Samsung
3	Lecture Recording and Streaming Device with inbuilt 1 TB HDD.	Lumens / Extron / Mediasite.
	Live Streaming and Application Software Platform, Cloud Hosting Solution.	
4	USB WIRELESS PRESENTOR SYSTEM	Crestron / Extron / Barco / Vivitek / BENQ.
5	Servers and Storage for Live Streaming and VoD Platform as above; OS platform and other environment such as databases etc., if any, shall be as per software application /in house or could OEM requirements	Dell / HP / Hitachi / Lenovo
6	Lecture Capture Camera (AV Camera)	Lumens / Sony / Panasonic
7	Document Camera – Ceiling Mounted and Desktop Mountable	Lumens / Vaddio / Wolf Vision
8	Video Conferencing Endpoints – Codec, Camera & Microphone & Licence etc.	Cisco, Polycom, Panasonic
9	Annotation Device	Extron, Pointmaker
10	Digital Podium with 21.5/ 22" Touch Enabled Display	UNI/AHA/TECOM
11	Desktop PC for AV	Dell, HP, Lenovo, Acer
12	Ultra-Short Throw 3600 Lumens, LCD /DLP projectors	Epson / Optoma / Sony
13	Laser Projectors – 6500 Lumens, LCD/DLP	Barco / Christie / Panasonic
14	Motorized Projection Screens	Dalite / Draper / Liberty / Prima
15	55", 65" LED Display	Panasonic / LG / Samsung
16	Wired and Wireless Microphone System including cables for wireless antenna	Beyerdynamic, Electro voice, Sennheiser
17	Microphone, Speaker and Control Cable	Belden, Klotz, Krystal
18	Audio DSP	Bi-amp / BSS / Extron / Crestron
19	5" and 3" Speakers, Loudspeaker and Subwoofer	Bose / Electro voice / JBL
20	Column Speakers	Bose / Renkus-Heinz / JBL
21	Audio Amplifiers	Bose / Dynacord / Crown
22	AV Racks	APW / Dynamic / Comrack / Valrack / Prime Rack
23	Digital Audio-Conferencing System	Beyerdynamic / Bosch / Sennheiser
24	Video Cables (HDMI, VGA + Audio, Display Port DP / miniDP) and USB, Shielded/FTP - CAT6/7a cable	Crestron / Extron / Falcon / Belden
25	AV Networking Switch and AV Wireless Access Point	Cisco / HPE / Extreme Networks / D-link,
26	Mixer	Sound craft / Dynacord / Yamaha
27	AV Connectors as may be required	Respective AV OEM / Amphenol, Neutrik
SL	Technical Description	Approved Make

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

28	Media Processor System for Lecture Recording and Distance Learning with Supports up to 1080p 60fps video recording, multiple inputs like HDMI/DVI/Display Port/LAN with capability of Recording and Streaming minimum 3 Full Motion Video Inputs in single frame, Flexible scaling and window processing, supports PIP, PBP and up to 3 windows layout and mixing, should have min Built-in 1TB HDD storage for up to 300 Hr recording and for external storage 1 USB 3.0 port, should have options to upload recordings to an external USB device or the FTP server, should support Streaming Protocol Pull: RTSP. Push: RTMP / RTMPS / MPEG-TS TCP, UDP, HTTP DHCP Client. Should supports USB mouse, keyboard. Layout switch (Single, PIP, PBP, min 3 windows layouts). Video Compression H.264/AVC 4:2:0 8bit color Encoding profile: High, Main, and Baseline. Bit rate 200 kbps to 10 Mbps.	Lumens/ Extron/ Mediasite/ Media point
29	Full HD (1920x1080) PTZ Camera for capturing the Presenter and professor, Optical Zoom 20X , min 100 Presets, 60 Frames per Second, Ethernet Out, HDMI Out, 3G-SDI Out, Audio In, RS232/422/Ethernet Controls, -170° ~ +170° Panning angle, -30° ~ +90° Tilting angle , Should support PoE+. camera shall supplied with all necessary cable, tripod stand etc.	Lumens / Sony / Panasonic
30	Digital presenter with Optical Zoom 20 x, Digital Zoom 12x ,Output Resolution XGA, SXGA, WXGA, 1080p Frame Rate 30 fps , Shooting Area Max. 440 x 330 mm, A3 size Built-in Back Light Size 210 x 297 mm Lamps Dual LED side lamps supported by a gooseneck Input Interface VGA, HDMI Output Interface VGA x 2, HDMI, C-Video USB Image Transmission USB 2.0 (480 Mbps) high-speed transmission Audio & Video Recording One-touch records image and sound synchronously Built-in Memory 240 JPEG USB Flash Drive for USB flash drives (up to 4TB) or wired / wireless mouse for annotation Built-in Microphone -Yes , Image Capture Single or continuous capturing Image Rotation, 0-180°, flip, mirror ,Anti-Theft / anti-theft lock device.	Lumens/ Vaddio / Wolf Vision
31	Interactive Display: Interactive Panel Size of 21.5" Diagonal, Panel Type: IPS LCD, Display Ratio: 16:9, Resolution: 1920 x 1080 Pixel. Minimum Brightness: 400cd/m ² , Contrast Ratio: 1000:1, Response Time: 14ms, Viewing Angle: Horizontal 178°, Vertical 178°, Surface Treatment: Tempered Glass. Touch Technology: Electromagnetic Touch Digitizer Battery less Pen with back side eraser.	PARBLO/ WACOM/ AHA
32	HDMI to USB 3.0 video converter. Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video input and output. Simultaneously streaming the audio and video signal at 1080p to a USB connected PC for capture or re-broadcast. Automatically scales 4K sources to 1080p for USB capture. Video timing stabilization feature helps to ensure that the USB capture stream won't lock up or drop, even if the HDMI input source is intermittent or becomes disconnected. Digital stereo audio from either HDMI (LPCM 2.0) or the 3.5mm analog audio input will be captured with the HDMI video source and is selectable within the configuration software. Inputs 1x HDMI, 1x 3.5mm [1x Stereo(L/R)]. Outputs 1x HDMI [1x Uncompressed AV and Data]. 1x USB Type-B etc.	EXTRON/ SCYPRESS /CRESTRON
33	Audio Mixer: 4 studio-grade compressors with super-easy "one-knob" functionality and control LED for professional vocal and instrumental sound mixer. Built-in stereo USB/Audio Interface to connect directly to your computer. Premium ultra-low noise, high headroom mixer with 4 state-of-the-art, phantom-powered XENYX Mic Preamps comparable to stand-alone boutique preamps. 3-band EQs for warm and musical sound. 2 aux sends per channel: 1 pre fader for monitoring applications, 1 post fader for external FX devices. Control room/phones outputs with multi-input source matrix.	Yamaha/ Sound craft/ Bahringer

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

34	Wireless Lapel microphone, with receiver (UHF), 18 Channel Preset or better , Display on Transmitter and Receiver , RF Power output 50mW or Better , Polar Pattern :- Omni directional , Carrier frequency range 500Mhz to 865Mhz , Frequency response 20Hz to 20Khz , Mute Button on Transmitter , Battery Operation time Minimum 8hr , Should have Charging Contact in Body pack Transmitter . Receiver dynamic range 80dB (A-weighted) switching bandwidth Minimum 30Mhz Or better.	Sennheiser/ AKG / Beyerdynamic
35	Headphone for monitoring of live audio recording.	Sennheiser/ AKG / Beyerdynamic
36	2-way active studio monitors ideally suited for computer studios, audio and multimedia workstations and keyboard monitoring Built-in powerful 2 x 20-Watt amplifiers with immense headroom Powerful woofers and high-resolution tweeters provide an ultra-linear frequency response Ultra-high resolution 24-bit/192 kHz D/A converters for an incredible dynamic range Optical and coaxial inputs to directly connect digital audio sources by S/PDIF interface.	Yamaha/ JBL/ Bahringer
37	Desktop Computer with 19.5 Inch or above HD monitor- Intel Core i5 processor @ 3 GHz or higher, 4 GB DDR4 expandable to 16 GB, 1 TB SATA HDD , Integrated High Definition (HD) Audio), Integrated Gigabit Ethernet port, Minimum 4 USB, Microphone & Headphone, 1 PS2, 1 VGA/HDMI, microphone-in (3.5mm)/ Headphone port. Integrated DVD RW, Keyboard & Mouse, Preinstalled Windows 10 64 Bit, Energy Star & EPEAT Compliant.	DELL/HP/ACCER
38	Control Monitor and Video editing software: 22 INCH Full HD (1920x10180) resolutions Display with minimum dual (2) HDMI input, wireless Keyboard and wireless Mouse to control studio setup. Video editing software shall be supplied along with the control monitor from day 1.	LG/ SAMSUNG /DELL
39	42 Inch or above presenter preview monitor with Inbuilt Speaker. Resolution- 3840*2160, Brightness (Typ.)- 350 nit, Contrast Ratio- 4000:1, Input/ Output:- DVI-D/Display Port 1.2 (1), HDMI 2.0 (2), Stereo mini Jack, USB 2.0 x 2. and HDMI 2.0 (Loop-out) output. Viewing Angle (H/V)- 178/178 Speaker- Built in Speaker(10W + 10W) accessories: Wall mount / ceiling mount Bracket remote control and other required accessories shall be supplied as per room/ interior design. .	SAMSUNG / LG/ PANASONIC
40	Rack mountable Layer II Managed Gigabit Ethernet standalone chassis provides 8 xPoE RJ-45 10/100/1000 BaseT, 2 SFP/RJ-45 10/100/1000 BaseT or 100/1000 BaseX combo ports with internal AC power supply (Minimum 78W PoE), complete as required	D-LINK/ CISCO/ HP
41	22 U AV Media rack along with tray, PDU , key lock , HDMI Cable, Cat-6 Cable, Audio cable, control cable & power cable	Standard Make

SECTION V – Commercial Price Schedule

(Note: To be uploaded in referred CPPP/xls format)

THE PRICE BID SHALL BE FILLED IN ONLINE ON THE WEBSITE.

LETTER OF TRANSMITTAL

From:

To

The Registrar,

Nalanda University, Rajgir, Bihar.

Dear Sir,

Subject: Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar

TENDER NO: NU/Engg/14/5B/NIT/2019-20/04 Dated 22.07.2020

Having examined the details given in Press –Notice and Technical Tender document for the above work in the subject hereinabove, I/we hereby submit the relevant information as hereunder:

- a. I/We hereby certify that all the statement made and information supplied in the enclosed Forms A to E and accompanying statement are true and correct in all respects and no information has been concealed and misrepresented.
- b. I/We have furnished all information and details necessary for certifying the eligibility and that no further pertinent information required to be shared remains undisclosed.
- c. I/We hereby submit the requisite certified solvency certificate and authorize the Vice Chancellor, NU to approach the bank, issuing the solvency certificate to confirm the correctness and veracity thereof. I/We also authorize Vice Chancellor, NU to approach individuals, owners, firms and corporations to verify my/our competence and reputation.
- d. I/We submit the following certificates in support of my/our suitability, technical knowledge and capability for having successfully completed the following works:

Sr.No.	Name of Work	Certificate from

Certificate:

It is certified that the information given in the enclosed Eligibility Tender are correct. It is also certified that I/we shall be liable to be debarred, disqualified/cancellation of enlistment in case any information furnished by me/us is found to be incorrect.

Enclosures: Seal of bidder

Date of submission

SIGNATURE (S) OF BIDDER (S)

1. PERFORMA OF BANK GUARANTEE TOWARDS EMD

(on non-judicial paper of appropriate value)

Bank Guarantee No. -----

Dated:

To,
The Registrar,
Nalanda University,
District Rajgir, Bihar

Dear Sir(s),

Whereas the Nalanda University, District Rajgir, Bihar (hereinafter called the NALANDA UNIVERSITY) which expression shall, unless repugnant to the context or the meaning thereof, include all its successors, administrators, executors and assignees has on behalf of the President of India invited tender No. ----- and M/s ----- having Registered/head office at ----- (Hereinafter called the "bidder" which expression shall, unless repugnant to the context or the meaning thereof, mean and include all its successors, administrators executors and assignees) have submitted a Proposal Reference No. ----- and bidder having agree to furnish as a conditions precedent for participation in tender as unconditional and irrevocable bank guarantee of Rs----- (Rupees ----- Only) for the due performance of bidder's obligations as contained in the tender document specially the conditions that

(a) bidder shall keep his Proposal open for a period of day i.e. from ----- to ----- or any extension thereof, and shall not withdraw or modify it in a manner not acceptable to the NALANDA UNIVERSITY

(b) the bidder will execute the contract, if awarded, and shall furnish performance guarantee in the format prescribed by the NALANDA UNIVERSITY within the required time. The bidder has absolutely and unconditionally accepted these conditions. The NALANDA UNIVERSITY and the bidder have agreed that Proposal submitted by the bidder is an offer made on the condition that the Proposal, if submitted would be kept open in its original form without variation or modification in a manner not acceptable to the NALANDA UNIVERSITY for a period of -----days i.e. from ----- to ----- or any, extension thereof and that submission of the Proposal itself shall be regarded as an unconditional and absolute acceptance of the conditions, contained in the tender document. They have further agreed that the contract consisting of tender document and submission of the Proposal as the ACCEPTANCE shall be a separate contract distinct from the contract which will come into existence when the Proposal is finally accepted by the NALANDA UNIVERSITY. The consideration for this separate initial contract preceding the main contract is that the NALANDA UNIVERSITY is not agreeable to sell the tender documents to the bidder and to consider the Proposal to be made except on the condition that the Proposal shall be kept open for the period indicated above and the bidder desires to submit a Proposal on this condition after entering into this separate initial contract with the NALANDA UNIVERSITY promises to consider the Proposal on this condition and bidder agrees to keep this proposal open for the required period. These reciprocal promises form the CONSIDERATION for this separate initial contract between the parties.

Therefore, we ----- having head office / registered office at (hereinafter referred to the laws of ----- as the "Bank") which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators and executors hereby issue irrevocable and unconditional bank guarantee and undertake to pay immediately on first demand in writing Rupees all money to the extent of Rs----- (Rupees----- only) at any time immediately on such demand without any demur, reservations, recourse, contest or protest and/ or without any reference to the bidder and any such demand made by the NALANDA UNIVERSITY on the bank shall be conclusive and binding notwithstanding any difference between the NALANDA UNIVERSITY and the bidder or any dispute pending before any court/arbitrator or any other matter whatsoever. We also agree to give that Guarantee herein the NALANDA UNIVERSITY in writing. This guarantee shall not be determined/discharged/affected by the liquidation, winding up, dissolution or insolvency of the bidder and will remain valid, binding and operative against the bank.

The bank also undertakes that the NALANDA UNIVERSITY at the option shall be entitled to enforce
FOR OWNER
Page | 74
FOR CONTRACTOR

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University
this guarantee, against the Bank as a principal debtor, in the first instance, without proceeding against the bidder.

The bank further agree that as between the bank and the NALANDA UNIVERSITY, purpose of the guarantee, any notice of the breach of the terms and conditions contained in the tender Documents as referred above given to the bank by the NALANDA UNIVERSITY shall be conclusive and binding on Bank, without any proof, notwithstanding any other matter or difference or dispute whatsoever. We further agree that this guarantee shall not be *affected* by any change in our constitution, in the constitution of the NALANDA UNIVERSITY or that of the bidder. We also undertake not to revoke, in any case, this Guarantee during its currency.

The bank agree with the NALANDA UNIVERSITY that the NALANDA UNIVERSITY shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms of the tender or get extension of the validity period from time to time. We shall not be relieved from our liability by reason of any such variation or extension of the validity period or for any forbearance, act of omission and commission on the part of the NALANDA UNIVERSITY or any indulgence shown by the NALANDA UNIVERSITY to the said bidder or by any such matter or thing whatsoever which under the law relating to sureties, would, but for this provision, have the effect of so relieving us.

Notwithstanding anything contained here in above our liability under this Guarantee is limited too INR _____ in aggregate and it shall remain in force upto **225 days** from the date of bid opening unless extended further from time to time for such period as may instructed in writing by M/s. _____ on whose behalf this guarantee has been given, in which case, it shall remain in full force upto the expiry of extended period. Any claim under this guarantee must be received by us before ----- (date of expiry of validity period) or before the expiry of extended period, if any. If no such claim is received by us within the said date/extended date, the rights of the NALANDA UNIVERSITY under this guarantee will cease. However, if such a claim has been received by us within and upto the said date/extended date, all right of the NALANDA UNIVERSITY under this guarantee shall be valid and shall not cease until we have satisfied that claim.

In case contract is awarded to the Bidder here in after referred to as "Contractor" the validity of this Bank Guarantee will stand automatically extended until the bidder furnished to the NALANDA UNIVERSITY a bank guarantee for requisite amount towards performance guarantee for satisfactory performance of the contract. In case of failure to furnish performance bank Guarantee in the format prescribed by the NALANDA UNIVERSITY by the required date the claim must be submitted to us within validity period or extended period, if any. If no such claim has been received by us within the said date /extended date, rights, of the NALANDA UNIVERSITY under this guarantee will cease. However if such a claim has been received by us within the said date/extended date all rights of the NALANDA UNIVERSITY under this guarantee shall be valid and shall not cease until we have satisfied that claim, In witness where of the Bank, through its authorized officer, has sent its hand & stamp on this -----day of at _____ of-----at----- of-----
----- (month & year).

Signature
(Full name in capital letters)

Designation with bank stamp

Witness
No.1
Signature
(Full name and address in capital letters)

Witness
No.2
Signature
(Full name and address in capital letters)

Attorney as per power of attorney

No -----

Date -----

2. PERFORMA OF PERFORMANCE BANK GUARANTEE

(on non-judicial paper of appropriate value)

Dated:

To,
**The Registrar,
Nalanda University,
District Rajgir, Bihar**

BANKS Guarantee No:

Dear Sir(s),

FOR OWNER

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

In consideration of the Nalanda University, District Rajgir, Bihar (hereinafter called "NALANDA UNIVERSITY") having offered to accept the terms and conditions of the proposed agreement betweenand (hereinafter called "the said contractor(s)" for the work (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for INR(INR.....only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.1. We (hereinafter referred to as the "Bank") hereby undertake to (indicate the name of the Bank) pay to the NALANDA UNIVERSITY an amount not exceeding INR.... (INR.....only) on demand by the NALANDA UNIVERSITY.

2. We(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the NALANDA UNIVERSITY stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). 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 INR(INR.....only).

3. We, the said Bank, further undertake to pay to the NALANDA UNIVERSITY any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under, and the contractor(s) shall have no claim against us for making such payment.

4. We (indicate the name of the Bank) 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 it shall continue to be enforceable till all the dues of the NALANDA UNIVERSITY under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, or till the representative of NALANDA UNIVERSITY, on behalf of the Government, certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s), and accordingly discharges this guarantee.

5. We(indicate the name of the Bank) further agree with the NALANDA UNIVERSITY that it shall have the fullest liberty without our consent, and without effecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by NALANDA UNIVERSITY against the said contractor(s), and to forbear or enforce any of the terms and conditions relating to 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 contractor(s) or for any forbearance, act of omission on the part of the NALANDA UNIVERSITY or any indulgence by the NALANDA UNIVERSITY to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

7. Welastly undertake not to revoke this Guarantee except with (indicate the name of the Bank) the previous consent of the NALANDA UNIVERSITY in writing.

8. This Guarantee shall be valid up tounless extended on demand by the NALANDA UNIVERSITY. Notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs (Rupees

.....only), and unless a claim in writing is lodged with us within six months of the date of expiry or extended date of expiry of this Guarantee all our liabilities under this Guarantee shall stand discharged.

Dated theday of..... For

FOR OWNER

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FOR CONTRACTOR

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

Granted by the Bank

Yours faithfully....

Percentage Rate Tender & Contract

Tender for the work of: -This tender is invited online for the **Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.**

- i) To be submitted by the bidders in hard copy in the Rajgir office of Nalanda University, -up to 03:30 PM on(As per NIT-above/CPPP)
- ii) To be opened in presence of bidders who may be present at 04:00 PM on_____ at the Rajgir office of Nalanda University.

DECLARATION FOR THE SUBMISSION OF THIS TENDER

I/We have read and examined the notice inviting tender, bill of quantity, Specifications, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender to execute the work of NU mentioned above and detailed in the schedule of quantities within the time frame specified in Schedule F of the tender documents, and in accordance with the specifications, designs, drawing and instructions/orders of the engineer in charge meeting all the Conditions of Contract with such materials as are provided for In the drawings, technical specifications or the schedule of quantities.

I/We agree to keep the tender open and valid for 75 (Seventy Five) days from the due date of opening of Technical tender and shall not make any modifications in its terms and conditions.

A sum of Rs. 12.28 Lacs is hereby forwarded in the form of a Receipt of Deposit at Call receipt/ a demand draft of a Scheduled Bank and a bank guarantee issued by a Scheduled Bank as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period and form, I/We agree that NU shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that NU shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by Owner towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause Deviations/Variations Extent and Pricing of the tender form. Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred from participating in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/we shall treat the Tender Documents, drawings and other records connected with the Work as secret / confidential documents and shall not communicate nor use any information derived therefrom to any persons other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the interest of Nalanda University.

Dated

Signature of Contractor

Witness

FOR OWNER

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FOR CONTRACTOR

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

Name
.....

Name

Address

Address

Occupation
.....

Telephone

ACCEPTANCE

The above offer is hereby accepted by me on behalf of The Nalanda University Rajgir, Bihar. For a sum of Rs. ----- (Rupees -----)

The letters referred to below shall form part of this agreement:

- (a)
- (b)
- (c)

Dated

For & on behalf of NU

Signature

MANUFACTURER AUTHORISATION FORMAT (MAF)

(On manufacturer's letterhead)

Date:

**To,
The Registrar,
Nalanda University,
District Rajgir,
Bihar**

Subject: Manufacturer authorization towards tender no. _____ for supply, installation, commissioning and on-site support for IT equipment for setting up of NALANDA UNIVERSITY in Rajgir, Bihar.

Dear Sir,

We, M/s _____ (*Name of the manufacturer*) having registered office at _____ (*address of the manufacturer*) by virtue of being manufacturer for _____ (*Name of the product/s*), here by authorize M/s _____ (*Name of the bidder*) having their office at _____ (*Address of bidder*) to submit quote, negotiate, supply, install and provide after sales support for our range of products quoted by them to meet the above mentioned tender requirements.

M/s _____ (*Name of the manufacturer*) within the scope of requirement as per the tender mentioned above through its authorized partner M/s _____ (*Name of the bidder*) shall provide support & product warranty services for a minimum period of Seven years from the date of installation and commissioning.

The undersigned is authorized to issue such authorization on behalf of M/s _____ (*Name of the manufacturer*).

For M/s _____ (*Name of the manufacturer*)

Signature & company seal
Name
Designation
Email
Mobile No.

Note: Bidder may provide Manufacturer Authorization in the Format of Original Equipment Manufacturer.

The Notice Inviting Tender, general conditions, all the documents including additional

conditions, specifications, drawings and minutes of pre-tender meeting, addendums and corrigendum, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.

Note : Integrity Agreement will be signed and sealed by the Authorized Representative of bidder as per the format of NIT on bidder's letter head initially. Formal agreement on stamp paper shall be signed between NU and the successful bidder only, at the time of Signing of agreement for the work.

INTEGRITY AGREEMENT

On account of the e-tendering process adopted by NU, the bidder does not sign any document physically and entire tender document is submitted online through digital signature. However, the bidder shall be required to physically submit a set of documents in the office of Registrar, NU. In order to maintain transparency and integrity in the process of awarding contract, it is essential for NU and bidders to agree and abide by certain principles and policies. NU and bidders agree to following:

- i) NU shall remain committed to follow the principles of transparency, equity and competitiveness in public procurement;
- ii) The Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the bidder shall sign the Integrity Agreement, which is an integral part of tender/tender documents, failing which the bidder will stand disqualified from the tendering process and the tender of the bidder shall be liable to be rejected summarily.
- iii) The bidders agree and acknowledge that the NIT is an invitation to offer made on the condition that the bidders shall sign an Integrity Agreement in the format as provided for in this document. Such Integrity Agreement shall form an integral part of the tender documents. Any failure on the part of any bidder to execute the Integrity Agreement shall render such bidder disqualified from the tendering process. The bidder agree and acknowledge that bidding for the Work as envisaged in this document shall be regarded as an unconditional and absolute acceptance of the condition of executing the Integrity Agreement.
- iv) The bidders acknowledge, agree and confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the Integrity Agreement shall be separate and distinct from the main agreement, which shall come into existence once tender is finally accepted by NU. The bidders acknowledge and accept the tenure of the Integrity Agreement, which shall be in the line with Article 1 of the format of Integrity Agreement as prescribed herein.

The bidders acknowledge that in the event of failure to sign and accept the Integrity Agreement, while submitting the tender/tender documents, NU shall have unqualified, absolute and unfettered right to disqualify the bidder and reject the tender in accordance with terms and conditions of the tender. In addition to other components of tender document, the Integrity Pact shall also be signed between The Registrar, NU and successful bidder after acceptance of tender.

To,

.....,
.....,

Sub: Notice Inviting Tender for Supply, Installation, Testing & Commissioning of Audio and Video System for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.

Dear Sir,

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

It is here by declared that the Nalanda University is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/tender documents, failing which the bidder will stand disqualified from the tendering process and the tender of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the NU.

Yours faithfully

Registrar, NU

(TO BE **SUBMITTED** ON BIDDERS LETTER HEAD)

INTEGRITY AGREEMENT

To,

The Registrar,

FOR OWNER

**Nalanda University,
Rajgir, Bihar**

Sub: Supply, Installation, Testing & Commissioning of Audio and Video System etc for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.

Dear Sir,

I/We, ----(Name of The bidder)-----, acknowledge that the Nalanda University is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/tender document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process.

I/We acknowledge that THE MAKING OF THE TENDER SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender is finally accepted by NU. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/tender documents, NU shall have unqualified, absolute and unfettered right to disqualify the bidder and reject the tender in accordance with terms and conditions of the tender.

Yours faithfully

(Duly authorized signatory of the Bidder)

(To be signed by the bidder and the Registrar, NU)

INTEGRITY AGREEMENT

THIS INTEGRITY AGREEMENT is made at on this..... Day of2018

BETWEEN

The **Vice Chancellor**, Nalanda University represented through the Registrar, Nalanda University (hereinafter referred as "NU" or "Owner" which expression shall unless repugnant to the context or meaning thereof is deemed to include its successors & permitted assigns) of the FIRST PART:

AND

..... (Name and Address of the Individual/firm/Company) through..... (Hereinafter referred to as the (Details of duly authorized signatory) "Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns) of the SECOND PART

Each of the NU/Owner and Bidder/Contractor individually referred to as the "Party" and collectively referred to as the "Parties".

Preamble

WHEREAS the Owner floated a tender for **Supply, Installation, Testing & Commissioning of Audio and Video System etc for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar.** ("Tender") and intends to award, under laid down organizational procedure, contract for (Name of Work) hereinafter referred to "Contract".

AND WHEREAS the Owner values full compliance with all applicable laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its bidder(s) and contractor(s).

AND WHEREAS to meet the purpose aforesaid, the Parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the tender documents and Contract between the Parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the Parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Owner

- 1) The Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Owner will, during the tender process, treat all bidder(s) with equity and reason. The Owner will, in particular, before and during the tender process, provide to all bidder(s) the same information and will not provide to any bidder(s) confidential/additional information through which the bidder(s) could obtain an advantage in relation to the tender process or the Contract execution.
 - (c) The Owner shall Endeavour to exclude from the tender process any person, whose conduct in the past has involved any bias of any nature.
- 2) If the Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC) or Prevention of Corruption Act, 1988 or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Owner will be at liberty to take appropriate disciplinary action or initiate disciplinary proceedings as per its internal policies and procedures.

Article 2: Commitment of the Bidder/Contractor

- 1) Each Bidder/Contractor shall be required to (including their respective officers, employees and agents) adhere to the highest ethical standards and shall report to the Owner of any suspected acts of fraud or corruption or coercion or collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation and award of the Contract.
- 2) The Bidder/Contractor commits themselves to take all measures essential to prevent any act of corruption. The Bidders/Contractors commit themselves to observe the following principles during their participation in the Tender process and during the execution of the Contract:
 - a) The Bidder/Contractor will not, directly or through any other person or firm, offer, promise or give to any of the owner's employees involved in the Tender process or execution of the Contract, or to any third person any material or other benefit which such person is not legally entitled to, in

order to obtain in exchange any advantage of any kind whatsoever during the Tender Process or during the execution of the Contract.

- b) The Bidder/Contractor shall not enter with other Bidder(s) in to any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of tenders or any other actions to restrict competitiveness or to cartelize in the tendering process.
 - c) The Bidder/Contractor will not commit any offence under the relevant Indian Penal Code (IPC)/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Owner as part of the business relationship regarding plans, technical proposals and business details, including information contained or transmitted electronically or otherwise.
 - d) The Bidder/Contractor of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly can submit tender in the process of tender, but not both. In cases where an agent participates in the tender on behalf of one bidder, such agent shall not be permitted to quote on behalf of any another bidder along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder/Contractor will, when presenting tender, disclose any and all payments made, is committed to make or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder/Contractor will not instigate any third person to commit offences mentioned above or be an accessory to such offences.
- 4) The Bidder/Contractor will not, directly or through any other person or firm indulge in fraudulent practice means willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the interest of the Owner.
- 5) The Bidder/Contractor will not, directly or through any other person or firm use coercive practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Owner under law or the Contract or the Contract or its established policies and laid down procedures, the Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Owner's absolute right:

- 1) If the Bidder/Contractor, either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Owner after giving 14 days' notice to the Bidder/Contractor shall have the powers to disqualify the Bidder(s)/Contractor(s) from the process of Tender or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Owner. Such exclusion may be forever or for a limited period as decided by the Owner.

- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Owner has disqualified the Bidder from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Owner apart from exercising any legal rights that may have accrued to the Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit rendered by the Bidder/Contractor.
- 3) **Criminal Liability:** If the Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of the Indian Penal Code (IPC) Act or if the Owner has substantive suspicion in this regard, the Owner will forthwith inform the same to any law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder/Contractor declares that no previous transgressions occurred in the last five (5) years with any other company in any country confirming to the anti-corruption approach or with the Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify its exclusion from the process of Tender.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the process of Tender or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system the Owner may, at its sole discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- 1) The Bidder/Contractor undertake(s) to demand from all sub-contractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of this Integrity Pact by any of its subcontractors/sub-vendors.
- 2) The Owner will enter into such agreements or pacts on identical terms as this Integrity Pact with all Bidders and Contractors.
- 3) The Owner will disqualify Bidders, who do not submit the duly signed Integrity Pact between the owner and the Bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both parties (the Owner and the Bidder/Contractor have legally signed it. It expires for the Bidder/Contractor/Vendor after twelve (12) months of the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other Bidders, till the Contract has been awarded

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/determined by the Owner.

Article 7- Other Provisions

- 1) This Integrity Pact is subject to Indian laws and the place of performance and jurisdiction is the place of office of the Owner/NU who has floated the Tender.

- 2) Any change, amendment, modification or supplement or addendum to the Integrity Pact can only be brought into effect by way of mutual written agreement between the parties to the Integrity Pact.
- 3) If the Contractor is a partnership or a consortium, this Pact shall be signed by all the partners or by one or more partners holding power of attorney signed by all partners and consortium members. In case the contractor is a company, the Pact must be signed by a representative duly authorized by board resolution of such company.
- 4) Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of the Integrity Pact remains valid. In this case, the Parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and conditions that any dispute or difference arising between the Parties with regard to the terms of this Integrity Agreement/ Pact, any action taken by the Owner in accordance with this Integrity Agreement / Pact or interpretation thereof shall not be subject to arbitration.

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the Parties hereto shall be in addition to all the other legal rights and remedies belonging to such Parties under the contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact shall have precedence over the Tender/Contact documents with regard to any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the Parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses

.....

(For and on behalf of Owner)

.....

(For and on behalf of Bidder/Contractor)

WITNESSES (Signature, name and address)

1

2

Place:

Dated:

FORMAT OF AGREEMENT

(To be executed by and between the Owner and the successful bidder)

This agreement is executed at _____ (place of execution) on the _____ day of _____, 20____

BETWEEN

_____, which expression shall mean and include its successors and assigns (name and address of the Owner) ("Owner") of the FIRST PART
AND

_____,
(name and address of the successful bidder) ("Contractor") of the SECOND PART

The Owner and the Contractor shall be individually referred to as the "Party" and collectively referred to as the "Parties"

Whereas the Owner is desirous of **Supply, Installation, Testing & Commissioning of Audio and Video System etc for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar** and had invited tenders by issuing Notice Inviting Tender ("Tender") for selection of a contractor for constructing the said campus. The Contractor has submitted its tender pursuant to the issuing of the Tender by the Owner. WHEREAS the details of the work proposed to be executed by the Contractor is more particularly specified in the **Tender for Supply, Installation, Testing & Commissioning of Audio and Video System etc for all the Priority Building at the Permanent Campus of Nalanda University (NU), Nalanda, Rajgir, Bihar**, (name and identification number of Contract) ("Works") and the Owner has accepted the Tender submitted by the Contractor for the execution and completion of the Works and the remedying of any defects therein, at a contract price of Rs.....
(Rupees _____ (in words))

WHEREAS the Owner is now desirous of laying down the terms and conditions governing the execution of the Works and has therefore, requested the Contractor to execute the present Agreement.

NOW THIS AGREEMENT WITNESSETH as under:

1. In this Agreement, words and expressions shall carry the same meanings as are ascribed to them in the Conditions of Contract as more particularly mentioned in the Tender. The Parties agree that the Tender shall form an integral part of this Agreement and shall be read and construed accordingly.
2. In consideration of the payments to be made by the Owner to the Contractor as the consideration for execution of the Works ("Consideration"), the Contractor hereby covenants with the Owner to execute and complete the Works and remedy the defects therein in conformity in all aspects with the provisions of the Tender and this Agreement.
3. The Owner hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and in the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Tender and this Agreement at the times and in the manner prescribed under the Tender.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement:
 - i) Letter of Acceptance;
 - ii) Notice to proceed with the Works;
 - iii) Contractor's Tender;
 - iv) Contract Data;
 - v) Conditions of Contract (including Special Conditions of Contract);
 - vi) Specifications;

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

- vii) Drawings (if any);
- viii) Bill of Quantities; and
- ix) Any other documents listed in the Contract Data as forming part of the Contract.

In witness whereof the Parties have caused this Agreement to be executed on the day and year first written above.

The Common Seal of

was hereunto affixed in the presence of:

Signed Sealed and Delivered by the said _____

Binding Signature of Owner _____

Binding Signature of Contractor _____

in the presence of _____

FORM_A (FINANCIAL INFORMATION)

Financial Analysis-Details to be furnished duly supported by figures in balance sheet/profit & loss account for the last **five (5)** years duly certified by the Chartered Accountant, as submitted by the bidder to the Income Tax Department (copies of all the documents to be attached).

S. No.	Description	Years				
		2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
i)	Gross Annual turnover					
ii)	Turnover on similar works					
iii)	Profit/Loss					

- i. Financial arrangements for carrying out the proposed work.
- ii. Solvency Certificate from Bankers of bidder in the prescribed Form B

SIGNATURE OF BIDDER (S)

Signature of Chartered Accountant with Seal

FORM B

(FORM OF BANKER'S SOLVENCY CERTIFICATE FROM A SCHEDULED BANK)

SOLVENCY CERTIFICATE

This is to certify that to the best of our knowledge and information that M/s. /Shri..... having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of Rs.....

(Rupees.....).

This certificate has been issued at the specific request for limited purpose of submitting the Tender to the Nalanda University, Rajgir, Bihar and shall not be used for any other purpose whatsoever.

This certificate is issued without any guarantee or responsibility on the bank or any of our officers and employees.

(Signature)

For the Bank

GENERAL INSTRUCTIONS:

- (1) Banker's Solvency Certificate must be on the letterhead of the bank issuing such certificate, sealed in a cover addressed to the Vice Chancellor, NU.
- (2) In case the Solvency Certificate is issued at the request of a partnership firm, such certificate must include names of all partners as recorded with the Bank.
- (3) The Solvency Certificate shall not be more than 6 months old from the original date of submission of tender.

FORM C: Experience details to be furnished on Letter Head of the Company.

**DETAILS OF SIMILAR WORKS COMPLETED DURING THE LAST SEVEN YEARS
ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF TENDER**

A	B	C	D	E	F	G	H	I	J
Sr.No	Name of work/project and location	Owner or sponsoring organization	Cost of work in Crores of Rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending / in progress with details*	Name and address / telephone number of officer to whom reference may be made	Whether the work was done on back to back basis Yes/No
1									
2									
3									

SIGNATURE OF BIDDER (S)

FORM D (On letterhead of respective owners of the Work)

PERFORMANCE REPORT OF WORKS REFERRED TO IN 'FORM B'

1	Name of work/ Project & Location	
2	Agreement No.	
3	Estimated Cost	
4	Tendered Cost	
5	Date of Start	
6	Date of completion	
	(i) Stipulated Date of Completion	
	(ii) Actual Date of Completion	
7	(i) Whether case of levy of compensation for delay has been decided or not. (ii) If decide, amount of compensation levied for delayed completion, if any	Yes/No
8	Performance Report	
	1) Quality of Work	Outstanding/Very Good/Good/Poor
	2) Financial Soundness	Outstanding/Very Good/Good/Poor
	3) Technical Proficiency	Outstanding/Very Good/Good/Poor
	4) Resourcefulness	Outstanding/Very Good/Good/Poor
	5) General Behaviour	Outstanding/Very Good/Good/Poor
Dated: Stamp:		Signed by Ex. Engineer or equivalent and attested by first class judicial magistrate or equivalent or Group A Gazetted officer of Central or any State Government or equivalent.

Certified that the above information is complete and that the information furnished above is true, correct and not misleading to my/our knowledge and belief.

FORM E**STRUCTURE & ORGANIZATION**

1	Name & Address of the bidder		
2	Telephone No./Telex No./Fax No./e-mail address		
3	Legal status of the bidder (attach copies of original document defining the legal status).		
	a)	An Individual	
	b)	A Proprietary Firm	
	b)	A firm in partnership	
	c)	A limited company or Corporation	
4	Particulars of registration with various Government bodies (attach attested photo-copy). (Company Registration, PAN no., CST and VAT Registration, GST Registration, PF Registration, ESI Registration, Registration as a Contractor with CPWD/MES/State PWD etc. ant information about others)		
	ORGANIZATION/PLACE OF REGISTRATION		REGISTRATION No.
	1	GST	
	2	PAN No	
	3	Add rows for other registrations.	
5	Names and Titles of Directors& Officers with designation to be deputed for the Works		
6	Designation of individuals authorized to act for the organization.		

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7	Has the bidder or any constituent partner in case of partnership firm/Limited Company/Joint Venture, ever been convicted by a court of law? If so, give details.	
8	Any other information considered necessary but not included above.	

Certified that the information mentioned above is complete and no information has been left undisclosed and that the information furnished above is true, correct and not misleading to my/our knowledge and belief.

SIGNATURE OF BIDDER (S)

FORM F**CRITERIA FOR ELIGIBILITY CRITERION EVALUATION OF CONTRACTORS**

	Attributes	Max. Marks	Marks Obtained By the Bidder on Self-Assessment	Evaluation Criteria *1				Remarks
A	Financial strength	20		(i) 60% marks for minimum eligibility criteria				
A1	Average annual turnover	16		(ii) 100% marks for twice the minimum eligibility criteria or more				
A2	Solvency Certificate	4		In between (i) & (ii) – on pro-rata basis				
B	Experience of Work during last seven years.	20		(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis				
C	Performance on works (time over run)	15						
	Parameter -			SCORE				
	Calculation for Points		If TOR =	1	2.0	3.0	>3.5	Maximum Marks (20)
1	Without levy of compensation			15	10	5	5	
2	With levy of compensation			NA	5	0	-5	
3	Levy of compensation not decided			NA	10	0	0	
	TOR (Time Over Run) = AT/ST, where AT=Actual Time; ST=Stipulated Time.							
D	Performance on quality of similar works Executed a) Technical Capability and Eligibility Compliance Document	4 5 2 0		The evaluation will be done by the expert committee/jury nominated by the Nalanda University for the purpose based on documents submitted and/or other means as decided by the committee/jury who may include visit of the site of project referred to by the bidder or any other project deemed fit by Engineer In				

	b) Relevant ISO Certificate	5		<i>Charge.</i> <i>The bidder must submit precise certificate given by the Owner/owner signed by an officer not below the rank of Executive Engineer or equivalent Preferably along with photographic evidence to support evaluation for this category, in case of absence of such document Zero (0) marks shall be awarded for the specific category of evaluation.</i> <i>All Technical Capability documents shall be scrutinized by the Expert committee and the marking shall be done accordingly. The Decision of the expert committee shall be final and binding for the bidder.</i>	
	C) Previous Works				
		20			
To become eligible for short listing the bidder must secure at least 50% marks in each section A1, A2, A, B, C, and D and sixty percent (60%) marks in aggregate. The Institute reserves the right to restrict the list of qualified contractors to any number deemed suitable by it.					
*1- Precise certificate given by the Owner signed by an officer not below the rank of Executive Engineer or equivalent shall be furnished along with photographic evidence to support evaluation for this category, in case of absence of such document Zero (0) marks shall be awarded for the specific category of evaluation.					
*1 – In place of a copy of bill/final bill, The Bidder can also submit a certificate by the Owner or his authorized representative, stating the quantity of works executed for each Work Specific items mentioned in qualifying criteria above, in support of his claim regarding his having executed the work specific items.					

FORM G- GENERAL INSTRUCTIONS FOR THE AFFIDAVIT:

- The affidavit shall be executed on appropriate non-judicial **stamp paper** of minimum value as applicable in the State of Bihar and notarized by a Notary Public;
- Scanned copy of the affidavit shall be uploaded at the time of submission of the tender in soft copy.

AFFIDAVIT FOR SITE VISIT

I, _____, aged ____ years, son/daughter of _____, presently residing at _____ and authorized by _____ (name of bidder) ("Bidder") to solemn this affidavit on behalf of the Bidder, solemnly affirm on oath as hereunder:

- The Bidder confirms that the Bidder has duly undertaken the visit of the proposed project site of Nalanda University, located at Rajgir, Bihar.
- The Bidder has inspected and examined its surroundings and has satisfied itself about the site conditions and site logistics. The Bidder confirms that it is aware of the ground

conditions and nature of the site, means of access to the site and the accommodation area required for establishing the labour camp. The Bidder agrees and confirms it shall be solely responsible for arranging and maintaining the afore-mentioned at its own cost including all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the Work unless otherwise specifically provided for in the contract documents.

3. The Bidder confirms and agrees that the submission of the tender implies that the requisite site visit has already been undertaken and that the Bidder has acquainted itself with the local conditions and other factors having a bearing on the execution of the Work.
4. Submitting this tender it will be presumed that the bidder is well acquainted with the actual site condition and participating in the bidding process on the same condition of the site.

DEPONENT

VERIFICATION

I, _____, aged ____ years, son/daughter of _____, presently residing at _____ and authorized by Bidder verify that the information mentioned above is true and correct to the best of my knowledge and belief.

DEPONENT

FORM H- GENERAL INSTRUCTIONS FOR THE AFFIDAVIT:

- The affidavit shall be executed on appropriate non-judicial **stamp paper** of minimum value as applicable in the State of Bihar and notarized by a Notary Public;
- Scanned copy of the affidavit shall be uploaded at the time of submission of the tender in soft copy.

AFFIDAVIT FOR NO BLACKLISTING/DEBARRMENT

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our firm M/s _____ has been blacklisted/debarred nor has abandoned any work in any government department, India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorizes and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department Project implementing agency.

(Signed by an Authorized Officer of the Firm)

Title of Officer

Name of Firm

Annexure Draft SLA (Draft Service Level Agreement) during AMC period:

The SLA is being defined to get the quick/prompt response and effective Defect Liability Period and O&M Period. Therefore, the AMC with onsite support is being given together with the Defect liability period to avoid any kind of the allegations, delay and excuses from the contractor. The SLA will be signed after execution of the Design, Supply, Installation, Testing and Commissioning of all the AV works as per the BOQ of the NIT. The SLA shall be executed after successful completion and handing over/taking over formality. The effective start date of AMC period shall be declared jointly after taking over formalities. The main works shall be closed after successful completion of the execution period of main the work and a supplementary agreement shall be signed. The Format of the agreement will be as provided in the CPWD works manual. The date of the agreement shall be reckoned from the date of handing/taking over formalities. The period of the AMC agreement will be initially for the defect liability period after DLP the AMC and onsite manpower support may be extended on mutually agreed upon.

SLA Objectives

The contractor is required to provide utmost service satisfaction and minimum 99 % overall uptime. Contractor shall provide support on-site in terms of AMC along with warranty and operation support services.

SCOPE OF SLA:

The Defect liability period of the all the equipment is 24 months after completion of execution of SITC job and final taking over by the University and the comprehensive Maintenance and O&M for all the systems installed in this contract shall be for further 36 months after completion of Defect Liability period.

For the above said period 24 months of DLP and 36 Months of Comprehensive AMC, the contractor has to extend onsite support. The on-site support, contractor will provide at least **One** Network Engineer (BE Electronics or Equivalent) and **Two** certified Technician (Diploma Holders) round the clock (24X7) however the requirement shall be in three shifts and one helper in general shift. The same Technician shall not be deployed in all three shift other than emergency case.

The deployed technician on behalf of the agency/contractor shall maintain a logbook of the all the installed equipment's for AV and register all the faults & incidents, if occurred. The contractor will draft the logbook format for its approval before the Engineer in-Charge in accordance of the manufacturer guidelines.

The contractor has to attend all the faults during operation period/services. In case of any defect shall be attended and replacement of the equipment shall be performed during the Defect Liability Period. No any extra cost shall be bear by the University during the DLP for the replacement of the equipment.

The safety measures shall be taken care by the contractor to ensure the safety of human and equipment.

The contractor has to make payment as per the minimum wage rule as per the applicable category and area on monthly basis, and he proof shall be submitted along with the bill invoice.

The contractor will submit the details with a copy of the qualifications, Experience proof, identity proof and police verification report to the University. In case of any changes in the deployment of the manpower staff at site minimum one week of common period shall be maintained by the contractor under intimation of the reporting officer of the University. The engineer must be experienced and well conversant of the operating and maintenance procedure.

The University reserve right to expel or recommend to the contractor to remove the particular or all deployed staff on the observation of any malpractice, illegal involvement. Unsatisfactory works, unsatisfactory and miss-behaviours, delay in response and unethical practise. The contractor shall be bounded to replace the staff in such cases.

The University will not be responsible for any case or illegal involvement, compliance of the labour court/University's, accidental support/claim or any. The contractor will be solely responsible for all the affairs related to the deployed manpower at the site. If any technician or helper will be absent during the concerned shift, then INR 1000/- per shift per Technician and INR 800/ per shift per helper shall be recovered.

If any recovery amount (either due to deduction in manpower and its compliance or due to defect liability of material) exceed than the AMC amount, then same amount shall be recovered from the security deposited with the University. The maximum allowable time for the replacement of the appliances will be 48 Hours. However, meanwhile the makeshift arrangement shall be made by the contractor and no any extra payment shall be made.

In the compelling circumstances, if required then the University may also replace the damaged material and recovery shall be made from the AMC and if required then from the Security deposited with NU and even after this the expenditure exceeds then contractor has deposited the balance amount. In case of non-responsive event from the contractor, the University may debarred or blacklist to the contractor. During the handing over of the system, the address of the local and central service & repair centre shall be provided by the contractor.

Security Deposit and Performance Guarantee:

The Contractor shall provide Security deposit and Performance Guarantee in the form of Bank Guarantee amounting to 10% of the total AMC and O&M contract value on start of the AMC and O&M period post DLP period.

SLA Duration

Timings : 24x7

Period : Five years (from the date of successful commissioning and Acceptance of equipment's)

SLA Manpower Requirements and working requirements

- Contractor shall deploy suitably qualified and experienced sufficient manpower in shifts to meet out the SLA. Minimum personnel's required to be deployed are as under.
 - For AV System: Minimum Three - One in each shift. One Network engineer should be available round the clock in 3 shifts. 2 technicians shall also be employed for each shift.
- Contractor shall appoint as many team members, over and above the manpower specified, as deemed fit by them, to meet out the time Schedule and SLA requirements. NU would not be liable to pay any additional cost for this.
- Contractor shall always maintain above minimum manpower on-site throughout the period of the contract.
- Warranty/AMC involves comprehensive maintenance and repairs of all hardware and/or software for the said systems, including free of cost replacement of parts, consumables if any, modules, sub-modules, assemblies, sub-assemblies, spares, checking of instrument health, etc to keep the system operational.
- Bidder should ensure 99.0 % availability of the all the systems. This will include all kind of breakdown, corrective & preventive maintenance
- The system availability shall be calculated on monthly basis or as per the mutual agreement. Availability will be based on the report of representative of NU, based on system logs, equipment logs, downtime and rectification reporting etc. In case the availability for each of the system under Warranty/AMC is less than 99 % the non-performance deduction from payments for the system under Warranty/AMC shall be as per the following table:

Sr. No	Uptime	Non- performance deduction in each case
1.	99% or above	No deduction
2.	Less than 99% up to 95%	5% of the annual Maintenance contract value for the month excluding taxes.
3.	Less than 95% upto 90%	10% of the annual maintenance contract value for the month excluding taxes.

4.	Less than 90%	15% of the annual maintenance contract value for the month excluding taxes on Pro rata basis.
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Calculation for downtime of Service:

Working Hours: 9:00 am to 18:00 p.m = 540 minutes

As only 1 % downtime i.e. 5.4 minutes (1% of 540 minutes) daily is allowed as acceptable downtime as per the Supplier's conditions for maintenance and service. In case the system of the service provider remains un-operational during the whole day, 9hrs straight will be considered as downtime. In case of partial closure of the system, the duration for which it remains un-operational will be considered as downtime. At the end of the month, all such un-operational time duration will be summed up to arrive at the total downtime. The downtime monthly can be calculated as follows

Downtime (in %age) =

$((\text{Summed up downtime in min}) / (\text{Working Days in month} * 540)) * 100$

Calculation of Penalty

Let us consider the following example:

The Total service provider SI's Monthly O & M Service charges Bill is for Rs2,00,000/-

Downtime Calculation:

e.g. Assuming Total working days:= 24 days (24 * 540 = 12960 minutes)

Acceptable downtime = 1 % (i.e. $12960 * 0.01 = 129.6$ minutes)

Suppose the total downtime after one month (24 working days) is 500 minutes.

As the acceptable downtime is 1% (129.6 minutes), therefore beyond 129.6 minutes of downtime (upto 1%of down time no penalty will be considered, however beyond 1%, the down time including 1% of time will be considered), penalty will be started including initial threshold 1% also.

Total of 500 minutes is liable for imposing penalty as this is more than tolerable value of 1%.

Hence, the total downtime in % liable for imposing penalty will be:

$= (500 / 12960) * 100$

$= 3.85\%$

Hence, penalty applicable for the concerned month will be $(3.85/100) * 200000 = \text{Rs}7716.00/-$

- The agency will submit the healthiness certificate of all the equipment regular basis at least once in a two month. The Resident Engineer any other staff shall be stationed at Rajgir and before leaving the Rajgir permission of the official concerned from Nalanda University will be required.
- Replacement Approval: Before replacement, if required, of the appliances/system/parts thereof, the AMC service provider will take approval from the in-charge.
- Experienced and Suitable Resident Engineer: Before deployment of the Resident Engineer, the AMC service provider shall submit the CV in details followed by an interview and seek approval for the deployment of the personnel. Experience of the resident Engineer should not be less than 5 years for the graduate engineer and 7 years in case of diploma engineer.

However, the university decision in this regard will be final to approve for the deployment of any suitable number of experience year as deemed fit for the University. The AMC service provider will deploy one qualified resident Engineer. Who will handle the hardware and allied software issues and will handle the Networking system.

- The AMC service provider should have back to back tie-up with the OEM and its authorized service provider.
- The AMC service provider may replace the hardware with the same make, at least same configuration to ensure the genuineness.
- Before replacement of the material/spare parts, the service provider will take approval of the IT in charge from Nalanda University.
- Spare Parts in stock: The Service provider will prepare a list duly verified by the IT In-Charge, and sufficient stock shall be maintained to avoid the last hour rush. Makeshift arrangement: In case of replacement or anticipated delay, the service provider will ensure the makeshift arrangement of the spares and personnel.
- The agency will submit the healthiness certificate of all the equipment regular basis at least once in a two month. The Resident Engineer and any other staff shall be stationed at Rajgir and before leaving the Rajgir permission of the official concerned from Nalanda University will be required. Replacement Approval: Before replacement, if required, of the appliances/system/parts thereof, the Contractor will take approval from the in-charge. Experienced and Suitable Resident Engineer: Before deployment of the Resident Engineer, the Contractor shall submit the CV in details followed by an interview and seek approval for the deployment of the personnel. Experience of the resident Engineer should not be less than 5 years for the graduate engineer and 7 years in case of diploma engineer. However, the university decision in this regard will be final to approve for the deployment of any suitable number of experience year as deemed fit for the University. The Contractor will deploy one qualified resident Engineer Who will handle the hardware and allied software issues and handle the Networking system. This is as per the volume and nature of the work required to maintain the various campuses and system. The Contractor should have back to back tie-up with the OEM and its authorized service provider. The Contractor may replace the hardware with the same make, at least same configuration to ensure the genuineness. Before replacement of the material/spare parts, the service provider will take approval of the IT in charge from Nalanda University. Spare Parts in stock: The Service provider will prepare a list duly verified by the IT In-Charge, and sufficient stock shall be maintained to avoid the last hour rush. Makeshift arrangement: In case of replacement or anticipated delay, the service provider will ensure the makeshift arrangement of the spares and personnel.

Tie up with OEM/ Manufacture

The Contractor should have back-to-back arrangements with OEM/Manufacturer for warranty support for a period of Two years and AMC period of Three Years

It is the responsibility of the Contractor to provide certification of OEM/Manufacture for complete support for the period of Seven years in case of product upgrades or discontinue of product and has sufficient provision for spares.

Form I CHECK LIST FOR BIDDER			
Sr.No.	Check Item	Yes/No	No of Pages
	Received and studied the following documents		
	Main Tender Document including the NIT, General Conditions of Contract, Special Conditions of Contract, Technical Specifications and Tender Forms (ATO H) & Formats, LIKE MAF etc in the soft copy .pdf form containing a total number of ----- pages excluding the cover page		
	Bill of Quantities in the. xlsx format containing Work sheets in one workbook. The last row number with relevant data in various sheets in the work book are		
	Total number of tender drawings received and studied are -----		
	Cover letter is complete on the company letterhead and signed by the authorized signatory and stamped with company seal.		
	The tender being filled is in total compliance with the terms specified and there is no assumption of any special condition in addition to what has been specified in the tender documents by the owners		
Envelope 1: Earnest Money and E Tender processing fee			
	EMD for the total amount		
	Demand Draft for E-Tender Processing Fee		
	Envelope marked as Envelope 1 on Top and titled as "Earnest Money and E Tender processing fee"		
	Envelop 1 is sealed and signed		
	Scanned copy of the EMD and Tender Processing fees uploaded on the e-tendering portal		
Envelope 2 will contain the following documents in two separate envelopes 2A, & 2B and will be titled "Eligibility Documents"			
	Envelope 2: Technical Tender		
	Envelope 2A : Technical Eligibility Documents		
	Documents certified by a chartered accountant in support of Average Annual Financial Turnover during the last 3 years, ending 31 st March of the previous financial year has been submitted and the average annual financial turnover is more than or equal to 50% (value as mentioned above) of the estimated cost put to tender means published herein this NIT.		

Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

	Balance sheet duly audited and Certified by a Chartered Accountant showing that the bidder has not incurred any loss (profit after tax should be positive) in more than two (2) years during the available last five consecutive financial years, ending 31 st March 2020.		
	<p>Documents in support of having successfully completed similar works during last 7 years as mentioned below</p> <p>Completed job not less than -</p> <p>ONE similar job not less than INR 5.10 Crore OR TWO similar job not less than INR 3.82 Crore OR THREE similar works not less than INR 2.55 Crore.</p>		
	Solvency Certificate for at least Rs. 2.55Crores. The certificate shall not be of a date, which is more than six months prior to the last date of submission of the tender.		
	<p>Form A to I completed, signed, stamped and put together along with all the relevant documentary proof solicited in the Form A to I shall be put in envelope 2A</p> <p>Affidavits – <u>site visit, FOR NO</u> <u>BLACKLISTING/DEBARRMENT</u></p> <p><u>List of legal proceedings details, if any.</u></p>		
	<p>Technical offer for its evaluation:</p> <p>Compliance and offer of the technical documents as asked in this NIT.</p> <p>As per SECTION II: INSTRUCTIONS TO BIDDERS (ITB) Clause 12.4 and format given in SECTION IV.</p>		
	Envelope marked as Envelope 2A on Top and titled as “Technical eligibility documents”		
	Envelop 2A is sealed and signed		
	Scanned copy of the Technical eligibility documents uploaded on the e-tendering portal		
	Envelope 2 B : Signed Tender Documents		
	Signed and stamped all the pages of tender documents as uploaded by the University (Notice Inviting Tender, summary Schedule of Quantities, BOQ, technical specifications and all the tender drawings)		
	All these documents put together in an envelope and Envelope marked as Envelope 2B on Top and titled as “Signed Tender Documents”		
	Envelop 2B is sealed, signed and stamped		
	ENVELOPE 2 FOR TECHNICAL TENDER:		

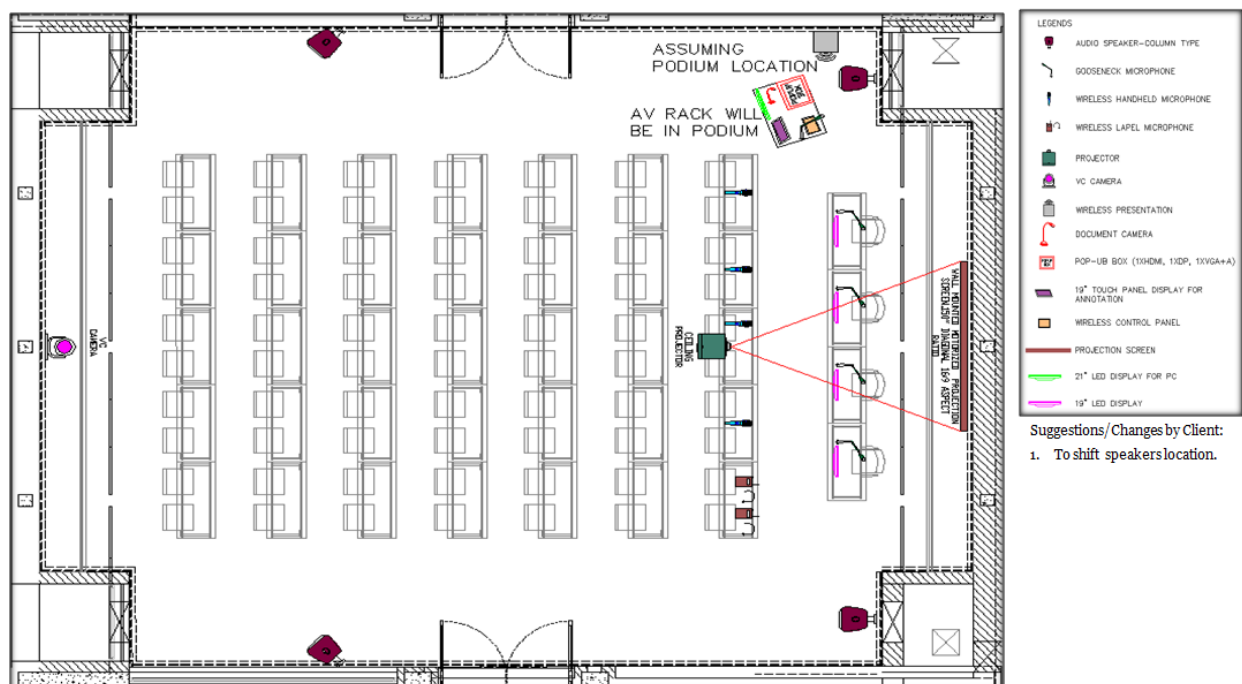
Tender for SITC of Audio-Visual Systems at Permanent Campus of Nalanda University

	Envelope 2A and 2B put together in Envelope for Technical Tender and Envelope marked as "Technical Tender Document" for the "TENDER SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF AUDIO AND VIDEO SYSTEM FOR ALL THE PRIORITY BUILDING AT THE PERMANENT CAMPUS OF NALANDA UNIVERSITY (NU), NALANDA, RAJGIR, BIHAR "		
	Envelope for Technical Tender is sealed, signed and stamped Ensure technical documents submission by the due date without any fail.		
FINANCIAL TENDER			
	Financial tender shall be submitted online and shall be opened only after bidder's eligibility to participate in the tender is successfully established and accepted by NU.		

LAYOUT PLAN FOR ALL ROOM

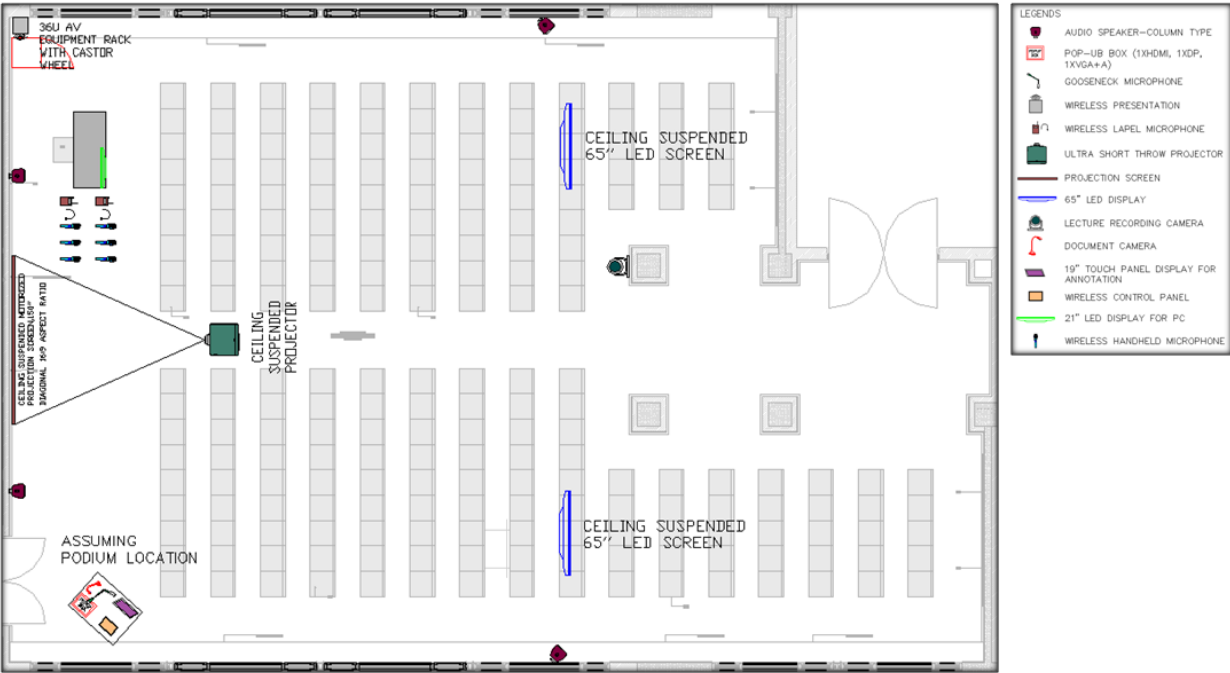
AUDIO-VIDEO SYSTEM FOR NU @ RAJGIR

99-Seater Conference room-Outreach Center



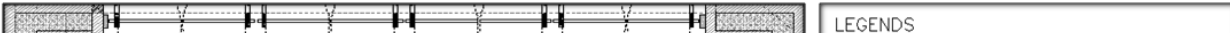
AUDIO-VIDEO SYSTEM FOR NU @ RAJGIR

230-Seater Classroom-Lab building



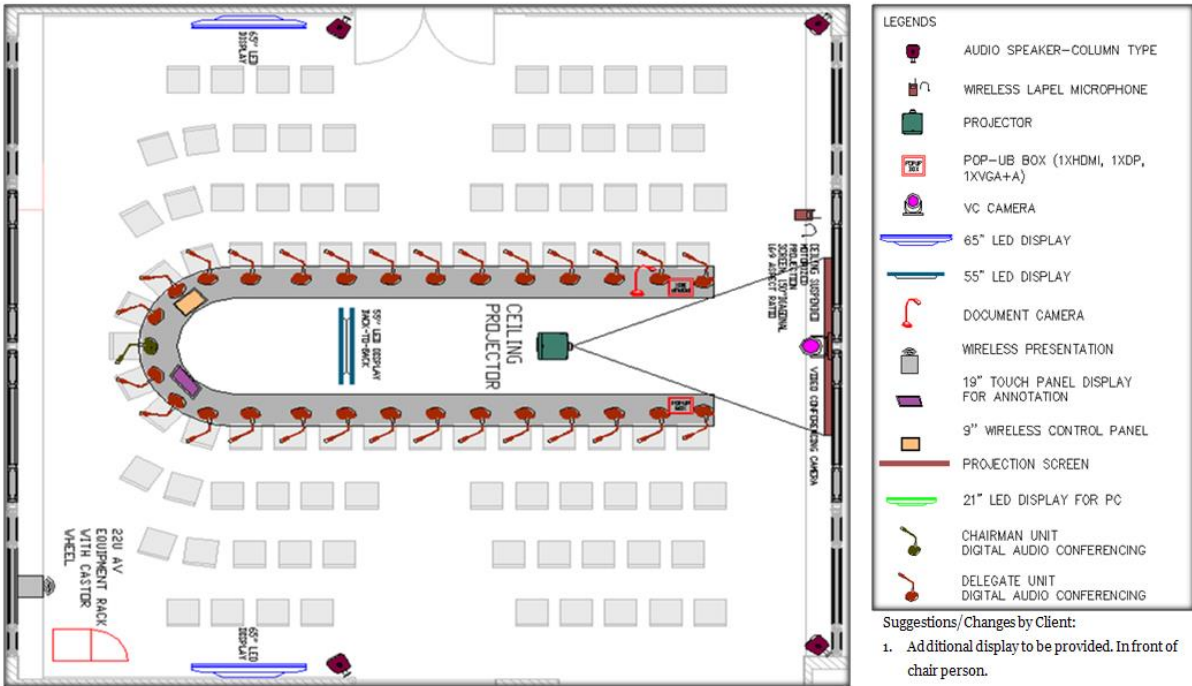
AUDIO-VIDEO SYSTEM FOR NU @ RAJGIR

40-Seater Classroom-School building

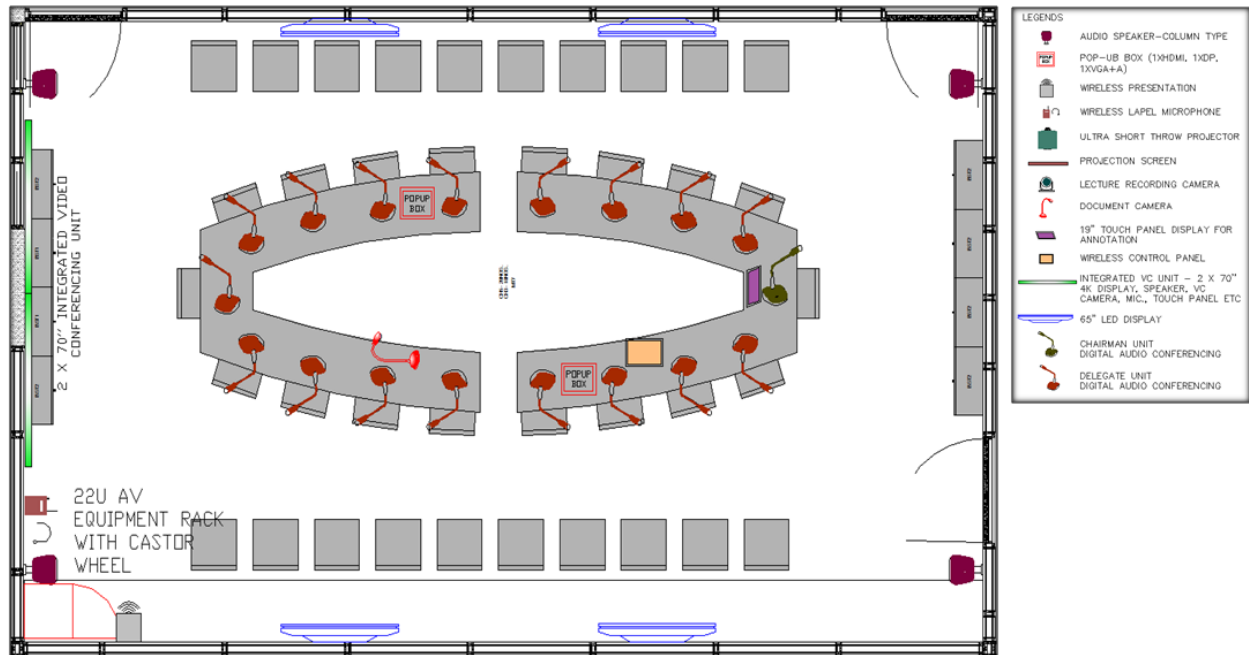


AUDIO-VIDEO SYSTEM FOR NU @ RAJGIR

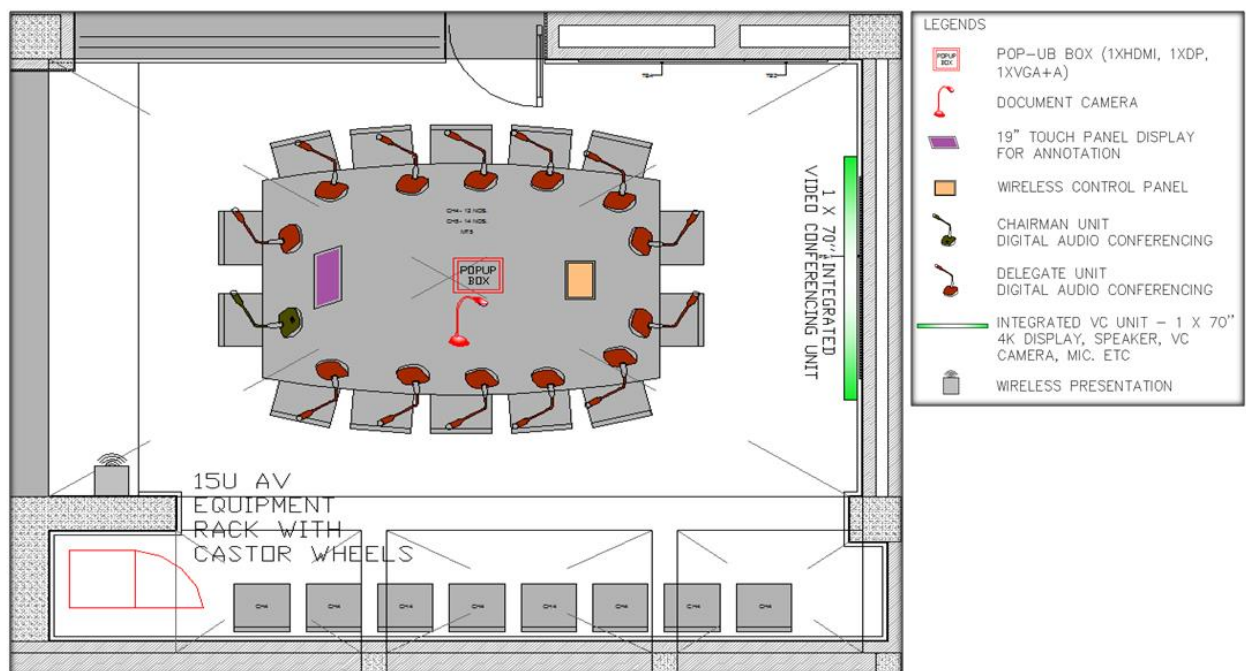
30+62-Seater Conference room-Lab building



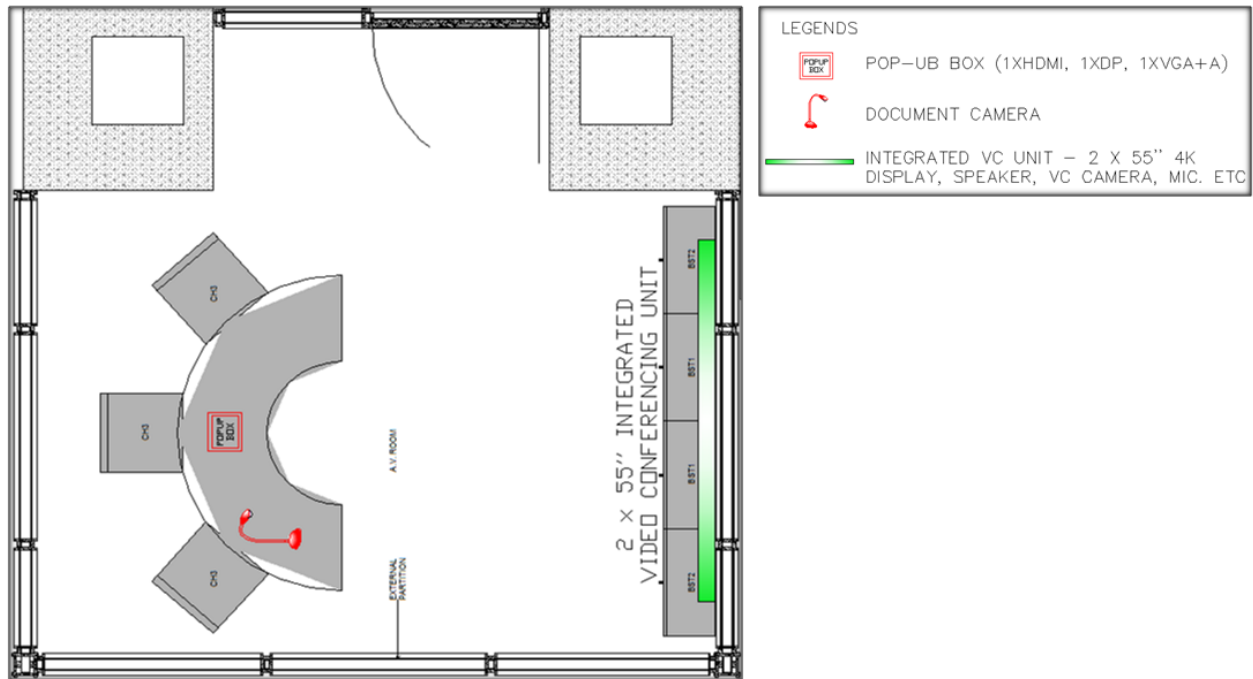
40-Seater Conference room-Outreach Extension



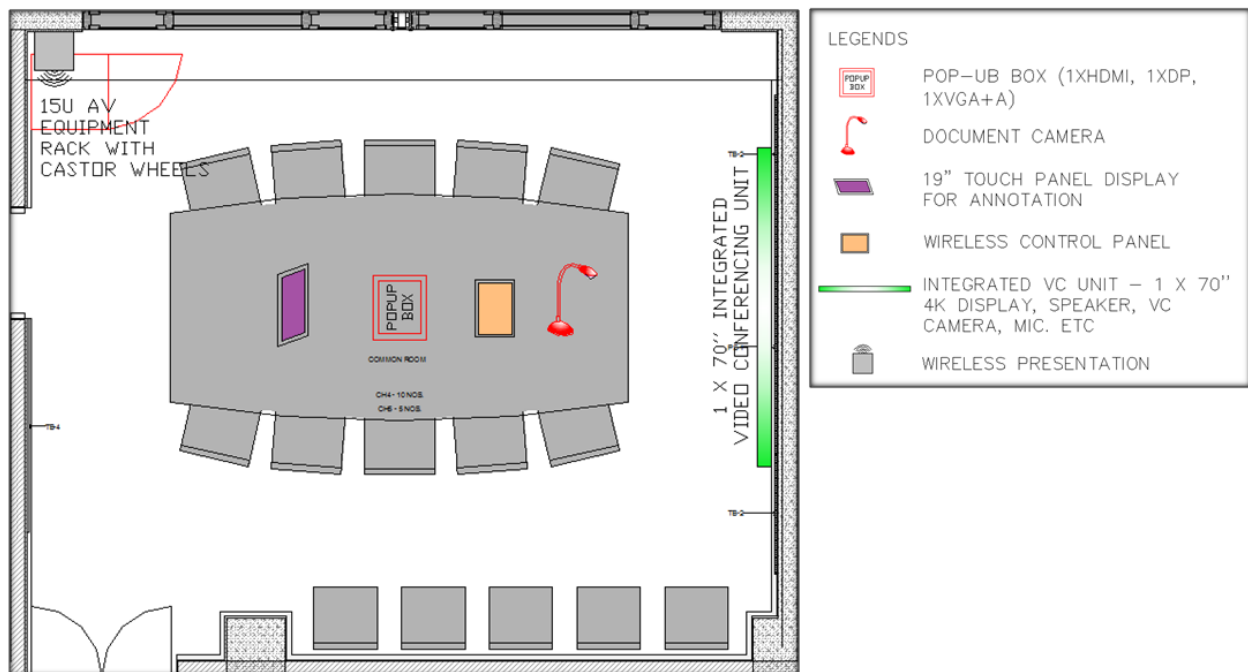
14-Seater Meeting room-Outreach Center



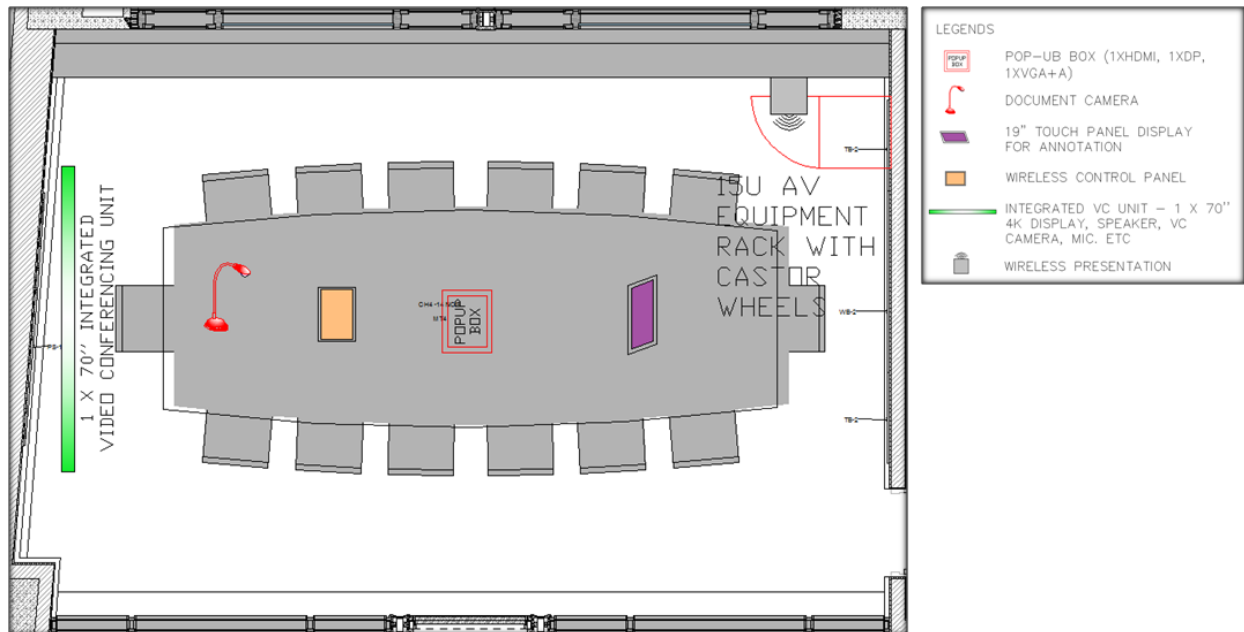
VC room-Outreach Extension



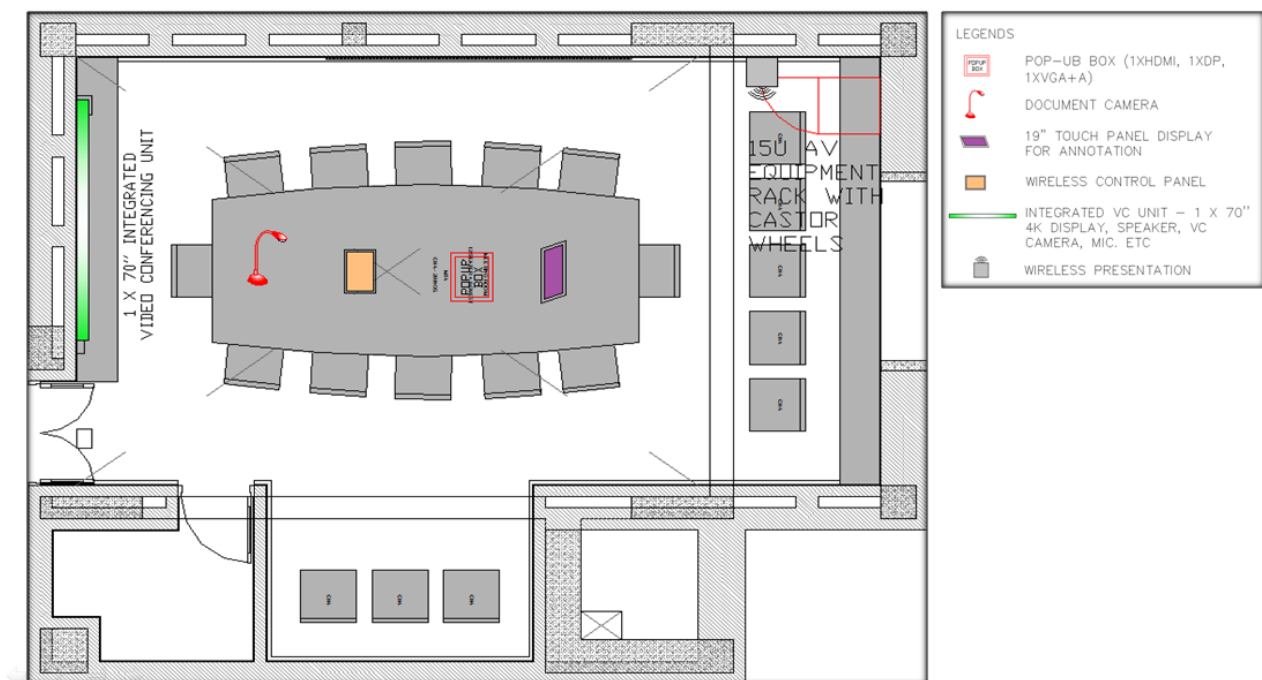
15-Seater Meeting room-Lab building



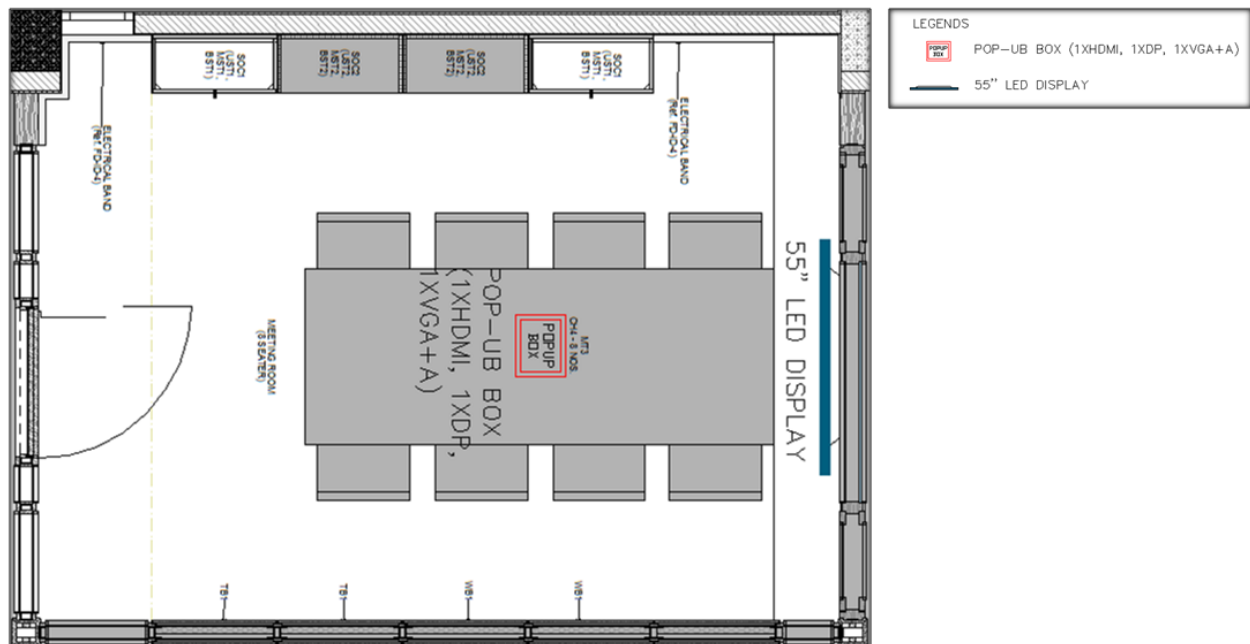
14-Seater Meeting /Common room-Outreach Center



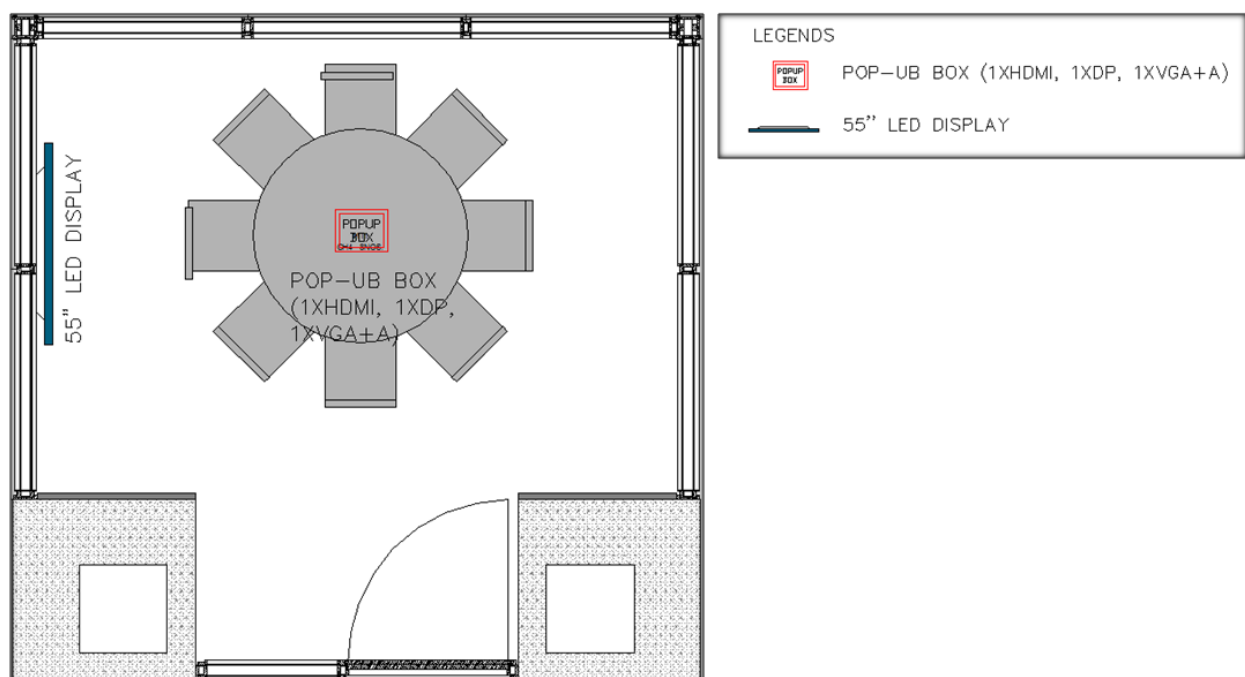
14-Seater Meeting room-Block A



8-Seater Meeting room/Discussion room-Outreach Center



8&4-Seater Meeting room/Discussion room-Outreach Extension



AUDIO-VIDEO SYSTEM FOR NU @ RAJGIR

8-Seater Meeting room-Block-A

