PACKAGE- 8D-2

EPCC TENDER FOR AUGUMENTED REALITY, VIRTUAL REALITY, AUDIO & VISUAL WORKS FOR NALANDA UNIVERSITY LIBRARY BUILDING

NOTICE INVITING TENDER

NALANDA UNIVERSITY, RAJGIR, BIHAR.

Registration with M/s ITI Ltd: - Intending bidders are requested to register themselves with M/s ITI Ltd (if not registered earlier) through https://nalandauniv.ewizard.in/ for obtaining user-id, by paying a registration fee (As given in the e-portal), online tender processing fee etc. Bidders are also required to obtain Digital Signature for participating in the e-tender.

E-Tender Processing Fee (As given in the e-portal), pay to "ITI LTD". Through e-payment gateway.

For participating in the e-Tendering process of Nalanda University, Rajgir, Bihar, the contractor shall have to get them registered on the site https://nalandauniv.ewizard.in/ by making required payment through only online payment mode so that they will get user ID and Password. This will enable them to access the website, https://nalandauniv.ewizard.in/ with the help of Digital Signature by which they can participate in e-Tender of Nalanda University, Rajgir, Bihar. For this intending bidder may contact following e-Wizard Helpdesk numbers.

E-Wizard Helpdesk
301-302, 3rd Floor,
The Cloverleaf, Plot no.37,
Sector-11, Dwarka,
New Delhi - 110075
Tel: 011-49606060, 8448288980, 8448288984, 8448288982

NALANDA UNIVERSITY

Notice Inviting e-Tenders

The Registrar, Nalanda University invites online the bids from reputed firms/contractors in two bid system in EPCC mode for the following work:

NIT No: NU/Engg/2025-26/EPCC-02 DATED 09.01.2026

NAME OF WORK: Engineering, Procurement and Construction and Commissioning (EPCC) including design, supply installation, testing and Commissioning (SITC) of VR-AR, Audio Visual Works for the Nalanda Library Building at the Main Campus of Nalanda University at Rajgir, Bihar including wiring, networking, fixing, involved cutting and fixing of interior supports and any other as per the design confirmation.

Estimated Cost: INR. 13,50,00,000/-

Earnest Money: INR 23,50,000/-

Period of Completion: 06 Months

Last time and date of submission of bid: On 05.02.2026 up to 15:00 Hrs.

Summary of Scope of Work

This tender is invited for Engineering, Procurement and Construction (EPC) of AV , VR. AR and IT technologies for the Nalanda Library Building of approximately 16,844 sqm of built-up area at Nalanda University Main Campus at Rajgir, Bihar. The conceptual drawings and floor plans are enclosed separately for reference. The project covers design, procurement, supply, installation, integration, testing, and commissioning of:

a) High End Wall Size LED Display in Entrance to Display the - A live account of burning Nalanda-what we lost and present through AR+VR

b) Audio-visual facilities and display systems.

c) Library IT and digital infrastructure.

d) Augmented Reality(AR), & Virtual Reality(VR)

e) The intent is to create a modern, accessible, and sustainable library ecosystem supporting academic, research, cultural, and community functions.

1. **General Requirements for Design and SITC of:**

    1.1 AR and VR in Q4 i.e. at entrance section along with portable AV for book exhibition, wall Display above reception, another display at entrance at mezzanine floor level and its visibility from entry gate of the Library Building.

    1.2 All items shall conform to BIS/ISO standards and applicable local building codes.

    1.3 ICT, AR, VR, and AV systems shall comply with international interoperability protocols.

    1.4 Common Archelogy Resource Center-CARC Lab with its access at a point through QR code scanning system

    1.5 Installation shall be turnkey including power, data cabling, network integration, training, and documentation.

    1.6 Ambience lighting as per design approval

    1.7 Façade Lighting as per the design approval

    1.8 Digital Library Workstations - modular, wire-managed

    1.9 All kinds of ICT and AV job as per the design approval

    1.10 A lift for carrying books for better movability throughout the G+5 floors similar to the lift installed in library of the Indian parliament. Electronic Dumbwaiter Lift.

2. **Information Kiosks**

    2.1 Touchscreen kiosks

    2.2 Minimum 22” capacitive display, rugged steel enclosure.

3. **Digital Library Stations**

    3.1 Ergonomic workstations with PCs with latest configuration.

    3.2 Headphones, adjustable chairs, privacy partitions.

4. **Museum & Exhibition Zone**

    4.1 Modular partitions, illuminated showcases, pedestals, and movable display panels.

    4.2 Integrated podium, backdrop, and dias for launches.

4.3 Real-time integration

5. **Display Boards & Signage**

5.1 Digital signage + static wayfinding boards.

5.2 Fire exit, safety, and emergency displays.

6. **Reading Zones with Charging Facilities**

6.1 Lounge seating, reading lamps, charging points (AC + USB + wireless charging).

7. **Children's Corner**

7.1 Interactive displays

8. **Group Discussion Rooms, Recording Studio & AV Rooms**

8.1 AV facilities as per the design confirmation

9. **Audio Visual Facilities**

9.1 Interactive flat panels (85"), above 4K resolution, 20-point touch.

9.2 Wireless casting, annotation tools, built-in OPS PC.

9.3 4.2 Large-format LED Screens

9.4 Indoor LED wall (P2.5/P3.0 pixel pitch) for knowledge dissemination.

9.5 Content management system integration.

9.6 4.3 AV Systems for Seminar/Discussion Rooms

9.7 Ceiling-mounted projectors (laser, min. 6000 lumens for short through and others 10,000 lumens).

9.8 Motorized projection screens.

9.9 Ceiling/wall speakers, wireless handheld/lapel mics.

9.10 Digital signal processor (DSP)-based AV controller.

10. **Integrated Digital Signage**

10.1 Centralized CMS for announcements, navigation, and schedules.

10.2 Networked LED/LCD signage displays across floors.

11. **ICT-based Learning Solutions**

11.1 Virtual classroom integration.

11.2 Recording and streaming facility.

11.3 Collaboration tools (Zoom/Teams integration).

12. **IT & Digital Systems**

12.1 OPAC Kiosks

12.2 22" touch-enabled terminals.

13. **Dedicated Database Server Systems**

13.1 Rack servers with redundant power supply.

13.2 Virtualization-enabled, scalable storage (SAN/NAS).

13.3 Backup and disaster recovery system.

14. **Networking & Structured Cabling**

14.1 Cat6A/Optical fiber backbone.

14.2 Wi-Fi 6 access points for public and staff areas.

14.3 Managed PoE switches, UPS backup.

15. **Access Control & Surveillance Integration**

15.1 AI analytical features for IP-based CCTV with VMS, central storage (90 days)

15.2 Smart card/biometric-based access control.

15.3 Fire alarm and BMS integration.

16. **Any additional Illumination and LED Lighting** confirming to the design suitability shall be included in the scope of the Contractor and it must be supported with latest automation (DALI etc.) under the supervision of the Engineer In charge. Change in the location or design and/or due to be the false ceiling, the exiting or the additional if required as per the direction of the Engineer In charge, the same shall be included in the scope of the contractor means in this tender/contract.

17. **UPS for all AV and IT system** – Rating confirming to the design and load requirements with wiring and sockets.

18. **Centre Courtyard: Wifi and CCTV**

19. **Networking Point Near Seating Area**

19.1 Wiring upto Modular charging stations with USB, Type-C, and universal sockets. The Modular charging stations with USB, Type-C, and universal sockets will be provided by the contractor. The AV System integrator has to coordinate with them, and extend the cabling job upto end IO points.

19.2 LAN and data points at desk level as per the design confirmation.

19.3 Tech desks or smart tables with integrated lighting and device stands.

20. **ICT networking wiring for Table Near Switch Box & Data Point Fixing**

20.1 Wiring Custom-built furniture with hidden compartments for cables & switches.

20.2 Use of pop-up boxes or floor boxes for power & data points.

20.3 Clearly labeled switch/data ports for IT management.

20.4 Ventilated enclosures for heat-sensitive equipment.

21. **Managed L2 PoE switches 24 ports for IP networking and data points**

21.1 24 ports PoE+ switches,

21.2 Wifi Access Points,

21.3 CAT 6A STP cables,

21.4 I/O points,

21.5 Racks,

21.6 UPS supply with wires and cables and industry grade switches

22. **Scanner Machine if requirement confirmed by the University during the design**

22.1 Dedicated scanning zone near reference desks or networking points.

22.2 Power backup and USB/Data ports.

22.3 Enclosed desk or booth for privacy while scanning.

23. **If designed Inside Camera**

23.1 Placement of indoor CCTV cameras:

23.1.1 Entrances, reading areas, networking points, corridors.

23.1.2 Pan-tilt-zoom (PTZ) cameras in large halls.

23.2 Signage indicating surveillance for privacy compliance.

24. **Notice Boards & Info Panels**

    24.1 Digital signage screens for library announcements and events.

    24.2 Physical pin boards or glass notice boards in key areas.

    24.3 Touchscreen maps for library navigation

25. **Digital Media Zone**

    25.1 Dedicated area for audiobooks, e-learning terminals, podcast stations, VR reading experiences.

    25.2 Soundproof booths or headphone stations.

    25.3 Adjustable lighting for screen-based work.

26. **Book Lift -** A lift for carrying books for better movability throughout the G+5 floors similar to the lift installed in library of the Indian parliament. Electronic Dumbwaiter Lift.

27. **Conversion of exiting Lift/escalator into talking lift with necessary integration.**

28. **Head Phones in Cubical Workspace for audio listening** without disturbances to the others

29. **Approx** all tother 60 Computers for study and 20 for staffs workstations can be setup in these cubicles for browsing and other works.

30. **Façade and profile Lightings –** LED and DMX controlled will be designed and required.

31. **The Wall Size LED Display of 4K resolution** would be required in book launch section.

32. **Testing & Commissioning**

    32.1 Factory acceptance test (FAT) and site acceptance test (SAT).

    32.2 Test cases: LMS integration, RFID transaction accuracy, AV clarity, network redundancy.

    32.3 Documentation: user manuals, as-built drawings, training materials.

33. **Training & Support**

33.1 Vendor shall provide end-user and administrator training.

33.2 Onsite warranty for minimum 1 year, extendable AMC thereafter.

33.3 Remote monitoring and support portal.

34. Sustainability & Green Features

34.1 AV and IT systems with Energy Star-rated equipment.

34.2 Smart lighting and HVAC integration for energy efficiency.

34.3 GRIHA LD 5 Star Compliances.

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TENDER NOTICE

The Registrar, on behalf of Nalanda University, Rajgir, District – Nalanda, Bihar invites online bids basis from reputed, approved, and eligible contractors of CPWD or any State/Central Govt. Departments /PSUs /Institutions /Autonomous Bodies /other reputed firms fulfilling the set eligibility criteria, in two bid system (Eligibility Bid & Financial bid) for the following work:

Name of Work	:	Engineering, Procurement and Construction and Commissioning (EPCC) including design, supply installation, testing and Commissioning (SITC) of AR, VR, AV-Audio Visual Works and Digital Library for the Nalanda Library Building at the Main Campus of Nalanda University at Rajgir, Bihar including wiring, networking, fixing, involved cutting and fixing of interior supports and any other as per the design confirmation.
Estimated Cost	:	Rs. 13,50,00,000/-
Earnest Money	:	Rs. 23,50,000/- (RTGS/NEFT/50% RTGS/NEFT and 50% BG)
E-Tender Processing fee	:	Rs 10,000/- (RTGS/NEFT) plus GST 18%
Performance Guarantee	:	5% of Tendered Value
Security Deposit	:	2.5% of Tendered Value
Period of Work Completion	:	06 Months
Pre- Bid Meeting	:	On 25/01/2026 at 03:00 PM at NU Project Office (online meeting link shall be provided separately)
Last date & time of Online submission of Bids	:	On 05.02.2026 up to 15:00 Hrs.
Opening of Technical Bids Online	:	On 05.02.2026 15:30 Hrs.

The bid forms and other details can be obtained from the website

https://nalandauniv.edu.in/tenders/ and https://nalandauniv.ewizard.in/

Registrar
Nalanda University
Rajgir, Bihar

SECTION 1
GENERAL INFORMATION

1.1 CHECKLIST FOR SUBMISSION OF BIDS

1) The bidders should read all the instructions, terms & conditions, contract clauses, nomenclature of items, specifications etc. contained in the tender documents very carefully, before quoting the rates. **The bidder should also read the General Conditions of Contract 2024 for EPC Project (with correction slips up to last date of submission of tenders) which will be part of the agreement.**

2) The agency shall quote the rate for complete scope of work for both in words and figures in the financial bid.

3) The EPC contractor shall quote his rates keeping in mind the scope of work, specifications, terms & conditions, additional conditions, and special conditions etc. and nothing shall be payable extra whatsoever unless otherwise specified.

4) The EPC contractor shall also furnish Performance Guarantee of 5% of the tendered amount in addition to the other deposits mentioned elsewhere in this document for proper performance of the agreement. The Performance Guarantee shall be in the shape of Bank guarantee as per Performa given in Annexure-V enclosed. 50% of the performance guarantee shall be released after completion of work and balance will be released after 1 year of successful completion of work. However, this part of performance guarantee will be released against Bank Guarantee which will be kept valid time to time by the bidder as per the direction of Engineer-in-charge.

5) In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney should be produced with the tender and it must be disclosed that the firm is duly registered under the Indian partnership act, 1952.

6) The bidder shall quote their rates considering all prevalent taxes/Cess like GST, Labour Cess or any other tax on material/work as applicable as per the GoI norms and nothing extra shall be paid to the contractor on this account. The University shall deduct from the R/A bills, the TDS as applicable as per the prevailing rates as prescribed by the Government of India time to time.

7) The tender, which is not duly signed by authorized signatory or is conditional shall be treated as non-responsive and shall be summarily rejected.

8) Online bid documents submitted by intending bidders shall be opened only of those bidders, whose EMD is deposited through NEFT/RTGS or NEFT/RTGS and BG (in original) and other documents scanned and uploaded are found in order.

9) The contractor shall barricade the workplace (s) confirming to CPCB and NGT guidelines to avoid any pollution at site and the surroundings to the subject building. The contractor's rate deemed to be inclusive of the barricading of the site as per requirement of these bodies of Central Govt. Apart from this the contractor has to comply with the guidelines issued from time to time by Bihar State Govt. to ensure pollution control measures at site and surroundings at their own cost.

10) The University may not allow the labour camps if not feasible, at site and therefore contractor, in that case, has to make his/their arrangement for the stay / transportation at his/their own cost. Other facilities arrangement confirming to GCC-2024 for EPC Project of CPWD contract labour regulations, safety measures and health measures as per guidelines issued by Govt. from time to time, needs to be followed by contractor. The EPC Contractor's rate deems to all-inclusive and nothing extra shall be paid to the contractor on these accounts.

11) The arrangement of water suitable to construction works as well as other usage i/c testing of equipment will be arranged by the contractor at site at his own cost from. The contractor will obtain necessary permission from E-in-C with test result of water from source proposed by contractor duly chemical testing report i/c pH value. The department will get independent physical and chemical testing of such source at an interval of every four months. The testing charges of the water tests done will be paid by the department and will be recovered from contractor's bill. Power supply required for construction; testing & commissioning shall have to be arranged by the bidder at his own costs.

1.2 INFORMATION & INSTRUCTIONS TO BIDDERS FOR e-TENDERING

The Registrar, Nalanda University, Rajgir, District – Nalanda, Bihar on behalf of Nalanda University invites online composite bids on Engineering Procurement Construction (EPC) basis from reputed, approved and eligible composite category contractors of CPWD or any State/Central Govt. Departments/PSUs/Institutions/Autonomous Bodies/ other reputed firms fulfilling the set eligibility criteria , in two bid system (Eligibility Bid & Financial bid) for following work:

NIT No.	**NIT No: NU/Engg/2025-26/EPCC-02 DATED 20.12.2025**
Name of Work	Engineering, Procurement and Construction and Commissioning (EPCC) including design, supply installation, testing and Commissioning (SITC) of Augmented Reality(AR), Virtual Reality(VR), Audio Visual (AV) etc Works for the Nalanda Library Building at the Main Campus of Nalanda University at Rajgir, Bihar including wiring, networking, fixing, involved cutting and fixing of interior supports and any other as per the design confirmation.

Estimated Cost Put to Tender	Rs. 13.50 Crores
Earnest Money	Rs. 23.50 Lacs /- (RTGS/NEFT/50% RTGS/NEFT and 50% BG)
E-tender processing Fee	Rs. 10,000/- plus GST @ 18%
Period of Work Completion	6 months (1 month for planning & designing and obtaining approvals for commencement of work + 5 months for execution of original work and obtaining approvals from local bodies for declaring the buildings fit for occupation
Pre-bid Conference	Pre-bid conference shall be held with the intending bidders in the Conference Hall, Project Office of Nalanda University at Rajgir at 03:00 PM on 25.01.2025 or as reflected on the tender portal. Only prospective bidders' in the domain of AR, LR, AV and System Integrator as EPC Contractors' authorized representative is allowed to attend.
Last date & time of online submission of technical and financial bids	Up to 03:00 PM on 05.02.2026 through online in https://nalandauniv.ewizard.in/. The tender documents can be viewed and downloaded from Nalanda University website https://nalandauniv.edu.in/tenders/
Time and date of opening of Technical Bids	Shall be intimated to qualified bidders after approval of technical bids by the Competent Authority

1.3 ELIGIBILITY CRITERIA

Contractors who fulfill the following requirements shall be eligible to apply. For this purpose, cost of work shall mean gross value of the completed work.

1.3.1 Should have satisfactorily completed the works as mentioned below during the last Seven years ending previous day of last date of submission of bids.

Three similar works (40%) each costing not less than **Rs. 5.40 Crore**.

OR

Two similar works (60%) each costing not less than **Rs. 8.10 Crore**.

OR

One similar work costing (80%) not less than **Rs. 10.80 Crore**.

For the purpose of this clause, **"similar work"** shall mean **"Augmented Reality, Virtual Reality, Audio & Visual" works for buildings like Libraries/ Museum/ Offices/ /Auditoriums/ IT Parks / Research and Development center's / Universities / Colleges including IT & LAN Networking, DMX controller etc within a single order in last seven years in India"**

Note:-

a. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to previous day of last date of submission of tenders. Qualified similar works may be physically inspected, if required, by a Technical Expert Committee constituted by the Competent Authority at Nalanda University to ascertain the completion, performance on quality of works for finalizing the technical bid and their report will be final and binding.

b. In case of works executed in Private Sector, Completion Certificate should be accompanied with TDS certificates.

1.3.2 Should have minimum average annual financial turn over (gross) of **Rs. 6.75 Crore** on AR/VR/Audio-Visual or IT works during the last available three consecutive financial year ending March, 2025. Year in which no turnover is shown would also be considered for working out the average. (The bidder should

upload financial information about turnover as per Form – 'A' only and should not upload any other financial sheets like balance sheets etc.)

1.3.3 The multiplication factor of 7% per annum simple interest is not applicable on the Annual Financial Turnover figures.

1.3.4 Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five consecutive years ending 31st March 2024. The contractor should upload financial information about profit/loss only and should not upload any other financial sheets like Balance Sheets etc.

1.3.5 Should have a minimum solvency of **Rs. 5.40 Crore** (Scanned copy of original solvency certificate to be uploaded). Such solvency certificate should not have been issued by the Bank beyond 6 months from the date of last submission of bids.

1.3.6 The eligibility bid shall be opened first on due date and time as mentioned above. The time and date for opening of financial of contractors qualifying the eligibility bid shall be communicated to them at later date.

1.3.7 Online financial bid document submitted by the bidders shall be opened only of those bidders who on the basis of pre -qualification documents uploaded by them within the period of bid submission, qualify in accordance with the provision of eligibility bid. The financial bid shall be opened online at the notified time and date in presence of qualified bidders or their representative.

1.3.8 Agreement shall be drawn with the successful bidders on prescribed Form GCC-2024 for EPC contracts in CPWD which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement. A copy of the document is also enclosed with this NIT.

1.3.9 The site for the work is available. The time allowed for carrying out the

work will be 06 Months. One month for design approval and five months for execution of original work from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

1.3.10 The bidder should have sufficient number of Technical and Administrative Employees for the proper execution of the contract. The bidder shall have to submit a list of these employees stating clearly how these would be involved in this work within 15 days of award of work.

1.3.11 The contractor will take all necessary guards and precautions during the course of execution to ensure safety and stability of the adjoining building structures. All legal consequences of any danger/threat to the safety and stability of adjoining structures rest with the contractor and department stands absolved from all legal liabilities and consequences thereof if any, initiated by the owner/contractor of these building structures.

1.3.12 After submission of the bid, the contractor can resubmit revised bid any number of times but before last time and date of submission of bid as notified. Contractor must ensure to quote his rate in the attached schedules online only. The bids submitted online shall only be considered for evaluation.

1.3.13 The Original Exempted Earnest Money Declaration proforma duly filled shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

1.3.14 Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD Original Exempted Earnest Money Declaration proforma duly filled (Form F) and uploaded to the e-Tendering website and other documents scanned and uploaded are found in order.

1.3.15 The bid submitted shall become invalid, if:

1.3.15.1 The bidder is found ineligible.

1.3.15.2 The bidder does not deposit original EMD declaration form (Form F)

with Nalanda University.

1.3.15.3 The bidder does not upload all the documents (including GST Registration) as stipulated in the bid document including the copy of receipt for deposition of Exempted EMD Declaration Performa. (Form F)

1.3.15.4 If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.

1.3.15.5 If a tenderer quotes nil rates against any item of work of tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

1.3.16 The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in Schedule F in the form of Demand Draft of any scheduled bank/ Pay order of any Scheduled Bank /Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in tender, including the extended period if any, the contractor will be debarred from tendering in Nalanda University as per the undertaking submitted by the contractor.

1.3.17 The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the sub- contractors, if any engaged by the contractor for the said work within the period specified in tender.

1.3.18 The bidder should either himself meet the eligibility conditions for the specialized E&M works and library automation works as mentioned in NIT or otherwise he will have to associate an agency meeting the eligibility requirements for specialized E&M and Library Automation works after

award of work and has to submit details of such agency(s) conforming eligibility conditions as defined in the bid document for the concerned component of work to the University at least two month in advance from taking up the specific component. Names of the agency(s) to be associated shall be approved by the Engineer-in-Charge.

1.3.19 The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

1.3.20 Information and instructions for bidders posted on website shall form part of bid document.

1.3.21 The bid document consisting of plans, specifications, items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen from website www.nalandauniv.edu.in/tenders/ or https://nalandauniv.ewizard.in/

1.3.22 The bid can only be submitted after uploading the proof of submission of E-Tender Processing Fee (copy of proof of payment / bank transfer shall be submitted) and other documents as specified.

1.3.23 Those Bidders who are not registered in https://nalandauniv.ewizard.in website mentioned above, are required to get registered themselves beforehand. The intending bidder must have valid Class-III digital signature to submit the bid.

1.3.24 On opening date, the Bidder can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.

1.3.25 Bidder can upload documents in the form of PDF format.

1.3.26 Bidder should ensure that the document uploaded is legible and full documents page is properly scanned.

1.3.27 Certificate of Financial Turnover: At the time of submission of bid, bidder may upload affidavit/certificate from CA mentioning Financial Turn Over of

last 5 years or for the period as specified in the bid document duly certified by the chartered accountant. There is no need to upload entire voluminous balance sheet.

1.3.28 The eligibility (Technical) bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of bidders qualifying the eligibility (Technical) bid shall be communicated to them at a later date.

1.3.29 Pre-bid conference shall be held with the intending bidders in the Conference Hall, Project Office of Nalanda University at Rajgir, District Nalanda, Bihar – 803116 at 03:00 PM on 25.01.2026. After pre-bid conference, modifications if required in the bidding documents and clarifications to the queries raised by intending bidders will be issued to all participating bidders by the University by e-mail. Same will also be uploaded to the website.

1.3.30 All modifications/addendums/corrigendum issued regarding this bidding process, shall be uploaded on website only and shall not be published in any Newspaper. Therefore, prospective bidders must see the website regularly for any update.

1.3.31 The University reserves the right to reject any prospective application without assigning any reason thereof and to restrict the list of qualified bidders to any number deemed suitable by it, if too many bids are received satisfying the minimum laid down criteria.

1.3.32 The eligible bidders shall quote rate per square meter only, which shall include all components of the work as per the financial bid format.

1.3.33 If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in the University. The University reserves the right to verify the particulars furnished by the applicant independently.

1.3.34 Intending Bidders are advised to inspect and examine the site and its

surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost 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. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

1.3.35 After submission of the bid the agency can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

1.3.36 While submitting the revised bid, agency can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

1.3.37 Any dispute arising out of this tender including dispute related to encashment of any Bank Guarantee/ FDR etc., shall be subject to the jurisdiction of courts of Patna High Court only.

1.3.38 Details of the Bank for submission of Performance Guarantee:

Name of A/c holder	:	NALANDA UNIVERSITY
Name & Address of HDFC Bank Branch		DHARAMSHALA ROAD, DIST NALANDA, City: RAJGIR 803116, State: BIHAR

Type of Account	:	Current Account
Branch Code	:	2059
IFSC Code	:	HDFC0002059

1.3.39 List of documents to be filled in by the bidders in various forms as indicated in Section 3, to be scanned and uploaded within the period of bid submission –

Sl. No.	**Details of Documents to be submitted**
1.	Letter of transmittal
2.	Copy of receipt for deposition of original E-Tender Processing Fee (in favour of Nalanda University, payable at Rajgir, Bihar)
3.	List of eligible similar nature of works completed during the last seven years from date of completion to previous day of last date of submission of bid in Form -C. (If private works are shown in support of eligibility, certified copy of the tax deducted at source certificate (TDS) shall be submitted along with the experience certificate and the TDS amount shall tally with the actual amount of work done).
4.	Certificate of Financial Turnover from CA in Form –A. Bank Solvency Certificate in Form-B.
5.	Performance report of works (mentioned in Form-C) in Form-D. Structure and Organization of the bidder in Form-E.
6.	Permanent Account Number (PAN) as issued by the Income Tax Department and GST Number along with Certification
7.	Signed copy of Integrity Agreement.
8.	Undertaking of Structural/ Services Design as per proforma in para 1.3 below.

1.3 CERTIFICATE REGARDING AV ARCHITECTURAL DESIGN, TECHNOLOGY, FEATURES AND LOGICS FOR OPERATION

The following certificates are to be submitted along with the technical bid of the tender: ***(This affidavit/certificate is to be submitted in non-judicial stamp paper of appropriate value and duly notarized)***

It is certified that the structural design and drawings with respect to the works under the scope of this tender shall be prepared in conformance with the concept plan as published by the University along with this tender, including safety norms from natural hazards like seismic, wind, fire etc., coordinated with all existing wired & piped services drawings (executed by other agencies), by the associate agency(s) conforming to eligibility criteria as defined in the NIT having duly qualified Architect and the Structural Engineer respectively for specialized component (s) including GRIHA Consultant /Facilitator as per norms prescribed in N.B.C/B.I.S/I.R.C./ GRIHA etc.

Accordingly, I/ we shall get the buildings designed from qualified Architect, AV domain specialized experienced Engineer, Integrated Services Consultant and GRIHA Consultant
/Facilitator.

It is further certified that the AV engineer and other consultants hired by us for carrying out the AV Works design along with structural design shall have following experience:

BE/B. Tech. from Any reputed Government Engineering College like IIT/NIT/Govt. Engineering College.

OR

Under the panel list of CDO/CPWD (mention as the case may be).

AND

The AV consultant will have at least degree of M. Tech in relevant field &

M. Tech (E&M service) or equivalent and has got 15 years or more experience in the field of AV design and services design of similar nature of works. Documents in support of the above will be submitted at appropriate time for approval of the department.

OR

Should have the design experience by serving & designing in CPWD for at least 15 years & should have been retired at least from SE level in CPWD.

The GRIHA Consultant and facilitator hired by bidder shall be well qualified having minimum experience of 07 years in GRIHA consultancy and shall be on the approved list of the GRIHA authorities.

Signature of the contractor with date

Name in Blocks letters ----------

Address:

1.4 INTRODUCTION TO PROJECT –

(i) Nalanda University was established in November 2010. It came into being by an Act of the Indian Parliament – a testimony to the important status that Nalanda University occupies in the Indian intellectual landscape. Nalanda University is a standalone international university unlike any other established in the country. Located in the town of Rajgir, in the northern Indian State of Bihar, Nalanda University is mandated to be "an international institution for the pursuit of intellectual, philosophical, historical and spiritual studies". This new university contains within it a memory of the ancient Nalanda University and is premised on the shared desire of Member States of the East Asia Summit countries to re-discover and strengthen "educational co-operation by tapping the East Asia Regions centres of excellence in education ... [and] to improve understanding and the appreciation of one another's heritage and history"

The proposed site for the University is located at Rajgir in the Nalanda district of Bihar and fronts the State Highway 71. The site for the University is on the Southwest outskirts of Rajgir town at a distance of 3.5 kilometres from the current urban edge of the town.

(ii) The present tender is for Engineering, Procurement and Construction (EPC) of Audio-Visual and IT Works for the Nalanda Library building at the Permanent Campus of Nalanda University at Rajgir, Bihar including additional wiring wrt existing CCTV, Data, DALI etc., as per the design confirmation.

(iii) Being an EPC tender, the bidder is advised to work out the detailing as per requirement given in tender documents and considering the same along with the relevant IS codes, NBC-2016, Latest CPWD specification and latest technology etc. Indicative Items of various works covered under scope of work in this tender are given below for reference purpose only. The bidders, before quoting the tender are deemed to have ascertained/verified/worked out all the items & quantities etc. from site inspection for complete scope of work. No claim whatsoever on account of any discrepancies, changes in nomenclature, variation, addition, alteration, modification, left over items etc. shall be entertained by the University. The contractor is required to execute all the works/items and quantities as per Scope of work based on Site Execution,

Drawings & whatever is essential for successful completion of the project and the bidder's quoted rates are deemed to include everything as mentioned and including testing, commissioning & handing over of the completed project, defect liability period and Operation and Maintenance period (if applicable) as per satisfaction of the Owner. In case of contravention of stipulation of this clause from any other clause/provision elsewhere in the tender document, then this clause shall have superseding effect to the extent of contravention and decision of Engineer-in-charge shall be final & binding on the EPC Contractor.

(iv) The Bidder has to take care (i.e., not to damage) the existing flora and fauna in the campus if any, during execution of the works as per this E-Tender.

(v) The scope of work, within quoted cost, also includes the following apart from the mentioned details elsewhere in Financial Bid:
The drawings/layout /working details etc. for the AVworks shall be prepared by the bidder through a reputed AV Design Consultant, and approval shall be obtained from the University before execution.

(vi) The movement plan of machineries shall first get approved from the University before execution.

(vii) Bidder has to arrange temporary electric connection either from state electricity board or through own DG set as applicable situation, for the execution of the AV works. No extra claim for the same shall be entertained.

(viii) The Concept design, drawings and documents attached in the tender are for adhering to minimum requirement of project reference which is indicative and not exhaustive. Bidder has to work out with reference to details provided in scope, and drawings in the tender document for quoting their rates. No claim whatsoever will be entertained at a later stage in this regard.

1.5 BROAD MILESTONES UNDER SCOPE OF WORK

a. The EPC Contractor shall prepare of all designs/drawings, Design Basis Report (DBR) conforming to the relevant building bye laws/statutory provisions.

b. The contractor shall give the presentation of AR, VR, AV design to Nalanda University for approval from competent authority.

c. Upon obtaining approval of the concept design the EPC Contractor shall carry out structural design wherever applicable and obtain approval and based on the approved designs prepare the working/GFC Drawings for execution of work.

d. All the technical component drawings shall be vetted by the Consultants appointed by University or any IIT/NIT/Govt. organization after acceptance from the University.

e. The contractor will submit the schedule containing the item, rates (i.e. DSR reference, if available), and quantities of items, detailed measurements & specifications (four sets) within three months from the date of start of the work.

f. Project Management of the work including day to day supervision during execution.

g. The specialized works shall be done by reputed agencies who has carried out similar type of work with high standards and having statutory registrations.

h. The EPC Contractor may recommend any innovative, sustainable, environmental friendly, easy for installation substitute item having minimum same standards as per relevant code mentioned in tender document.

i. The EPC Contractor shall execute the project as per the provisions of CPWD Manual 2019 including subsequent amendments and under the ambit of GFR 2017 including subsequent amendments.

j. The EPC Contractor shall ensure that the quality of work is executed as per specified specifications and norms and as laid down in latest CPWD specifications including correction slips, if any, BIS Code and other specifications but within the guidelines as laid down by CVC. The routine testing in respect of materials shall be carried out in recognized laboratory/ institution concerned as per CPWD norms in force.

k. The Contractor shall complete the project as per the broad specifications which are given in the Preliminary Estimates.

l. Intimating the detailed physical and financial progress regularly at the end of each month.

m. The contractor shall hand over the completed work including the As Built Drawings in soft as well as hard copies, a detailed maintenance manual, warranties if any and all other relevant documents. The Contractor shall provide three sets of completion drawings as built to the University at the time of handing over of completed works. The Contractor also handover the copy of guarantee bonds of the specialized items as per CPWD works manual.

n. Submission of Completion Certificate duly issued by the Project Engineer and the Architect that the work has been executed as per the approved architectural/ structural drawings and as per terms of the contract along

with the final bill.

o. The Contractor shall indemnify and keep indemnified Nalanda University against all losses and claims for injuries or damages to any person or any property whatsoever which may arise out of or in consequence of the construction against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto.

p. On completion of the work, the Contractor shall clear away and remove from the site all constructional plants and machines surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works, to the satisfaction of Nalanda University.

Note: The EPC Contractor shall handover all warranty & original certificates, servicing manuals, company routine maintenance etc. for future operation & maintenance well within time limit under the Contractor's Scope of Work.

1.6 GUIDELINES / PROCEDURE TO BE FOLLOWED IN INTRODUCTION OF 'E'- PROCUREMENT SOLUTION

1.6.1 The bidders can view / download the tender documents, from the www.nalandauniv.edu.in/tenders or https://nalandauniv.ewizard.in/ or https://eprocure.gov.in/epublish/app.

1.6.2 **Submission of Bids:** The bidders who are desirous of participating in this e-Tender shall submit their price bids in the standard formats prescribed in the Tender documents, displayed at www.nalandauniv.edu.in/tenders or https://nalandauniv.ewizard.in/ The bidder should upload the scanned copies of all the relevant certificates, documents etc., in the https://nalandauniv.ewizard.in/ in support of their bids. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness / authenticity.

1.6.3 **Payment of Bid Security (Earnest Money Deposit):- Rs. 23,50,000/-** to be submitted through NEFT or RTGS in favour of Nalanda University to the following bank account –

A/c Name : Nalanda University
Bank : State Bank of India
Account No. : 37646810882
Branch : Rajgir Branch
IFSC CODE : SBIN0003499

Alternatively, the bidders can submit the EMD in a combination of

NEFT/RTGS and Bank Guarantee. In such case at least 50% of the EMD to be submitted through NEFT/RTGS in the above mentioned bank account and the rest through Bank Guarantee issued by a Scheduled Bank in favour of Nalanda University, Rajgir, Bihar.

1.6.4 **Processing of Tenders:-** The concerned Committee as appointed by the Competent Authority at Nalanda University will evaluate and process the tenders as done in the conventional tenders and the decisions will be communicated to the bidder online. Any correspondences or queries related to this tender shall be submitted to the University in the email address – phase1.tender@nalandauniv.edu.in only.

1.6.5 **Price Bid opening**:-The Price bid will be opened online by the Committee at the specified date and time and the result will be displayed on the website www.nalandauniv.edu.in/tenders and https://nalandauniv.ewizard.in/ , which can be seen by all the bidders who participated in the tender.

1.6.6 **Payment of performance Guarantee**: -The bidder shall submit irrevocable performance guarantee of 5% (five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract. This guarantee shall be in the form of Banker Cheque / pay order / FDR / guarantee bonds of any scheduled bank in favour of Nalanda University, payable at Rajgir. 100% of the performance guarantee shall be released after completion of work .However, the Performance Bank Guarantee will be kept valid time to time by the bidder as per the direction of Engineer-in-charge.

1.6.7 **Participation of Bidders at the time of opening of bids** - Bidders have two options to participate in tendering process at the time of opening of Bids as stated below -

1.6.8 Bidders can come at the place of opening of bids (electronically) by the Tender Opening Committee as done in the conventional tender process.

1.6.9 Bidders can attend the process online.

1.6.10 Signing **of agreement:** -After the award of the contract, an agreement will be signed as done in Conventional Tenders.

Sd/-
Registrar
Nalanda University

NOTICE INVITING E-TENDER (CPWD-6)

The Registrar, Nalanda University, Rajgir, District – Nalanda, Bihar on behalf of Nalanda University invites online composite bids on Engineering Procurement Construction (EPC) basis from reputed, approved and eligible composite category contractors of CPWD or any State / Central Govt. Departments / PSUs / Institutions / Autonomous Bodies / other reputed firms fulfilling the set eligibility criteria, in two bid system (Eligibility Bid & Financial bid) for following work:

1. **Name of Work:** Engineering, Procurement and Construction (EPC) of Audio and Visual Works along with Augmented reality, Virtual Reality, etc for the Nalanda Library Building at the Main Campus of Nalanda University at Rajgir, Bihar including, CCTV, Data, DALI etc., AV/IT systems including display units, PA system, OPAC Kiosks, servers, networking, etc., decorative & task lighting, wiring & controls, supply installation testing & commissioning of complete system for Nalanda University Library Building AV items as per requirement.

2. The estimated cost of Work is **Rs. 13.50 Crore**

3. The Intending Bidder shall be eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the Competent Authority at Nalanda University, of having satisfactorily completed similar works of magnitude as specified below –

   Three similar works (40%) each costing not less than Rs. 5.40 Crore.

   OR

   Two similar works (60%) each costing not less than Rs. 8.10 Crore.

   OR

   One similar work costing (80%) not less than Rs. 10.80 Crore.

   For the purpose of this clause, "similar work" shall mean **"Augmented Reality, Virtual Reality, Audio & Visual" works for buildings like Libraries/ Museum/ Offices/ /Auditoriums/ IT Parks / Research and Development center's / Universities / Colleges including IT & LAN Networking, DMX controller etc within a single order in last seven years in India"**

   Note: The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the previous day of the last day of submission of the Tender.

4. The bidder should have had average annual financial turnover (gross) of **Rs. 6.75 Crores** in similar works during the immediate last five consecutive financial years balance sheets, ending 31st March 2025, duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average.

5. The bidder should not have incurred any loss (Profit after tax should be

positive) in more than two (2) years during available last Five consecutive financial years balance sheets, ending 31st March 2025, duly certified and audited by the Chartered Accountant.

6. The bidder shall furnish a solvency certificate (as per proforma under Form-D) of value not less than **Rs. 5.40 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.

7. The bidder shall have sufficient number of technical and administrative employees for proper execution of the Contract. The bidder shall have to submit a list of these employees stating clearly how these would be involved in this work within 15 days of award of work.

8. Intending bidders are advised to ensure that they meet the minimum eligibility criteria as per the detailed terms and evaluation parameters enumerated in this document before they submit their tender documents.

9. The agency/ firm who have been debarred/ blacklisted by the Nalanda University during the past 3 years shall not be treated as eligible to bid for this tender and if submitted, their bid shall be out rightly rejected.

10. An agreement shall be executed by and between the NU and the successful bidder for the **"EPC Tender for Audio and Visual Works For Library buildings Of Nalanda University Main Campus at Rajgir, Bihar"** in the given format as per the terms and conditions stipulated in the tender documents. The percentage rates shall be quoted by the bidder as per various terms and conditions of this document which shall form part of the agreement.

11. The time allowed for carrying out the Work shall be **6 months** from the date of start as defined in Schedule –F or from the date of handing over of the Site, whichever is later.

12. The Site is available and will be handed over to the successful bidder at the time of award of contract on "as is where is" basis.

13. The tender documents consisting of drawings, specifications, schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with and other necessary documents can be seen on the website of NU at http://www.nalandauniv.edu.in and at https://nalandauniv.ewizard.in/ .

14. Intending bidders are advised to obtain valid class-II (or appropriate class) digital signature to participate in tendering.

15. The interested bidders shall upload their e-tenders and also physically submit the hard copies of tenders as per the guidelines given on page no. 15 & 16 of this document at Reception of Nalanda University's Rajgir office both within the stipulated time and date as indicated above. The detailed address of the Nalanda University's Rajgir Office is as follows:

Nalanda University, Rajgir, District Nalanda, Bihar - 803116, India.

16. While submitting the revised tender, contractor can revise the percentage rate offered one or more item(s) any number of times but before last time and date of submission of tender as notified.

17. Bidder shall submit the Bid Security Declaration as per FORM I. The intending bidder has to scan and upload the signed and notarized document to the e-Tendering website within the period of tender submission and original should be deposited at project office of Nalanda University.

Bank Details of Nalanda university is as follows:

1. Name of Bank: HDFC BANK LTD
2. Name & Address of Branch: DHARAMSHALA ROAD, DIST NALANDA, BIHAR, PIN – 803116
3. Branch Code :2059
4. IFSC Code of respective branch: HDFC0002059

18. Interested bidders who wish to participate in the tender shall pay Rs. 10,000/ (Rupees Fifteen Thousand only) plus GST @ 18% as e-Tender Processing Fee of Nalanda University, Rajgir, Bihar through NEFT or RTGS to the following bank account. A copy of the bank transfer / online payment shall have to be uploaded to the e-Tendering website before tender submission

19. The **tender shall be accompanied with the following documents:**

a) Proof of EMD and e-Tender Processing Fee shall be uploaded in the e-Tendering portal 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 uploaded in the e-procurement portal under **"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 the scanned copies of which shall be uploaded in the e-procurement portal and labeled as "**Signed Tender Documents".**

d) Price Bid shall be uploaded in the e-procurement portal (https://nalandauniv.ewizard.in/) directly as per proforma given therein.

e) Technical tender documents submitted by intending bidders shall be opened only of those bidders, whose EMD and e- Tender Processing Fee are found in order.

20. Opening of e-Tender shall be in the following sequence:

a) Bid Security Declaration and e-Tender Processing Fee of which hard copies are placed in Envelope 1;

b) Eligibility documents of which hard copies are placed in Envelope 2;

c) Financial Tender of which hard copies are placed in Envelope 3, to be opened only for the bidders fulfilling necessary eligibility criteria per this tender document and accepted by NU. The date of opening of financial tender shall be intimated separately to each successful/eligible bidders evaluated on the basis of eligibility criteria.

21. The tender submitted shall become invalid if:

a) The bidder does not deposit EMD and Tender Processing Fee as prescribed above

b) The bidders are found ineligible; or

c) The bidders fail to upload all the documents (Including GST registration as stipulated in this tender document.

22. 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.

23. 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 bidder.

24. The contractor whose bid is accepted will be required to furnish performance

guarantee of 5% (Five Percent) of the tender amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, suitable penal action shall be taken as per Bid Security Declaration form.

25. The contractor whose tender is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.

26. Intending bidders must inspect and examine the Site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), form and nature of the Site, the means of access to the Site, the accommodation as may be required and in general, shall obtain all necessary information as to the risks involved, contingencies and other circumstances which may have a bearing or influence or affect the decision of submission of tender. A bidder shall be deemed to have full knowledge of the Site whether or not an inspection has been undertaken by the bidder or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed in the amount quoted in the tender. The bidder shall be responsible for arranging and maintaining cost of 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 this document and/or the agreement and/or any other letter, circular, notification issued, or document released by **NU**. Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the Work to be executed and of conditions and local conditions and other factors having a bearing on the execution of the Work. Bidder shall submit the Affidavit for Site Visit in the form as prescribed in **FORM "G". The bidder submitting bid shall be presumed that they are well aware of the site and accepting all the actual site conditions.**

27. The University is not bound to accept the lowest or any other tender and reserves to itself the right to reject any or all the tenders received without assigning any reason thereof. Owner also reserves the right to restrict the list of qualified contractors to any number deemed suitable by it, if too many tenders are received satisfying the laid down criteria. All tenders in which any of the prescribed conditions are not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be rejected summarily. Tenders subject to any conditions proposed by the bidder shall not be accepted and shall be liable to be rejected.

28. Canvassing either directly or indirectly, in connection with tender is strictly

prohibited and the tenders submitted by the bidders who resort to canvassing shall be liable to be rejected.

29. Owner reserves the right of accepting the whole or any part of the tender and the bidders shall be bound to perform the same at the quoted rate.

30. The bidder shall intimate the names of persons who are or were working in any capacity with the bidder or are subsequently employed by the bidder and who are or have been an officer in NU.

31. The contractor shall not be permitted to tender for this work if his near relative is employed by Nalanda University in any capacity. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officerin Nalanda University or in the Ministry of External Affairs. Any breach of this condition by the contractor would render liable to be debarred from participating in tender process.

32. No engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering department of Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found to be such a person who had not obtained permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.

33. The tender for the Work shall remain open for acceptance for a period of **90 (Ninety) days** from the date of opening of Technical tender. In case any bidder withdraws its tender before the end of Ninety days or issue of letter of acceptance, whichever is earlier, or makes such modifications in the terms and conditions of the tender which are not acceptable to the Owner, then the Owner shall, without prejudice to any other right or remedy available under the contract or law, be at liberty to take suitable actions as per Bid Security Declaration. Further, such bidder shall be debarred from participating in the re-tendering process of the Work.

34. The receipt of the bid will be presumed that the bidder has accepted all the terms and condition of this NIT read with the corrigendum/addendum issued by the University. This notice-inviting Tender shall form a part of the agreement and shall be read and construed accordingly. The successful bidder, on acceptance of its tender by the Owner, shall within 15 days from the stipulated date of initiation of the Work, execute an agreement consisting of: -

35. 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.

Sd/-

Registrar

EPC TENDER & CONTRACT FOR WORK

Tender for the work of: - This tender is invited online for the "***Audio and Visual along with AR, VR, CARC Lab, and associated IT jobs"***

To be submitted by the bidders in hard copy in the Rajgir office of Nalanda University, up to 03:00 PM on 05.02.2026.

To be opened at 03:30 PM on 05.02.2026 online from the Project Office, Nalanda University, Rajgir, Bihar.

Letter of Transmittal

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 90 (Ninety) days from the due date of opening of Technical tender and shall not make any modifications in its terms and conditions.

We submit herewith the Bid Security Declaration as per FORM I. 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 take suitable action as per Bid Security Declaration. 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 take suitable action as per Bid Security Declaration and forfeit the performance guarantee absolutely, otherwise the said Performance Guarantee 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 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 university, then I/We shall be debarred for tendering in Nalanda University in future forever. Also, if such a violation comes to the notice of Nalanda University before date of start of work, the Registrar shall be free to forfeit the

entire amount of 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

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 from part of this agreement:

Dated For & on behalf of NU

Signature

Form of Performance Security (Guarantee)Bank Guarantee Bond

Whereas the Registrar, Nalanda University, on behalf of Vice Chancellor, NU (hereinafter called "The Owner") has entered into an agreement bearing number ……. with…….. (name and address of the contractor) (hereinafter called "the contractor") for the execution of the work……. (name of the work)…….. The Owner has further agreed to accept an irrevocable Bank Guarantee for Rs…….(Rupees…….only) valid up to……..(date)…… as **Performance Guarantee/Security Deposit/ Mobilization Advance** (Strikeout whichever is not applicable) from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

1. We,……..(indicate the name of the bank)……(hereinafter referred to as "the Bank"), hereby undertake to pay to the Owner an amount not exceeding Rs……. (Rupees……..only) on demand by the Owner within 10 days of the demand.
2. We,…….….. (indicate the name of the bank)……, do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Owner stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. 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 Rs…….. (Rupees……only).
3. We,…… (indicate the name of the bank)……, further undertake to pay the Owner any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.
4. We,……. (indicate the name of the bank)……, further agree that the Owner shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement of to extend time of performance by the said Contractor from time to time or to postpone for any time of from time to time any of the powers exercisable by the Owner against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall ne be relieved from our liability by reason of any such variation or extension being granted to the said Contractor of for any forbearance, cat of omission on the part of the Owner or any indulgence by the Owner to the said Contractor or by any such matter or thing whatsoever which under the lay relating to sureties would, but for this provision, have effect of so relieving us.
5. We,…… (indicate the name of the bank)……, Further agree that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Owner may have in relation to the Contractor's liabilities.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
7. We,……. (indicate the name of the bank)……, undertake not to revoke this guarantee except with the consent of the Owner in writing.
8. This Bank Guarantee shall be valid up to…… unless extender on demand by the Owner. 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 the date of expiry or extender date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date: ……

Witnesses:

1. Signature……..
   Name and Address

1. Signature……
   Name and Address

Authorized Signatory

Name:

Designation:

Staff Code No:

Bank Seal:

* Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of the tender.

Brief Particulars of the Work

This tender is invited for Engineering, Procurement and Construction (EPC) of Audio and Visual works for the Nalanda Library Building of approximately 16,844 sqm of built up area at Nalanda University Main Campus at Rajgir, Bihar. The conceptual drawings, floor plans are enclosed separately for reference.

The project covers design, procurement, supply, installation, integration, testing, and commissioning of:

a) Augmented Reality, Virtual Reality, Audio & Visual" works for Libraries, Museum, Offices, Book Exhibition and Launch Section, IT Parks , Research and Development center's like CARC, including IT & LAN Networking, DMX controller etc
b) High End Wall Size LED Display in Entrance to Display the - A live account of burning Nalanda-what we lost

c) Audio-visual facilities and display systems.

d) Library IT and digital infrastructure.

e) The intent is to create a modern, accessible, and sustainable library ecosystem supporting academic, research, cultural, and community functions.

1. **General Requirements for Design and SITC of:**

1.1 AR and VR in Q4 i.e. at entrance section along with portable AV for book exhibition, wall Display above reception, another display at entrance at mezzanine floor level and its visibility from entry gate of the Library Building.

1.2 All items shall conform to BIS/ISO standards and applicable local building codes.

1.3 ICT, AR, VR, and AV systems shall comply with international interoperability protocols.

1.4 Common Archelogy Resource Center-CARC Lab with its access at a point through QR code scanning system

1.5 Installation shall be turnkey including power, data cabling, network integration, training, and documentation.

1.6 Ambience lighting as per design approval

1.7 Façade Lighting as per the design approval

1.8 Digital Library Workstations - modular, wire-managed

1.9 All kinds of ICT and AV job as per the design approval

1.10 A lift for carrying books for better movability throughout the G+5 floors similar to the lift installed in library of the Indian parliament. Electronic Dumbwaiter Lift.

2. **Information Kiosks**

2.1 Touchscreen kiosks

2.2 Minimum 22" capacitive display, rugged steel enclosure.

3. **Digital Library Stations**

3.1 Ergonomic workstations with PCs with latest configuration.

3.2 Headphones, adjustable chairs, privacy partitions.

4. **Museum & Exhibition Zone**

4.1 Modular partitions, illuminated showcases, pedestals, and movable display panels.

4.2 Integrated podium, backdrop, and dias for launches.

4.3 Real-time integration

5. **Display Boards & Signage**

5.1 Digital signage + static wayfinding boards.

5.2 Fire exit, safety, and emergency displays.

6. **Reading Zones with Charging Facilities**

6.1 Lounge seating, reading lamps, charging points (AC + USB + wireless charging).

7. **Children's Corner**

7.1 Interactive displays

8. **Group Discussion Rooms, Recording Studio & AV Rooms**

8.1 AV facilities as per the design confirmation

9. **Audio Visual Facilities**

9.1 Interactive flat panels (85"), above 4K resolution, 20-point touch.

9.2 Wireless casting, annotation tools, built-in OPS PC.

9.3 4.2 Large-format LED Screens

9.4 Indoor LED wall (P2.5/P3.0 pixel pitch) for knowledge dissemination.

9.5 Content management system integration.

9.6 4.3 AV Systems for Seminar/Discussion Rooms

9.7 Ceiling-mounted projectors (laser, min. 6000 lumens for short through and others 10,000 lumens).

9.8 Motorized projection screens.

9.9 Ceiling/wall speakers, wireless handheld/lapel mics.

9.10 Digital signal processor (DSP)-based AV controller.

10. **Integrated Digital Signage**

10.1 Centralized CMS for announcements, navigation, and schedules.

10.2 Networked LED/LCD signage displays across floors.

11. **ICT-based Learning Solutions**

11.1 Virtual classroom integration.

11.2 Recording and streaming facility.

11.3 Collaboration tools (Zoom/Teams integration).

12. **IT & Digital Systems**

12.1 OPAC Kiosks

12.2 22” touch-enabled terminals.

13. **Dedicated Database Server Systems**

13.1 Rack servers with redundant power supply.

13.2 Virtualization-enabled, scalable storage (SAN/NAS).

13.3 Backup and disaster recovery system.

14. **Networking & Structured Cabling**

14.1 Cat6A/Optical fiber backbone.

14.2 Wi-Fi 6 access points for public and staff areas.

14.3 Managed PoE switches, UPS backup.

15. **Access Control & Surveillance Integration**

15.1 AI analytical features for IP-based CCTV with VMS, central storage (90 days)

15.2 Smart card/biometric-based access control.

15.3 Fire alarm and BMS integration.

16. **Any additional Illumination and LED Lighting** confirming to the design suitability shall be included in the scope of the Contractor and it must be supported with latest automation (DALI etc.) under the supervision of the Engineer In charge. Change in the location or design and/or due to be the false ceiling, the exiting or the additional if required as per the direction of the Engineer In charge, the same shall be included in the scope of the contractor means in this tender/contract.

17. **UPS for all AV and IT system** – Rating confirming to the design and load requirements with wiring and sockets.

18. **Centre Courtyard: Wifi and CCTV**

19. **Networking Point Near Seating Area**

19.1 Wiring upto Modular charging stations with USB, Type-C, and universal sockets. The Modular charging stations with USB, Type-C, and universal sockets will be provided by the AV contractor. The AV System integrator has to coordinate with them, and extend the cabling job upto end IO points.

19.2 LAN and data points at desk level as per the design confirmation.

19.3 Tech desks or smart tables with integrated lighting and device stands.

20. **ICT networking wiring for Table Near Switch Box & Data Point Fixing**

20.1 Wiring Custom-built furniture with hidden compartments for cables & switches.

20.2 Use of pop-up boxes or floor boxes for power & data points.

20.3 Clearly labeled switch/data ports for IT management.

20.4 Ventilated enclosures for heat-sensitive equipment.

21. **Managed L2 PoE switches 24 ports for IP networking and data points**

21.1 24 ports PoE+ switches,

21.2 Wifi Access Points,

21.3 CAT 6A STP cables,

21.4 I/O points,

21.5 Racks,

21.6 UPS supply with wires and cables and industry grade switches

22. **Scanner Machine if requirement confirmed by the University during the design**

22.1 Dedicated scanning zone near reference desks or networking points.

22.2 Power backup and USB/Data ports.

22.3 Enclosed desk or booth for privacy while scanning.

23. **If designed Inside Camera**

23.1 Placement of indoor CCTV cameras:

23.1.1 Entrances, reading areas, networking points, corridors.

23.1.2 Pan-tilt-zoom (PTZ) cameras in large halls.

23.2 Signage indicating surveillance for privacy compliance.

24. **Notice Boards & Info Panels**

24.1 Digital signage screens for library announcements and events.

24.2 Physical pin boards or glass notice boards in key areas.

24.3 Touchscreen maps for library navigation

25. **Digital Media Zone**

25.1 Dedicated area for audiobooks, e-learning terminals, podcast stations, VR reading experiences.

25.2 Soundproof booths or headphone stations.

25.3 Adjustable lighting for screen-based work.

26. **Book Lift -** A lift for carrying books for better movability throughout the G+5 floors similar to the lift installed in library of the Indian parliament. Electronic Dumbwaiter Lift.

27. **Conversion of exiting Lift/escalator into talking lift with necessary integration.**

28. **Head Phones in Cubical Workspace for audio listening** without disturbances to the others

29. **Approx** all tother 60 Computers for study and 20 for staffs workstations can be setup in these cubicles for browsing and other works.

30. **Façade and profile Lightings –** LED and DMX controlled will be designed and required.

31. **The Wall Size LED Display of 4K resolution** would be required in book launch section.

32. **Testing & Commissioning**

    32.1 Factory acceptance test (FAT) and site acceptance test (SAT).

    32.2 Test cases: LMS integration, RFID transaction accuracy, AV clarity, network redundancy.

    32.3 Documentation: user manuals, as-built drawings, training materials.

33. **Training & Support**

    33.1 Vendor shall provide end-user and administrator training.

    33.2 Onsite warranty for minimum 1 year, extendable AMC thereafter.

    33.3 Remote monitoring and support portal.

34. **Sustainability & Green Features**

    34.1 AV and IT systems with Energy Star-rated equipment.

    34.2 Smart lighting and HVAC integration for energy efficiency.

    34.3 GRIHA LD 5 Star Compliances.

2. **General Requirements**

    2.1 All items shall conform to BIS/ISO standards and applicable local building codes.

    2.2 ICT, and AV systems shall comply with international interoperability protocols.

    2.3 Installation shall be turnkey including power, data cabling, network integration, training, and documentation.

2.4 Ambience lighting as per design approval

2.5 Façade Lighting as per the design approval

2.6 Digital Library Workstations - modular, wire-managed

2.7 All kinds of ICT and AV job as per the design approval

2.8 A lift for carrying books for better movability throughout the G+5 floors similar to the lift installed in library of the Indian parliament. Electronic Dumbwaiter Lift.

GENERAL GUIDELINES FOR BIDDERS

1 GENERAL:

1.1. Letter of transmittal and forms, terms and conditions for deciding eligibility are given in this tender document.

1.2. All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. In case no information is to be provided in a particular column, "nil" or "no such case" or "not available" entry should be made in that column. If any particulars/query is not applicable in case of a bidder, "not applicable" shall be mentioned against such particular/query. The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the tender being summarily disqualified and rejected entitling the Owner to take suitable action as per Bid Security Declaration form and forfeit e-Tender Processing Fee without any further notice to the bidder. Tenders made by telegram or telex and including those received late shall not be entertained and returned unaccepted.

1.3. The tender should be type written. The bidder should sign each page of application. Scanned copies of these signed documents should be uploaded for online submission.

1.4. Overwriting should be avoided. Corrections, if any, should be made by neatly crossing out, initiating, dating and rewriting. Pages of eligibility criteria are numbered. Additional sheets, if any added by the bidder, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.

1.5. The bidder may furnish any additional information, which he thinks is necessary to establish his capabilities to successfully complete the envisaged Work. Bidders are, however, advised not to furnish any superfluous information. No information shall be entertained after uploading of eligibility criteria document unless it is called for by the Engineer-in-Charge.

1.6. It is desirable that the bidder is not contesting or defending any legal proceeding before a court of law or tribunal or quasi-judicial or administrative authority ("Legal Proceedings"). The bidder must submit information of all on-going Legal Proceedings and for the past seven (7) years. In the event the bidder has not been subject to any such Legal Proceedings either in process or in the past seven (7) years, an affidavit to this effect, duly notarized shall be submitted in original.

1.7. Any information furnished by the bidder found to be incorrect either immediately or at a later date, shall render such bidder liable to be debarred from tendering/taking up of the Work.

1.8. The bidder shall not have been blacklisted/debarred by any State/Central Government Department or Public Sector Undertaking or any autonomous body. The bidder shall submit a duly notarized affidavit, stating on oath that the bidder has not been blacklisted. Applications received without such affidavit in original shall stand automatically rejected. NU shall be entitled to take suitable action as per Bid Security Declaration and forfeit e-Tender Processing Fee on account of any such rejection.

1.9. The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the President of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in- Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

2. DEFINITIONS:

In this document the following words and expressions shall carry the meaning hereby assigned to them:

2.1 "Owner/Purchaser/Employer/NU" shall mean and refer to the Nalanda University, Rajgir, Bihar

2.1.1 "Registrar" shall mean and refer to the Registrar, NU

2.1.2 "Project Manager" shall mean and refer to the person/Project Management Consultants (PMC) nominated as Project Manager by NU and shall report to Engineer in Charge.

2.1.3 "Architect Consultants" shall mean and refer to the Consultants appointed by NU as Architect Consultants.

2.1.4 "MEP Consultant" shall mean and refer to the Consultants appointed by "Architect Consultants" as MEP Consultants.

2.1.5 "Engineer-in-Charge" shall mean and refer to an authorized Engineer Officer appointed by NU who shall supervise and be In-Charge of the work.

2.1.6 "Bidder" shall mean and refer to an individual, proprietary firm, firm in partnership, limited company (private or public) or corporation but shall not include a joint venture and special purpose vehicle.

2.1.7 "Year" means financial year unless stated otherwise.

2.1.8 "Market Rate" shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site (where the work is being executed) involved in executing that item plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits, provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.

3. METHOD OF APPLICATION:

3.1 If the bidder is an individual, the application for submitting tender shall be signed by such individual above the full type-written name and current address.

3.2 If the bidder is a **proprietary concern**, the application for submitting tender shall be signed by the proprietor above full type written name and the full name of the proprietor firm with its current address.

3.3 If the bidder is a partnership firm, the application for submitting tender shall be signed by all the partners of the partnership firm above their full typewritten names and current address, or, alternatively, by one or more partners holding power of attorney for the firm and/or other partners. A notarized copy of such power of attorney shall be submitted along with the application and it must be disclosed that the firm is duly registered under the **INDIAN PARTNERSHIP ACT 1932**. The application shall also be accompanied with a notarized copy of the partnership deed and current addresses of all the partners of the firm.

3.4 If the bidder is a limited company or a corporation, the application for submitting tender shall be signed by a duly authorized person holding power of

attorney for signing the application accompanied by a copy of the power of attorney. The bidder shall also furnish a notarized copy of the Memorandum and Articles of Association of the company.

3.5 **FINAL DECISION MAKING AUTHORITY -** NU reserves the right to accept or reject any tender and to annul the process and reject all tenders at any time without assigning any reason thereof or incurring any liability to the bidders.

3.6 Particulars of the work given in Brief are to be considered Provisional. They are liable to change and must be considered only as advance information to assist the Bidders.

4. SITE VISIT

4.1 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 the this tender document. Bidders are requested to provide prior intimation before site visit through email at electrical.electronics@nalandauniv.edu.in

5. INITIAL CRITERIA FOR ELIGIBILITY (TECHNICAL TENDER)

5.1 The eligibility criteria applicable for the bidders for the present tender in terms of the scope of Work shall be:

Three similar works (40%) each costing not less than Rs. 5.40 Crore.

OR

Two similar works (60%) each costing not less than Rs. 8.10 Crore.

OR

One similar work costing (80%) not less than Rs. 10.80 Crore.

For the purpose of this clause, "similar work" shall mean "Augmented Reality, Virtual Reality, Audio & Visual" works for buildings like Libraries/ Museum/ Offices/ /Auditoriums/ IT Parks / Research and Development center's / Universities / Colleges including IT & LAN Networking, DMX controller etc within a single order in last seven years in India".

5.2 The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the previous day of the last day of submission of the Tender.

5.3 The bidder should have had **average annual financial turnover** (gross) of **Rs. 6.75 Crores** of similar works during the immediate last five consecutive financial years balance sheets, ending 31st March 2025, duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average.

5.4 The bidder **should not have incurred any loss** (Profit after tax should be positive) in more than **two (2) years** during available last five consecutive financial years balance sheets, ending 31st March 2025, duly certified and audited by the Chartered Accountant.

5.5 The bidder shall furnish a **solvency certificate of value not less than Rs. 5.40 Crores** certified by his bankers as per **Form-B**.

5.6 The bidder shall have sufficient number of technical and administrative employees for proper execution of the Contract. The bidder shall have to submit a list of these employees stating clearly how these would be involved in this work within 15 days of award of work.

5.7 The agency/ Firm who have been debarred/ blacklisted by the Nalanda University during the past 2 years shall not be eligible to bid for this tender and if submitted, their bid shall be summarily rejected.

6. Evaluation Criteria for Eligibility (Technical Tender)

6.1 The details submitted by the bidders will be evaluated in the following manner:

6.1.1 The initial criteria for eligibility prescribed in para 5 above in respect of experience of eligible similar class of works completed, loss, solvency and financial turn over etc. shall be first scrutinized and the bidder's eligibility for the work shall be determined.

6.1.2 The bidders qualifying the initial criteria as set out in Para 5.0 above will be evaluated by scoring method on the basis of details furnished by such bidders. The detailed scoring method including all parameters & attributes have been placed under **FORM F** below.

6.1.3 The owner reserves the right to restrict the list of such qualified contractor to any number deemed suitable by it.

6.1.4 **Evaluation of Performance: 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 will 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. The bidder shall submit a self-certified self- evaluation calculation sheet for evaluation parameters mentioned in Form F.

6.1.5 To become eligible for short-listing, the bidder shall secure at least 50 % marks in each section A, B, C, and D and 70% marks in aggregate. However, the qualifying 50% marks must be on both the attributes of section A separately. 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.

7. FINANCIAL INFORMATION

The bidder shall furnish the Annual Financial Statements for the last five (5) years ending 31st March 2025 in "Form A" and Solvency Certificate in "Form B".

8. DISCLOSURE OF EXPERIENCE IN SIMILAR WORKS

The bidder shall furnish the List of eligible similar works successfully completed during the preceding seven years (ending previous day of the last day of submission of tenders) in 'Form C'.

9. ORGANISATION INFORMATION

The bidder shall be required to submit the information in respect of its organization in **Form E.**

10. LETTER OF TRANSMITTAL

The bidder shall submit the Letter of Transmittal in the format as prescribed in this document.

11. OPENING OF THE FINANCIAL TENDER

After evaluation of applications, a list of short-listed agencies will be prepared. Thereafter, the financial tenders of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place in the presence of the qualified bidders or their representatives. The validity of the tenders shall be **90 (Ninety) days** and shall be reckoned from the date of opening of the Technical Tender.

12. AWARD CRITERIA

12.1 The Owner reserves the right, without being liable for any damages or any obligation to inform the bidder, to:

12.1.1 Amend the scope and value of Work to the bidder.

12.1.2 Reject any or all of the applications without assigning any reason.

12.1.3 Any effort on the part of the bidder or his agent to exercise any influence or to pressurize the Owner shall result in rejection of his tender. The Owner clarifies that any kind of canvassing or any act of similar nature is expressly prohibited.

13. CRITERIA FOR EVALUATION IN QUALITY AND COST BASED SELECTION (QCBS) PROCESS (as per GFR Rules) –

13.1 The quality of proposals received through this tender shall be assessed through **QUALITY AND COST BASED SELECTION (QCBS)** process (as per GFR 2017 Rule 192)**.** Initially the quality of technical proposals shall be scored as per criteria mentioned under Para 7 & 8 above. Only those responsive proposals that have achieved at least minimum specified qualifying score in quality of the technical proposals shall be considered further.

13.2 Thus the score achieved by the respective technically qualified bidder,

after evaluation of the technical bids based on the criteria stipulated under Para 6 above, shall be denoted as **Tn.**

13.3 After opening and scoring the financial proposals of technically qualified responsive bidders, a final combined score shall be arrived at by giving predefined relative weight ages for the score of quality of the technical proposal and the score of financial proposal.

13.4 The Financial Bids of technically qualified bidders will be opened on the prescribed date in the presence of bidder representatives.

13.5 Financial bids which appear to be either grossly under quoted or over quoted are liable to be rejected and this will be at the sole discretion of the Owner.

13.6 The bidder with lowest qualifying financial bid (L1) will be awarded 100% score (amongst the bidders which did not get disqualified on the basis of para 16.5 above). Financial Scores for other than L1 bidders will be evaluated using the following formula –

Normalized Financial Score of a Bidder (Fn) = {(Quoted Price of L1 / Quoted Price of the respective Bidder) X 100} %

(Adjusted to two decimal places)

13.7 Only fixed price financial bids indicating total price for all the deliverables and services specified in this NIT of EPC tender will be considered.

13.8 The bid price will include all taxes and levies including GST and shall be in Indian Rupees and mentioned separately.

13.9 Any conditional bid would be summarily rejected.

13.10 Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected.

13.11 The Tender Evaluation Committee appointed by the Competent Authority at Nalanda University would evaluate the commercial bids in isolation and in comparison, with other commercial bids to confirm whether all foreseeable & probable risks have been factored in appropriately at the fair market price. Also the ability of the bidder to absorb the adverse risk position shall also be evaluated.

13.12 In case the Tender Evaluation Committee feels that the commercial risks have not factored in all such costs & risks mitigation plan and necessary contingency, the commercial bid proposal may be rejected.

13.13 The Proposal Evaluation Committee shall also confirm whether any new

avenues of costs OR revenues should not be mentioned in the Price Bid, which was not detailed out previously in the Technical Bid.

14. COMBINED AND FINAL EVALUATION

14.1 The technical and financial scores secured by each bidder will be added using weight age of 70% and 30% respectively to compute a Composite Bid Score. The bidder securing the highest Composite Bid Score will be adjudicated as the most responsive Bidder for award of the Project. The overall score will be calculated as follows:

Bn = 0.70 * Tn + 0.30 * Fn

Where,

Bn = overall score of the Bidder

Tn = Technical score of the Bidder (out of maximum of 100 marks achieved based on technical bid evaluation criteria under Para 8 above)

Fn = Normalized Financial score of the Bidder (as mentioned in Para

13.6 above)

14.2 In the event the bid composite scores are tied, the bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project

INFORMATION REGARDING ELIGIBILITY CRITERION
LETTER OF TRANSMITTAL

From:

To

The Registrar,

Nalanda University, Rajgir, Bihar.

Dear Sir,

Subject: ***(Name of Work)***

TENDER NO : _____

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

I/We hereby certify that all the statement made and information supplied in the enclosed Forms A to J and accompanying statement are true and correct in all respects and no information has been concealed and misrepresented.

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.

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.

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

a.

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)

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).

Sl. No.	Description	Years				
		2020-21	2021-22	2022-23	2023-24	2024-25
i)	Gross Annual turnover					
ii)	Turnover on similar works					
iii)	Profit/Loss					

Financial arrangements for carrying out the proposed work.

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 INSTURCTIONS:

(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

LIST 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 Compl Etion	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									

*Indicate gross amount claimed and amount awarded by the Arbitrator.

* 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.

SIGNATURE OF BIDDER (S)

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

PERFORMANCE REPORT OF WORKS REFERRED TO IN 'FORM C'

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	
	(i) 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/Satisfactory/Poor
	2) Financial Soundness	Outstanding/Very Good/Good/Satisfactory/Poor
	3) Technical Proficiency	Outstanding/Very Good/Good/Satisfactory/Poor
	4) Resourcefulness	Outstanding/Very Good/Good/Satisfactory/Poor

	5) General Behaviour	Outstanding/Very Good/Good/Satisfactory/Poor
Dated: Stamp:		

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.

(To be certified by an officer not below the rank of Executive Engineer or equivalent of the client department / institution)

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, Service Tax 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		
	2		
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.		

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	In which field of Electrical Engineering the bidder has specialization and interest?	
9	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

ELIGIBILITY CRITERION FOR TECHNICAL EVALUATION OF EPC CONTRACTORS

Sl. No.	Attributes	Maximum Marks	Remarks
A	**Financial Strength** (a) Average annual turnover (a) Solvency Certificate	**15 marks** (10 marks) (5 Marks)	(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more (iii) In between (i) & (ii) on pro-rata basis
B	**Experience in similar class of works**	**20 Marks**	(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more (iii) In between (i) & (ii) on pro-rata basis
C	**Presentation of the Bidder –**	**25 Marks**	**Shall be evaluated based on –**

	(i) Proposed Conceptual Plan, Specifications & 3D views	(20 Marks)	**Evaluation Parameters -** 1) Overall Conceptual Integration of AV, AR, VR & CARC Lab Systems 2) Evaluation shall be based on the clarity and innovation in integrating Audio Visual, Augmented Reality, Virtual Reality and CARC Lab systems into the proposed conceptual plan, ensuring functional relevance to academic, research and experiential learning needs of Nalanda University. 3) Contextual Alignment with Nalanda University Campus & Academic Vision 4) Preference shall be given to proposals that demonstrate visual, functional and technological coherence with the existing campus planning, architectural language and academic ethos of Nalanda University, without imposing intrusive or incompatible system layouts. 5) Technology Sustainability & Energy-Efficient AV Design 6) Assessment shall consider the incorporation of energy-efficient AV equipment, low-power immersive systems, intelligent controls, automation, and network optimisation strategies contributing towards reduced carbon footprint, aligned with GRIHA 5-Star sustainability principles. 7) User Comfort, Ergonomics & Immersive Experience Quality 8) Evaluation shall focus on user comfort and experience in AV, AR, VR and CARC lab environments, including viewing angles, audio clarity, illumination levels, immersive depth, spatial orientation, and safe occupancy without causing fatigue, congestion or disorientation. 9) System Flexibility, Scalability & Future-Readiness 10) Proposals shall be evaluated on their ability to provide modular, scalable and future-ready AV and immersive systems, capable of technology

			upgrades, content expansion and reconfiguration over the life cycle of the facility. 11) A floor-wise functional AV/AR/VR zoning plan in line with the enclosed library layout shall be considered desirable. 12) Technology & Equipment Selection: Evaluation shall consider the suitability of AV, AR, VR and CARC lab equipment selection with respect to: • Performance and reliability • Compatibility and interoperability • Ease of maintenance and lifecycle support • Availability of OEM support in India • Compliance with sustainability norms and Owner's requirements as stipulated in this EPC NIT 13) The above parameters shall be assessed based on conceptual drawings, system layouts, technical narratives and 3D visualizations submitted by the bidder, with reference to civil, interior or furniture works, which are outside the scope of this evaluation. this EPC NIT.
	(ii)Innovative Design and thematic concept	(5 Marks)	Any value addition from the bidder assessed through Proposal document / methodology of construction proposed etc.
D	**Performance on works (Time Over Run)**	**15 Marks**	**Shall be evaluated based on –**

<table>
<tr><td></td><td colspan="3">

Parameter Calculation for Marks

If TOR =	**1.00**	**2.00**	**3.00**	**>3.50**
Without levy of Compensation	**15**	**11.25**	**7.5**	**7.5**
With levy of compensation	**15**	**3.75**	**0**	**-3.75**
Levy of compensation not yet decided	**15**	**7.5**	**0**	**0**

For the above calculations

TOR = AT/ST

Where, AT = Actual Time taken for completion of the work

ST = Stipulated Time in the agreement (+) justified period of extension of time.

Note:

Marks for value in between the stages indicated above is to be determined by straight line variation basis.
</td></tr>
<tr><td>E</td><td>Performance on works (Time Over Run)</td><td>25 marks</td><td>

Maximum – 25 Marks

(Based on Form-D)

Outstanding Quality – 100% Marks

Very Good Quality – 80% Marks

Good/Average/Satisfactory Quality – 60% Marks

Poor Quality - 0 Marks

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 Charge.

The bidder must submit precise certificates issued by the Owner/owner signed by an officer not below the rank of Executive Engineer or Project Manager or equivalent with completed photographs of the project (s).
</td></tr>
</table>

Note:

(1) To become eligible for short-listing, the bidder shall secure at least 50 % marks in each section A, B, C, and D and 70% marks in aggregate. However, the qualifying 50% marks must be on both the attributes of section A separately. 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.

(2) The bidder meeting the minimum eligibility criteria shall be allotted 60% marks and meeting twice the eligibility criteria shall be given 100% marks in all sections. In between shall be calculated on pro-rata basis.

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.

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.

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

_____

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±10% numbers of skilled and 25±10% numbers of unskilled labourers 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.

Technical Staff	Requirement of Technical staff		Minimum experience of Execution in work (Years)
	Qualification	Number	
Senior AV Designer	Senior Architect	1	10
Project Manager	Graduate Engineer/Architect	1	10
Site Engineer	Graduate Engineer Or Diploma Engineer	1	5 10
Planning Engineer / Billing Engineer	Graduate Engineer Or Diploma Engineer	1	2 5
Store In-Charge	Experienced Store Keeper		5

INTEGRITY PACT DECLARATION

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. Therefore, NU and the bidder agree to the following:

NU shall remain committed to follow the principles of transparency, equity, and competitiveness in public procurement.

i) 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.

ii) 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.

iii) 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.

INTEGRITY PACT DECLARATION

(BY NU)

To,

……..,

……..,

Sub: Notice Inviting Tender for AR, VR, AV, ELV and IT works including, etc. for the Administration Block at the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar.

Dear Sir,

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

INTEGRITY PACT DECLARATION

(BIDDERS)

To,

The Registrar,

Nalanda University, Rajgir, Bihar

Sub: Submission of Tender for _____(Name of Work)_____.

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 of .……2021

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 _____(Name of Work)_____. ("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 relationship 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(s)/Contractor(s)

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(s)/Contractor(s) 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(s)/Contractor(s) 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(s)/Contractor(s) 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(s)/Contractor(s) 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(s)/Contractor(s) 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(s)/Contractor(s) 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(s)/Contractor(s) will not instigate any third person to commit offences mentioned above or be an accessory to such offences.

4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means wilful 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(s)/Contractor(s) 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(s)/Contractor(s), 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(s) 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 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(s)/Contractor(s) 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 Contractor/Vendor twelve (12) months after 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 intensions.

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:

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

FORMAT OF AGREEMENT

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 **" _____(Name of Work)_____"** 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 **"_____(Name of Work)_____",** 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;
vii) Drawings;
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 _____ _____

SECTION 2

PROFORMA OF SCHEDULES: A TO F

SCHEDULE A: It will be decided based on design confirmation by the University. However, minimum sequence of the items is tabulated herein for AR, and VR

Zone	System	Category	Item Description	Technical Specification (Indicative)	Qty	Unit	Scope	Remarks
Entrance – Left Wall	Digital Display	LR / 3D-Ready Display	Indoor LED Wall (Wall-sized)	Fine pixel pitch P1.8–P2.5, indoor, front service, seamless tiles, high brightness, wide viewing angle	1	Set	Vendor	Full-length entrance wall integration
Entrance – Left Wall	Digital Display	Control	LED Video Processor	4K processor, multi-input, redundancy support, scaling & mapping	1	No	Vendor	Central display control
Entrance – Left Wall	Digital Display	Structure	Mounting & Support Framework	Custom MS / aluminum structure with service access	1	Set	Vendor	Coordinated with civil finishes
Entrance – Left Wall	Content	LR / 3D Content	"Nalanda Burning Script" Visual Narrative	Cinematic motion content, historical storytelling, loop-based playback, AR/3D-ready assets	1	Lot	Vendor	Primary storytelling element
Entrance Area	AV System	Portable AV	Portable AV System for Exhibitions	Mobile AV rack with media player, audio interface, power distribution	1	Set	Vendor	Temporary exhibitions & events
Entrance Area	Audio	PA System	Full-Range PA Speakers	Wide-dispersion speakers suitable for indoor public spaces	6	Nos	Vendor	Even audio coverage
Entrance Area	Audio	Low Frequency	Active Subwoofers	Active subwoofer units for speech & cinematic depth	2	Nos	Vendor	Optional during events
Entrance Area	Audio	Processing	Digital Audio Processor (DSP)	EQ, delay, limiter, scene presets	1	No	Vendor	On-demand activation
Entrance Area	Control	Audio Control	Audio Control Interface	Touch / tablet-based basic control	1	No	Vendor	Non-technical operation
Entrance Area	Electrical	Power Backup	Online UPS System	5–10 kVA, minimum 30-minute backup	1	Set	Vendor	AV system protection
Entrance Area	Networking	AV Network	Managed Network Switch	AV-grade gigabit switch	1	No	Vendor	Media & control connectivity
Services	Integration	System Integration	Installation, Testing & Commissioning	Complete system integration & calibration	1	Lot	Vendor	Pre-handover
Services	Handover	Documentation & Training	As-built drawings, SOPs, staff training	1	Lot	Vendor	Operational readiness	

Zone	System	Category	Item Description	Technical Specification (Indicative)	Qty	Unit	Scope	Remarks
AR Studio	AR System	AR Hardware	AR / MR Headsets	Enterprise-grade AR/MR headsets with spatial anchoring	6	Nos	Vendor	Guided visitor experiences
AR Studio	AR System	Tracking	Spatial Tracking System	SLAM / optical tracking with fixed anchors	1	Set	Vendor	Accurate AR alignment
AR Studio	Visual System	LR Display	Laser Projection System	High-lumen laser projectors, edge-blending capable	4	Nos	Vendor	Large-scale immersive visuals
AR Studio	Visual System	3D Display	Volumetric / Holographic Display System	Projection-based holography or volumetric visuals	1	Set	Vendor	3D spatial storytelling
AR Studio	Compute	Rendering	High-Performance Render Servers	GPU-based servers for real-time AR & 3D rendering	2	Nos	Vendor	Real-time content processing
AR Studio	Audio	Immersive Audio	Surround Audio System	Multi-channel surround system with subwoofer	1	Set	Vendor	Spatial sound design
AR Studio	Control	Central Control	Integrated Control System	Unified monitoring, show control & fail-safe modes	1	Set	Vendor	Single-point operation
AR Studio	Lighting	Architectural	Scene-Based Lighting System	DMX-controlled ambient & effect lighting	1	Lot	Vendor	Mood & transitions
AR Studio	Content	3D / AR Content	Immersive Experience Content	Library, Fire & Revival chapters, cinematic quality	1	Lot	Vendor	Core storytelling assets
AR Studio	Software	AR Platform	AR Experience Software & CMS	Custom AR application with content management	1	Lot	Vendor	Scalability & updates
AR Studio	Infrastructure	Electrical	Dedicated Power & UPS	Clean power with backup	1	Set	Client / Vendor	As finalized
Services	Integration	System Integration	Installation, Calibration & Testing	End-to-end system commissioning	1	Lot	Vendor	Pre go-live
Services	Handover	Training & AMC	Operator training DLP with AMC	Training, maintenance & support	1	Lot	Vendor	Post-handover

Sl. No.	Category	Item	Unit	Qty.
1	AV/IT systems	Display units, PA systems, OPAC kiosks, servers, networking as per technical specification	Sqm	16844
2	Lighting & Electrical	Decorative & task lighting, wiring, controls. as per technical specification	Sqm	16844
3				

Design should confirm the floor wise space management master sheet.

SCHEDULE B

Schedule of materials to be issued to the Contractor

Sr. No.	Description of item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of issue
1	2	3	4	5
	NIL	NIL	NIL	NIL

SCHEDULE C

Tools and plants to be made available to the Contractor:

Sr. No.	Description of item	Quantity
1	2	3
	NIL	NIL

SCHEDULE D

Extra schedule for specific requirements / documents for the work if any.

The bidder may give additional information other then sought for in the preceding paragraph.

SCHEDULE E

Reference to General Conditions of Contract. CPWD 2019 corrected upto last date of receipt of bid.

Name of Work: Engineering, Procurement and Construction (EPC) of AV Works for the Nalanda Library Building at the Main Campus of Nalanda University at Rajgir, Bihar including items as per requirement.

Estimated cost of work: Rs.13.50 Crores

Earnest Money: INR 23.50 Lacs

(ii) Performance Guarantee: 5% (Five percent) of tendered value

(iii) Security Deposit : 2.5% (Two Point Five Percent) of tendered value

SCHEDULE F (GENERAL RULES & DIRECTIONS)

Authority Inviting Tender. - Registrar, Nalanda University, Rajgir, Bihar.

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses "Deviation, Extra items and pricing & Deviation submitted items and pricing" Please refer below

Definitions:

Sr. No	DESCRIPTION	DETAILS
1	**Owner**	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	**Architect Consultants**	Consultants, appointed by NU as Architect Consultants.
6	**Percentage on cost of materials and Labour to cover all overheads and profits for Extra Items**	15% For AV works.

CLAUSE 1: Performance Guarantee

1	**Time allowed for submission of Performance Guarantee Programme Chart (Time and Progress) and applicable labour Licenses, Registration with EPFO, ESIC, and BOCW Welfare board or proof of applying therefrom the date of issue of letter of acceptance**	15 (Fifteen) Days
2	**Maximum allowable extension beyond the period provided in 1 above**	7 (Seven) Days with late fee @ 0.1% per day of the Performance Guarantee amount.

CLAUSE 2: Compensation for Delay

1	**Authority for fixing compensation under its clause**	Vice Chancellor, Nalanda University, Rajgir, Bihar

CLAUSE 5: Time and Extension for Delay

1	**Number of days from the date of issue of letter of acceptance for reckoning date of start.**	15 (Fifteen) days from date o issue of acceptance of awar letter or handing over of site to the agency, whichever is latter.

Milestone(s) as per table given below:-

Though the overall time of completion is 6 months the contractor shall complete the works in time so that the building can be occupied as per the university's schedule. Any delay in achieving specified timeline given in the Milestones (as mentioned below) of these building shall invite withholding of payments as indicated against each and every Milestone:

Project Milestone Schedule:			
Sr. No.	Description of Milestone (Physical)	Time allowed in Months (from date of start)	Amount to be with-held in case of non-achievement of milestone
Milestone of Works (Time duration 6 Months)			
1	Submission of AR, VR, AV drawings, floor plans, elevations, 2D & 3D models, walkthrough in different options for approval of the Competent Authority	15 Days	0.5% of tendered value.
2	After approval submission of GFC drawings and submission of all samples for each item to be executed under this tender along with all technical data sheet and test certificates	30 days	0.5% of tendered value
3	TDS submission	45 Days	1% of tendered value
3	Completion of all wall paneling, acoustic works service bays, false ceiling, workstations for digital library, research cubical, exhibition hall displays, magazine stands, newspaper stands, etc.	60 Days	1% of tendered value
4	Completion of all other items including windows, doors, flooring, carpeting, tack board, white board, signage and wayfinding, etc. for all areas, Decorative & task lighting, wiring, controls, etc.	75 Days	0.5% of tendered value
5	Completion of supply and installation of all movable furniture including book racks, reading chairs, reading tables, customized tables, conference tables, classroom furniture, book trolleys, lounge seating, etc. all complete.	100 Days	0.5% of the tendered value

6	SITC of all Display units, PA systems, OPAC kiosks, servers, networking,	110 Days	0.5% of the tendered value
7	Final Handing over of all areas	120 Days	0.5 % of the tendered value

Note: Withheld amount shall be released if and when subsequent milestone is achieved.

1	**Total Time allowed for execution of work**	6 (Six) Months
2	**Authority to decide Extension of Time**	Vice Chancellor, Nalanda University, Rajgir, Bihar
3	**Rescheduling of Milestones**	Engineer In Charge, and the Rescheduling is to be approved by Vice Chancellor, Nalanda University (NU)

Clause 5

Part	**Portion of site**	**Description**	**Time Period for handing over reckoned from date of issue of letter of intent.**
1	**Building**	Handing over of the building for installation work	Ready to be handed over in all respect

Schedule of handing over of site

CLAUSE 7 : Payment on Intermediate Certificate to be regarded as Advances

As per Detailed Clause

Clause 7A

1	**Whether Clause 7 A shall be applicable**	Yes

List of Testing Equipment.

1	**List of Testing equipment to be provided by the contractor at site laboratory.**	As per (Table-1) of Annexure-1 attached.

CLAUSE 10B (i) & 10B (ii) : Secured Advance & Mobilization Advance.

1	**Secured advance on Non-perishable materials & Mobilization Advance.**	Applicable.

CLAUSE 11 : Work to be executed in accordance with Specifications, Drawings, and Orders etc.

1	**Specifications**	Detailed Specifications, CPWD specifications and related IS/IEC and other mentioned codes For AV, AR, VR, IT, ELV, IT works

CLAUSE 12 : Deviations/Variations/ Extent and Pricing

1	**Deviation limit beyond clause 12 shall apply for all building work (Above plinth level).**	30 % (Thirty per cent).
2	**Deviation Limit beyond clauses 12 for work up to plinth level**	100% (One Hundred per cent)

CLAUSE 16 : Action in casework not done as per Specifications

1	**Competent Authority for deciding reduced rates.**	Engineer in Charge

CLAUSE.17: Contractor Liable for Damages/ Defects during defects liability period

1	**Defects Liability Period**	24 months from completion of the project as a whole.

CLAUSE 38: Settlement of Disputes

1	**Settlement of Disputes**	Committee appointed by Vice Chancellor of NU.

Employment of Technical Staff and employees

Requirement of Technical Representative(s) in progressive manner in satisfaction of Project Manager & Engineer-In-Charge with its recovery Rate.

S. No.	Minimum Qualification of Technical Representative	Discipline	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause Figures
1.	Senior AV Designer	AV, AR/VR Architect	1	10	Rs. 30,000/-
2.	Project Manager Graduate Engineer/Architect	Electrical/AV/AR/ Engineer/ Architect	Ten Years	One	Rs. 30,000/ p.m.
3.	Graduate Engineer Or Diploma Engineer	Electrical Engineer	Five Years Ten Years	One	Rs. 25,000/ p.m. Rs. 25,000/ p.m.
4.	Graduate Engineer Or Diploma Engineer	Planning or Billing Engineer	Two Years Five Years	One	Rs. 15,000/-p.m. Rs. 15,000/-p.m.
5.	Experience Storekeeper	Store- In-charge	Five years	One	Rs. 15,000/-p.m.

SECTION 3

GENERAL RULES & DIRECTIONS

3.1 General Rules & Directions:

1) The Tender shall state the work to be carried out, the date for submitting and opening tenders and the time allowed for executing the Work, the amount of earnest money to be deposited with the tender, the amount of the security deposit and performance guarantee to be deposited by the successful bidder and the percentage if any, to be deducted from the security deposit. Copies of the specifications, designs and drawings and any other documents required in connection with the Work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the bidder at the office of NU during office hours.

2) The work must be executed by valid and relevant electrical license holder. The contractor has to submit copy of the electrical license within 7 days from date of Letter of Intent.

3) In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on behalf of such partner by a person holding a valid power of attorney from such absentee partner specifically for the purposes of the tender. Such power of attorney shall be produced along with the tender. Any firm submitting its bid pursuant to the tender shall be duly registered under the **Indian Partnership Act, 1952**.

4) Receipts for payment made on account of completed Work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

5) This tender being a Percentage Rate Tender, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if:-

    a) The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.

    b) The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender.

    c) The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender.

6) Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected.

7) In case the lowest tendered amount (estimated cost +/- amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and suitable penal actions shall be taken as per Bid Security Declaration.

8) If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of the Tender Evaluation Committee and any other member nominated by the Competent Authority at NU& the lowest contractors those have quoted equal amount of their tenders.

9) In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after taking suitable action as per Bid Security Declaration form of each contractor.

10) Contractor(s), action has been taken as per Bid Security declaration because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.

11) The NU will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, the contractor shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned above. In the event of a tender being rejected, the Bid Security Declaration shall thereupon be returned to the respective bidders.

12) The NU shall have the right of rejecting all or any of the tenders and shall not be bound to accept the lowest or any other tender.

13) The receipt of an accountant or clerk for any money paid by the bidder shall not be considered as an acknowledgment for payment to the NU and the bidder shall be responsible for ensuring that a receipt signed by the NU or a duly authorized cashier is obtained for monies paid.

14) The bidders shall sign a declaration under the Officials Secret Act, 1923, for maintaining secrecy of the tender documents, drawings or other records connected with the Work awarded to the bidder. The unsuccessful bidders shall return all the drawings shared during the course of the tender process.

15) Use of correcting fluid, anywhere in tender document shall not be permitted. Such tender shall be liable to be rejected.

16) This tender being a Percentage Rate Tender, only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.

17) This tender being a Percentage Rate Tender, the bidder shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.

18) The Contractor whose tender is accepted, shall be required to furnish performance guarantee of 3% (Three per cent) of the tendered amount within the period specified herein. Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.

19) The bidder whose tender is accepted shall be required to furnish by way of Security Deposit for the fulfilment of the Contract, an amount equal to 2.5% of the tendered value of the work. The Security Deposit shall be collected by deductions from the running bills as well as final bill of the Contractor at the rates mentioned above. The Security Deposit shall also be accepted in cash or in the shape of Government securities, Fixed deposit receipt of a scheduled bank or State Bank of India will also be accepted for this purpose provided conformity advice is enclosed.

20) On acceptance of the tender, the name of the accredited representative(s) of the bidder, responsible for taking instructions from the Engineer-in-Charge, shall be communicated in writing to the Engineer-in-Charge/Architect Consultants with a copy to the Owner.

21) GST or any other tax applicable in respect of the Contract shall be payable by the Contractor and NU shall not entertain any claim whatsoever in respect of the same. However, Component of GST at time of Supply of Service (as provided in CGST Act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of the tender including extension if any.

22) The contractor shall give a list of both Nalanda University officials/employees and/or any other official/employees of the Consultants appointed by NU in regard to this Project related to him.

23) The tender for the work shall not be witnessed by a contractor or contractors who himself/ themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the

contractors tendering, as well as witnessing the tender, liable to summary rejection.

24) The ESI and EPF contribution on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

25) The Contractor shall comply with the provisions of the Apprentices Act, 1961, and the rules and orders issued there under from time to time. Any failure to so shall amount to a breach of the Contract and the Owner may in its discretion, without prejudice to any other right or remedy available in law, cancel the Contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation under the provisions of the Apprentices Act, 1961.

SECTION 4

Scope of Work, User Requirements & Technical Specifications

Output: 1 x twisted pair output on RJ-45

VISUAL SYSTEM.

General : This guidelines are just be reference and minimum subject to confirmation of the design requirements duly approval of the Engineer In charge(EIC). The higher specification will not attract the extra cost towards the betterment and design confirmation. The vendor will be bound to design and execute subject to the confirmation and satisfaction of the EIC.

CARC Audiovisual Archives

AUDIOVISUAL (AV) ARCHIVES (Films, Tapes, Discs, Digital Media)

1. Storage Furniture

1.1 AV Media Racks

Purpose: Magnetic tapes, optical discs, film reels

Specifications

Vertical storage for tapes

Non-magnetic materials

Ventilated design

2. Digitization

2.1 AV Digitization Workstations

Includes

Vibration-free desks

Equipment racks

Cable management systems

Anti-static surfaces

Scanners

AV Storage & Digitization Lab

Common Archival Resource Center (CARC) – Digitisation, Storage & QR-Based Access System

A. Archival Scanning & Capture Systems

Planetary / Overhead Book Scanner (non-contact)

For fragile manuscripts and rare books
Output: 1 x twisted pair output on RJ-45

Cold LED lighting, cradle support, V-shape book holder
High-Resolution Flatbed and V Scanner
For loose sheets, maps, photographs
Large Format Scanner
For palm-leaf manuscripts, scrolls, oversized documents
Automatic Page-Turning Scanner (Optional)
For bound volumes in good physical condition
DSLR / Mirrorless Camera-Based Digitisation Rig
Copy stand, calibrated lighting, colour targets
OCR & ICR Compatible Capture Software
Multi-language support (Sanskrit, Pali, Prakrit, regional scripts)

B. Image Processing & Quality Control
Image Processing Workstations
High-performance CPU, GPU, colour-calibrated monitors
Colour Management & Calibration Tools
Colour targets, spectrophotometer
Post-Processing Software
De-skewing, cropping, de-warping, noise reduction
Metadata Tagging & Indexing Software
Dublin Core / MARC / archival metadata standards
Quality Assurance & Version Control Tools

C. Digital Archival Storage & Data Management
Central Digital Archival Server (On-Premise)
Redundant power supply, RAID configuration
Network Attached Storage (NAS) / SAN
Scalable storage for high-resolution master files
Cold Storage / Archival Backup System
LTO tape library or WORM storage
Cloud Backup Integration (Hybrid Model)
Geo-redundant disaster recovery
Digital Asset Management System (DAMS)
Controlled access, audit logs, watermarking
Output: 1 x twisted pair output on RJ-45

D. QR Code Generation & Access Extension
QR Code Generation & Management Software
Unique QR per manuscript / book / folio
QR-to-Digital Archive Mapping Engine
Links QR code to metadata + digital object
Mobile / Tablet QR Scanning Application
Role-based access (researcher / librarian / admin)
QR-Enabled Physical Labels / Tags
Archival-safe, non-invasive tagging
Offline QR Access Module (Local Network Mode)

E. User Access & Research Interface
Digital Reading & Viewing Stations
High-resolution displays, zoom & annotation tools
Secure Researcher Access Portal
Search, filter, compare manuscripts
Multi-Script Search & OCR Text Viewer
Citation & Export Tools
Academic referencing support
Access Control & DRM Module
Tiered permissions for rare content

F. Networking, Security & Infrastructure
High-Speed LAN & Structured Cabling
Firewall & Cyber Security Appliances
User Authentication & Role Management
Audit Trail & Activity Logging System
Environmental Monitoring System
Temperature, humidity sensors for archive safety

G. Training, Documentation & Compliance
Training for Archivists & Technical Staff
Standard Operating Procedures (SOPs)
Output: 1 x twisted pair output on RJ-45

Digitisation & Preservation Guidelines
Data Retention & Archival Policy Framework
Warranty, AMC & Lifecycle Support

H. Optional Advanced Extensions
AI-Based Script Recognition & Translation
3D Scanning of Artefacts / Inscribed Objects
Blockchain-Based Provenance Tracking
Public Access Kiosks with QR Interaction
Integration with National Digital Libraries / NDLI

Outcome of CARC System
Preservation of fragile manuscripts without physical handling
High-resolution digital master copies
QR-enabled instant retrieval and tracking
Secure long-term digital preservation
Controlled academic and public access

(1) DESIGN AND SITC OF HDMI TWISTED PAIR RECEIVER WITH 4k COMPATIBLE:

SITC of HDMI Twisted Pair Receiver, for receiving HDMI, control and analog audio up to 230 feet (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 WITH 4k COMPATIBLE.

The device shall receive HDMI plus control signal up to 230 feet (70 meters) over a shielded twisted pair CAT6 cable

Input: 1 x twisted pair on RJ-45

Output: 1 x twisted pair output 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

(2) HDMI TWISTED PAIR EXTENDER TRANSMITTER WITH 4k COMPATIBLE:

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.

The device shall transmit HDMI plus control signal up to 230 feet (70 meters) over a shielded twisted pair CAT6 cable

Inputs: 1 x HDMI, WITH 4k COMPATIBLE

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

(3) HDMI ACTIVE WALL PLATE WITH 4k COMPATIBLE

Design and SITC of HDMI active wall plate, 1 x HDMI input & 1 x CAT6 output supporting up to 230 ft. (70 meters), device should support HDCP and EDID transmission WITH 4k COMPATIBLE.

The device shall transmit HDMI plus control signal up to 70 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

(4) WIRELESS PRESENTOR SYSTEM WITH 4k COMPATIBLE

SITC of 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 WITH 4k COMPATIBLE

Wireless connection for up to 50 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®, gotomeeting®, Lync®, and webex®.

Simultaneous content display :- 4 user or higher

Supported Operating System :- Windows / Android / Mac

Should have minimum 1 x HDMI output

Should have Audio output

Should have minimum 1 x USB port

(5) HDMI SCALAR PLUS MATRIX SWITCHER – Minimum 8 video inputs, outputs - minimum 4 x video and 1 x audio WITH 4k COMPATIBLE

SITC of scalar cum 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, 1 x audio output. It shall support resolutions -4K. It shall support auto selection of inputs, and the device shall be EDID and HDCP compliant WITH 4k COMPATIBLE. The inputs and outputs shall be confirming to the requirements and as per the design approval by the Engineer In charge.

Input signals requirements: minimum 4 x HDMI plus minimum 2 x CAT6 inputs for accepting video over 230 feet (70 meters) over a shielded twisted pair CAT6 cable.

Output signals requirements: minimum 3 x HDMI plus minimum 1 x CAT6 output for transmitting video over 230 feet (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

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 4K.

(6) 1 x 8 HDMI DISTRIBUTION AMPLIFIER WITH 4k COMPATIBLE:

SITC of 1:8 Distribution Amplifier having 1 x HDMI input and minimum 8 x HDMI outputs, shall be EDID and HDCP compliant.

Input signals requirements : minimum 1 x HDMI

Output signals requirements : minimum 8 x HDMI

Video standards supported: the unit shall be EDID & HDCP compliant

(7) 1 x 4 HDMI DISTRIBUTION AMPLIFIER WITH 4k COMPATIBLE

SITC of 1:4 Distribution Amplifier having 1 x HDMI input and minimum 4 x HDMI outputs, shall be EDID and HDCP compliant.

Input signals requirements : minimum 1 x HDMI

Output signals requirements : minimum 4 x HDMI

Video standards supported: the unit shall be EDID & HDCP compliant WITH 4k COMPATIBLE.

(8) CONTROL PROCESSOR

SITC of Control Processor, with minimum ports as follows: 4 x bidirectional RS-232 serial ports, 1 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.

Control Processor shall have:

At least four 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.

(9) WIRED CONTROL PANEL

SITC of podium mountable, minimum 8-Button wired control panel for controlling various devices; it shall have - one volume control knob; minimum 3 x RS 232, 3 x Relays and 2 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.

However, following minimum requirement of ports shall be met:

Should have minimum 1 x Ethernet on RJ45 for monitoring and control over TCP/IP protocols, supporting minimum Fast Ethernet (10/100Mbps) speeds

Should have minimum 3 x bi-directional RS232 ports for control

Should have minimum 2 x IR ports (source/emitter ports)

Should have minimum 3 x relay ports

Should have minimum 1 x IR sensor for reading IR commands from devices

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

(10) **CEILING** MOUNT DOCUMENT CAMERA

Design and SITC of UHD/4K, ceiling mounted Document Camera with minimum 14 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.

Type: 4K/above Document Camera, Ceiling mounting
Output Resolution: XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), WXGA (1280 x 800), HD720p, Full HD 1080p and 4K.
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 RJ-45 connector
Power Supply: POE preferred or else via OEM’s adaptor
Type of mounting: ceiling mounted

(11) **TABLE** TOP MOUNTABLE DOCUMENT CAMERA

SITC of Full HD/1080p, Table Top Mountable Document Camera with minimum 14 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.

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 RJ-45 connector

Power Supply: POE preferred or else via OEM’s adaptor

Type of mounting: table top, movable.

(12) **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.

Podium touch monitor shall be compatible with Annotator hardware device.

(13) **SITC** of Desktop PC with Intel Core i7 or higher with min. 16GB of RAM DDR4, 1TB NVME SSD drive, 10/100/1000/2500 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 upto 1920x1200 and inclusive of 24" HDMI LED monitor with mounting accessories and customization for flush mounting in furniture.

It shall be supplied with Licensed Operating System Windows 11 pro or above, Licensed Microsoft Office latest version, USB wireless Keyboard, USB wireless Mouse, minimum 1 x USB2.0 spare port

(14) ULTRA SHORT THROW PROJECTOR, if required subject to the design approval.

SITC of Ultra Short Throw Projector - 3LCD Technology, minimum ANSI 6000 Lumens, 16:9 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 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.

Inclusive of standard or optional lens as per OEM to project on a 120" diagonal size screen.

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 120" diagonal projection screen. This may be a standard or optional accessory; however, cost for the same shall be inclusive.

Brightness: Minimum 6000 ANSI lumens or better

Resolution: Preferably 4K, or if 4K not available in the market then FHD (1920 x 1080) or better with 16:9 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.

(15) MINIMUM 10,000 LUMENS PROJECTOR

SITC of Laser type Projector - Minimum 10,000 ANSI Lumens, 16:9 Aspect Ratio, Resolution : UHD/4K, Minimum Ports - 1 x 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 wireless connectivity for configuration; 1 x USB 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.

Inclusive of standard or optional lens as per OEM to project on a 200".

Type of projection technology: 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 200" diagonal screen; however, cost for the same shall be inclusive

For providing projection on a High Gain Material Tubular Motorized Projection screen of size approximately 200" diagonal having aspect ratio of 16:9

Brightness : Minimum 10,000 ANSI lumens or better

Resolution : UHD (4K) or better with 16:9 Aspect ratio

Supported Interface : 1 x HDMI, 1 x HDBaseT (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.

(16) Gooseneck Microphone

SITC of Gooseneck Microphone consisting of - 1 x Gooseneck Microphone with base and programmable switch; Min. Frequency Response - 80Hz - 13 KHz, Polar Pattern: Cardioid; Transducer: Condenser type; Max SPL: min. 100dB; with 3 pin XLR connectivity, complete with standard accessories.

Frequency response: 80Hz to 13 KHz

Transducer Type: Condenser

Polar pattern: Cardioid

Max SPL/dynamic range: >100dB or better

(17) UHF Wireless Lapel Microphone

SITC of UHF True Diversity Wireless Microphone System consisting of - 1 x Receiver, 1 x Lapel Microphone with body pack; RF Frequency Range - as per respective OEM, however, minimum 8 or higher pre-programmed selectable channels per frequency range shall be available in the receiver; Polar Pattern : Cardioid / Hyper-cardioid / Super-cardioid; THD : <0.9% or better; RF Power : 20mW or better; S/N Ratio : >100 dB or better, PLL synthesized technology, complete with all cables and standard accessories. (All cables shall be original OEM supplied)

The wireless microphone system shall support simultaneous operation of 4 or more wireless microphones per room/area.

Diversity: True diversity or better

Frequency response: 80Hz to 15 KHz

Radiated Transmitter Power: Min. 20mW or better

Transducer Type: Condenser

Polar pattern: Omni Directional

S/N ratio: >100dB or better

(18) UHF Wireless Head-worn Microphone

SITC of UHF True Diversity Wireless Microphone System consisting of - 1 x Receiver, 1 x Head-worn Microphone with body pack; RF Frequency Range - as per respective OEM, however, minimum 8 or higher pre-programmed selectable channels per frequency range shall be available in the receiver; Polar Pattern : Cardioid / Hyper-cardioid / Super-cardioid; THD : <0.9% or better; RF Power : 20mW or better; S/N Ratio : >100 dB or better, PLL synthesized technology, complete with all cables and standard accessories. (All cables shall be original OEM supplied).

The wireless microphone system shall support simultaneous operation of 4 or more wireless microphones per room/area.

Diversity: True diversity or better

Frequency response: 80Hz to 15 KHz

Radiated Transmitter Power: Min. 20mW or better

Transducer Type: Condenser

Polar pattern: Cardioid

S/N ratio: >100dB or better

(19) UHF Wireless Handheld Microphone

SITC of UHF True Diversity Wireless Microphone system consisting of - 1 x Receiver, 1 x Handheld Microphone with transmitter; RF Frequency Range - as per respective OEM, however, minimum 8 or higher pre-programmed selectable channels per frequency range shall be available in the receiver; Polar Pattern : Cardioid / Hyper-cardioid / Super-cardioid; THD : <0.9% or better; RF Power : 20mW or better; S/N Ratio : >100 dB or better, PLL synthesized technology, complete with all cables and standard accessories. (All cables shall be original OEM supplied).

The wireless microphone system shall support simultaneous operation of 4 or more wireless microphones per room/area.

Diversity: True diversity or better

Frequency response: 80Hz to 15 KHz

Radiated Transmitter Power: Min. 20mW or better

Transducer Type: Dynamic

Polar pattern: Cardioid

S/N ratio: >100dB or better

(20) 12 x 8 AUDIO DSP (with AEC feature)

SITC of 12x8 DSP - Digital Matrix Processors, with 12 mic/line inputs and 8 outputs with AEC - Acoustic Echo Cancellation features.

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 1 x RS232 or 1 x USB port for control and configuration.

Gain : should have unbalanced output: -6 dB; balanced output: 0 dB

Frequency response : should be between 20 Hz to 20 kHz

THD + Noise : should have <0.01%, 20 Hz to 20 kHz

Input Impedance : should be minimum 8K ohm or better

Output Impedance : should be 210 Ohms or better

S/N or Dynamic range : should have >104 dB, 20 Hz to 20 kHz

Mounting Type : should be rack mountable

(21) SITC of 6x4 DSP - Digital Matrix Processors, with 6 mic/line inputs and 4 outputs.

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 1 x RS232 or 1 x USB port for control and configuration

Gain : should have unbalanced output: -6 dB; balanced output: 0 dB

Frequency response : should be between 20 Hz to 20 kHz

THD + Noise : should have <0.01%, 20 Hz to 20 kHz

Input Impedance : should be minimum 8K ohm or better

Output Impedance : should be 210 Ohms or better

S/N or Dynamic range : should have >104 dB, 20 Hz to 20 kHz

Mounting Type : should be rack mountable

(22) Ceiling Mount Speaker

SITC of full-range or 2-way minimum 4" ceiling mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 80 Hz - 19 kHz (-10dB), Power handling@70/100V : 30W or better, Sensitivity : SPL/W@1 Mtr - 86 db or better, Max SPL@1 Mtr - 100dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.

Frequency range (-10dB) : should be between 80 Hz to 19 kHz or better

Power Rating : minimum 30 W or better

Maximum Peak SPL @ 1m : 100dB or better

Drivers: Full range driver or 2-way - minimum 1 x 4” LF Driver & minimum 1 x 0.75” HF Driver

Coverage (conical): 100 degrees or higher

Sensitivity 1W @1m : 86dB or better

Impedance : 4/8 Ohms or 70/100V tapping operation

(23) Surface/Wall Mount Speaker (Wattage as per the design requirement)

SITC of full-range, minimum 3'' surface/wall mount loudspeaker, 4/8 ohms or 70V/100V operation, Frequency Response - 80 Hz - 19 KHz (-10dB), Power handling@70/100V : Capacity as per the design requirement or better, Sensitivity : SPL/W@1 Mtr - 84 dB SPL or better, Max SPL@1 Mtr - 100dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.

Frequency range (-10dB) : should be between 80 Hz to 19 kHz or better

Power Rating : Confirming to the design requirements and better

Maximum Peak SPL @ 1m : 100dB or better

Drivers: Full range driver or 2-way - minimum 1 x 3” 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

(24) Column Loudspeaker (Rating Confirming to the design requirement and approval of EIC)

SITC of full-range 150W or better confirming to the design requirements column type left and right loudspeaker, 8 ohm impedance, frequency response : 120 Hz - 16 KHz, Sensitivity : SPL/W@1 Mtr - 85 dB SPL or better, Max SPL@1 Mtr - 100 dB or better and inclusive of all mounting brackets, assemblies, hardware and standard accessories.

Frequency range : should be between 120 Hz to 14 kHz or better

Power Rating (Average) : minimum 150 W or better confirming to the design requirements

Power Rating (Max/Peak): minimum 600 W or better confirming to the design requirements

Maximum Peak SPL @ 1m : 100dB or better confirming to the design requirements

Sensitivity 1W @ 1m : 85dB or better confirming to the design requirements

Coverage (conical): 125H x 20V degrees or better confirming to the design requirements

Driver : should be full range type or three way driver

Impedance : 8 Ohms or better confirming to the design requirements

(25) Four Channel Power Amplifier 4 x 250 W or better confirming to the design and approval of the EIC.

SITC of Class D Power Amplifier, 4 x 250 W, selectable 4/8 ohms or 70/100V operation, Power @ 70/100V: 500W or better, supporting short circuit, thermal, and under-voltage protection, 1U/2U form factor. Or the better specification confirming to the design requirements duly approved by the EIC.

Frequency Response : should be between 40 Hz to 20 KHz or better confirming to the design requirements

No. of Channels : should have minimum 4 channels

Output Power per Channel: minimum 250 Watts per channel

selectable 4/8 ohms or 70/100V operation

S/N Ratio : minimum 98dB or higher

THD 20 Hz - 20 kHz, 1 W: less than 0.4%

Channel Separation (Crosstalk) : 64dB or better

Input Impedance : minimum 20kOhms or better

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 over- voltage protection

(26) Dual Channel Power Amplifier 2 x 60 W or higher rating confirming to the design requirements

SITC of Dual Channel Class D or Class AB Power Amplifier, 2 x 60 W @ 8 ohms, Comprehensive short circuit, thermal, and under-voltage protection, 1U/2U form factor. Or higher rating confirming to the design requirements.

Frequency Response : should be between 40 Hz to 20 KHz

No. of Channel : should have minimum 2 Channels

Output Power per Channel: minimum 60 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

(27) 19” Floor Standing AV Racks – 15U, 17U, 22U, 36U or any size higher rating confirming to the design requirements duly approved by EIC.

Construction shall be high strength robust aluminium extruded frame structure with ventilation slots on the sides and top & bottom covers with provision to mount 4 fans on top cover.

The thickness of the CRCA sheets used for doors and side panels shall be 1.2mm and 1mm respectively.

Front and rear open-able doors shall be provided.

The cabinet design shall be confirming to DIN 41494 or EIA 310D standards.

Top and bottom covers and side panels shall be of sheet steel and shall be powder coated.

Vertical 19” metric panel mounts and door trims shall be of sheet steel and powder coated.

The top and bottom covers shall be provided with number of 50mm and 75mm round cable knockouts for cable entry and cable knockouts shall be edge protected with rubber grommets.

Perforation - for full / split perforated doors the style should be” Honeycomb” type of perforation for maximum air circulation and stiffness.

Cabinet shall be capable of dismantling and reassembling at the site, i.e., SKD or

semi-knocked-down condition.

Locks options shall be available such as slam lock - common key, unique key or a swing handle lock.

Side panels must contain slam latches for locking purpose and option of providing slam locks, if required.

Two pairs of 19” or better confirming to the design requirements Equipment mounting angles with mounting holes conforming to IEC 2973 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 2 x 90 CFM fans at top (for 15U) and 4 x 90 CFM fans at top (for 22U and 36U).

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.

Product must be UL listed and certified for use in Information Technology or Communication Equipment.

EIA standard pattern design with 12-24 tapped holes (EIA-310-E compliant) or EIA standard pattern design with 3/8” (9.5mm) square punches for Cage Nuts for mounting.

Powder Coating – at least 80 Microns.

Rack sizes – 600mmW x 600mmD for 15U, 17U & 22U, 800mmW x 800mmD for 36U.

(28) Various AV Cables

Cables should meet following minimum specifications or better:

1	Microphone Cable	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
2	Speaker Cable	14 AWG Speaker Cable in existing conduit. Two X 14 AWG conductors, High performance cable for audio signals, Non-Plenum
3	Control Cable	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
4	HDMI Cables (1.5mtr/5ft, 5mtr/15ft, 10mtr/30ft, 15mtr/50ft, 20mtr/75ft)	Male to Male - Moulded Connector, 1080p/60 verified, Gold plated contacts
5	VGA with Audio (1.5mtr/5ft)	Male to Male VGA Cables With Audio-Moulded Connectors. VGA Cable: 15-pin HD Male to Male Moulded & Mini Stereo Audio Cable: 3.5 mm Stereo- 6' (1.5 m)
6	VGA Cable (5mtr/15ft, 10mtr/30ft)	Male to Male VGA Cables - Moulded 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
7	Shielded Twisted Pair Cable	24 AWG solid copper construction Shielded Twisted Pair Cable, SF/UTP design with four unshielded twisted pairs inside an overall braid and foil shield, IEEE/EIA/TIA 568.C2

(29) 24 PORT POE LAYER 2 MANAGEABLE NETWORKING SWITCH

SITC of Layer2 manageable networking switch, minimum 24 # 10/100/1000Tx ports, all ports capable of providing PoE+ as per 802.3at, switch having a PoE power budget of minimum 740 Watts, minimum 4 dedicated SFP ports.

Switch Architecture

The switch should have 24 X 10/100/1000 Base-Tx ports; all ports shall be 802.3at-compliant PoE+ capable, with the switch capable of providing minimum 370 Watts of PoE power budget.

The switch should also support PoE as per 802.3af on all ports.

Switch should have 12 Nos. 10 Base-T/100Base-Tx/1000Base-Tx auto-sensing ports 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 have minimum 4 dedicated SFP ports.

The switching fabric for all the LAN ports shall be non-blocking and each port shall run at wire-speed / line-rate. Switching fabric capacity of the switch should be capable to run all the ports at line-rate.

Switch should support both IPv4 and IPv6 – Switch should support features like Neighbour Discovery, Syslog, Telnet, SSH, Web GUI, SNMP, NTP, DNS, RADIUS over IPv6

Switch should have non-blocking switching bandwidth of minimum 24Gbps.

Switch should be IPv6-Ready from Day 1

Layer 2 Features

IEEE 802.1Q VLAN tagging

802. 1Q VLAN on all ports with support for minimum 255 VLANs.

Support for minimum 8k 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.

Jumbo frames up to 9000 bytes.

Link Aggregation Control Protocol (LACP) as per IEEE 802.3ad.

Security Features

Switch should support MAC Address based Filters / Access Control Lists (ACLs) on all switch ports.

Switch should support Port based Filters / ACLs.

Switch should support RADIUS and TACACS+ for access restriction and authentication.

Secure Shell (SSH) Protocol, HTTP and DoS protection.

ARP spoofing, DHCP snooping etc.

Switch should support static ARP, Proxy ARP, UDP forwarding and IP sourceguard.

Management Features

The switch should support CLI as well as web-based Management.

Switch should be SNMP manageable with support for SNMP Version 1, 2 and 3.

Switch should support all the standard MIBs (MIB-I & II).

Switch should support TELNET and SSH Version-2 for Command Line Management.

Switch should support 4 groups of embedded RMON (history, statistics, alarm and events).

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 to implement changes without rebooting. Any changes in the configuration of switches related to Layer-2 & 3 functions, VLAN, STP, Security, QoS should not require rebooting of the switch.

Switch should have comprehensive debugging features required for software & hardware fault diagnosis.

Switch should support multiple privilege levels to provide different levels of access.

Switch should support SNTP (Network Time Protocol).

Switch should support FTP/TFTP for software upgrade.

Switch support multiple configuration file & backup configuration file.

(30) WIRELESS ACCESS POINT -Wifi 7 Compatible with standalone working support

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

Security:

WPA

IEEE 802.11i WPA2

RFC 2246 TLS protocol version 2.0

RFC 3280 Internet X.509 PKI certificate and CRL profile

RFC 4346 TLS protocol version 1.1/1.0

Encryption:

WEP – 64 and 128 bit, TKIP-MIC: RC4 40 bit, 104 bit and 128 bit, SSL & TLS: RC4 128-bit

PHY data rates up to 1.8Gbps per AP

Support for band steering, client load balancing, LLDP

Should support 802.1X authentication

Should support centralized configuration and management and reporting

Solution should have Bonjour Support for supporting Apple devices

Should support Wi-Fi Alliance Protected Access 1.0 (WPA) and 2.0 (WPA2)

(31) CORDED VOCAL MICROPHONE

SITC of 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.

Frequency response: 80Hz to 15 KHz

Transducer Type: Dynamic

Polar pattern: Cardioid, Super-Cardioid or better

Connection: 3-pin XLR

(32) 1x12'' OR BETTER PASSIVE LOUDSPEAKER OR HIGHER RATING CONFIRMING TO THE DESIGN REQUIREMENTS

SITC of 1x12'' or better passive loudspeaker having 70Hz - 16kHz (-10dB), Max. SPL: 126dB SPL, Coverage (H X V) 90 X 60 degree, Power handling capacity: minimum 800 Watts or better. Inclusive of all mounting brackets, assemblies, hardware and standard accessories for portable/outdoor application.

Frequency range : should be between 70 Hz to 16 kHz or better

Power handling capacity (Max/Peak) : minimum 800 W or better

Maximum Peak SPL @ 1m : 126dB or better

Sensitivity 1W @ 1m : 93dB or better

Coverage (conical): 90H x 60V degrees or better

Driver : 1 x 12’’ 2-way or better

Impedance : 8 Ohms or better

(33) 1x12'' OR BETTER PASSIVE SUBWOOFER OR HIGHER RATING CONFIRMING TO THE DESIGN REQUIREMENTS

SITC of 1x12'' or better passive subwoofer having 40Hz - 200Hz (-10dB), Max SPL 123dB SPL. 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.

Frequency range : should be between 40 Hz to 200 Hz or better

Power handling capacity (Max/Peak) : minimum 1600 W or better

Maximum Peak SPL @ 1m : 123dB or better

Sensitivity 1W @ 1m : 93dB or better

Driver : 1 x 12'' or better

Impedance : 8 Ohms or better

(34) 2 x 600 W Class D Power Amplifier OR HIGHER RATING CONFIRMING TO THE DESIGN REQUIREMENTS WITH DANTE SUPPORT.

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.

Frequency Response : should be between 40 Hz to 20 KHz or better

No. of Channels : should have minimum 2 channels

Output Power per Channel: minimum 600 Watts per channel

selectable 4/8 ohms or 70/100V operation

S/N Ratio : minimum 98dB or higher

THD 20 Hz - 20 kHz, 1 W: less than 0.4%

Channel Separation (Crosstalk) : 64dB or better

Input Impedance : minimum 20kOhms or better

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 over-voltage protection

(35) Specifications of 4K HDMI to USB Capture Device

Video Inputs (1) HDMI 2.0
Video Outputs (1) USB 3.0; supports UVC 1.1
Video Input Resolutions Up to 4096×2160p@60fps (4:4:4 10-Bit HDR)
UVC Output Resolution 4096×2160p@60/50fps and 3840×2160p@60/50fps inputs will be output at 3840×2160p@30fps
(NV12, I420) or 1920×1080p@60fps (YUY2, P010)
For all inputs below 3840×2160p@30fps, UVC1-4K outputs will match the input resolution
Audio Inputs HDMI Embedded Audio / 3.5mm Analog Stereo Audio
Ports HDMI Input: (1) HDMI Type A Socket; Analog Stereo Input: (1) 3.5 mm TRS audio jack; USB 3.0: (1) USB Type C Socket
Environmental Temperature (Operating): 32°F (0°C) to 104°F (40°C)
Temperature (Storage): -4°F (-20°C) to 158°F (70°C)
Humidity (Operating): 10% to 90% RH (non-condensing)
Humidity (Storage): 10% to 90% RH (non-condensing)
Regulatory Compliance FCC Part 15 Class B
EN 55032
EN 55035
RoHS/REACH
EMC (Australia)
EMC (Canada)
EMC (UKCA)

(36) Specifications of Lecture Recording Camera subject to confirmation of the design and specs is minimum as listed below :

Parameter	Specification
Sensor	1/1.8" 9.17MP CMOS
Video Format	2160p: 59.94 / 50 / 29.97 / 25 1080p: 59.94 / 50 / 29.97 / 25 1080i: 59.94 / 50 720p: 59.94 / 50 / 29.97 / 25
Video Output (HD) Interface	12G-SDI / HDMI 2.0 / Ethernet / USB 3.0
Optical Zoom	30x
Digital Zoom	12x
Viewing Angle	63° (H) 35.4° (V) 72.3° (D)
Aperture	F1.6 ~ F4.8
Focal Length	6.5mm ~ 202mm
Shutter Speed	1/1 ~ 1/10,000 sec
Minimum Object Distance	1.5m (Wide/Tele)
Video S/N Ratio	> 50dB
Minimum Illumination	0.05 lux (F1.6, 50IRE, 30fps)
Focus System	Auto / Manual / Smart AF
Gain Control	Auto / Manual
White Balance	Auto / Manual
Exposure Control	Auto / Manual / Smart AE
IQ Sync	Yes
WDR	Yes
3D NR	Yes
Image Flip	Yes
Color Space	Standard / BT.2020 / REC.709
AR/VR	

Systems	FreeD
Tally Light	Yes

Panning Angle	+170° ~ -170°
Panning Speed	300°/sec
Tilting Angle	+90° ~ -30°
Tilting Speed	300°/sec
Preset Positions	256
HDMI / 12G-SDI	2160p59.94
IP Stream	HEVC(H.265) 4K 59.94fps H.264 1080p 59.94fps H.264 640x360 29.97fps
IP	
Compression	HEVC(H.265) / H.264
USB Output	H.264 4K30fps MJPEG 1080p30
USB	
Compression	H.264 / MJPEG
IP Protocol	RTSP / RTMP / RTMPS / MPEG-TS / SRT
PoE	PoE++ (IEEE802.3bt)
Audio Input	Line In / MIC In, Phone Jack 3.5mm x1
Audio Output	Ethernet / 12G-SDI / HDMI 2.0 / USB
Audio Compression	
Format	AAC / G.711 / PCM
Control Interface	RS-232 / RS-422 / Ethernet / USB 3.0/ Remote
Control Protocol	VISCA / VISCAIP / PELCO D / ONVIF / UVC
UVC	1.1
UAC	Yes

(37) Product Type: Motorized Tab-Tensioned Electric Projection Screen

Diagonal Size: 200 inches
Aspect Ratio: 16:9
Viewing Area (W x H): 174.4" x 98.0" (4430mm x 2490mm)

Gain: 1.1
Viewing Angle: 160°
Case Color: Matte White or Black

Screen Material
Material Name: CineWhite® UHD
Composition: PVC (Polyvinyl Chloride) with a smooth, matte white finish.
Features:

Tension System: A robust tab-tensioning system on both sides of the screen to ensure a perfectly flat and wrinkle-free projection surface, ideal for 4K and 8K content.

Black Borders: 2.0" (50.8mm) black masking borders on all four sides to enhance contrast and absorb projector overshoot.

Black Backing: Opaque black backing to prevent light penetration from behind the screen.

Compatibility: Optimized for Ultra HD, 4K, 8K, Active 3D, and HDR content.

Certifications: Greenguard Gold Certified for low chemical emissions.

Motor & Control System
Motor Type: Synchronous Silent Tubular Motor
Operation: Smooth, quiet, and precise operation with a stop-start function.
Power Requirement: AC 110-120V, 60Hz or AC 220-240V, 50Hz
Control Options:

Infrared (IR) Remote: Standard remote for line-of-sight control.

Radio Frequency (RF) Remote: Allows control from a distance without line-of-sight.

12V Trigger: Automatically deploys the screen when the projector is turned on and retracts it when the projector is turned off.

Wall Switch: A wired, 3-way wall switch for up, down, and stop functions. Optional:

RJ45 port for integration with third-party control systems (e.g.,

Crestron, AMX).

Installation & Dimensions
Case Dimensions:

Length: 190.5" (4840mm)

Width: 5.5" (140mm)

Height: 6.0" (152mm)

Mounting:

Designed for wall or ceiling installation using a sliding bracket system for easy horizontal alignment.

The tension cables are adjustable to maintain perfect flatness over time.

Weight:

Product Weight (Net): Approximately 220 lbs (100 kg)

Shipping Weight (Gross): Approximately 260 lbs (118 kg)

(38) **Specification** Sheet: 55-Inch 4K Professional Confidence Monitor with VESA mounting with suitable interior support

Display Specifications

Feature	Specification
Screen Size (Diagonal)	55" (139.7 cm)
Panel Technology	IPS (In-Plane Switching)
Resolution	4K UHD (3840 x 2160 pixels)
Aspect Ratio	16:9
Brightness	500 cd/m² (nits)

Contrast Ratio	4000:1 (Static)
Color Depth	10-bit (1.07 Billion Colors)
Viewing Angle (H/V)	178° / 178°
Response Time	8ms (Gray to Gray)
Refresh Rate	60Hz
Surface Treatment	Anti-Glare, Haze 25%
Backlight Type	Direct LED
Display Orientation	Landscape & Portrait
Expected Panel Life	50,000+ Hours
Operation Rating	24 hours / 7 days

Connectivity

Port Type	Quantity & Description
HDMI Input	2x HDMI 2.0 (HDCP 2.2 Compliant)
DisplayPort Input	1x DisplayPort 1.2a
SDI Input	1x 3G-SDI BNC
HDMI Output	1x HDMI 2.0 (Loop-through)
SDI Output	1x 3G-SDI BNC (Loop-through)
USB Port	2x USB 2.0 (for media playback & firmware)
Audio Output	1x 3.5mm Stereo Mini-Jack
External Control	1x RS-232C (In/Out), 1x RJ45 (LAN)

Mechanical & Physical

Feature	Specification
Dimensions (W x H x D)	48.9" x 28.1" x 2.5" (1241mm x 714mm x 64mm)
Bezel Width (T/L/R/B)	9.9mm / 9.9mm / 9.9mm / 11.5mm
Weight (Without Stand)	45.2 lbs (20.5 kg)
VESA Mounting Pattern	400 x 400 mm
Housing Material	Metal Chassis
Color	Matte Black

Power

Feature	Specification
Power Supply	AC 100-240V~, 50/60Hz
Power Consumption (Typ.)	125W
Power Consumption (Max)	150W
Power Consumption (Standby)	<0.5W

Special Features

- **Image Flip:** Horizontal and Vertical image flip for teleprompter applications.
- **Built-in Speakers:** 2x 10W integrated speakers.
- **On-Screen Display (OSD):** Full control over picture, color, and signal settings.
- **Key Lock:** Disables buttons to prevent accidental changes.
- **Scheduler:** On/Off scheduling for automated operation.
- **Control System Compatibility:** Compatible with major control systems via LAN and RS-232.

Environmental

Feature	Specification
Operating Temperature	0°C to 50°C (32°F to 104°F)
Operating Humidity	10% to 80% (non-condensing)

(39) **UPS**:

2x (designed rating) UPS for all AV and IT System with 30 Minutes of backup and communication port for remote monitoring – Rating confirming to the design requirement :

Uninterruptible Power Supply (UPS)

1. General Requirements

- The UPS shall be a high-efficiency, true online, double-conversion system complying with IEC/IS standards.
- Designed for 24×7 operation, suitable for IT, audio-visual, and building automation loads.
- Modular/scalable architecture preferred for future capacity expansion.
- In-built static and manual bypass for uninterrupted maintenance.

2. Capacity and Configuration

- Rated Capacity: [Specify kVA/kW as per requirement].
- Input: Single of three phase as per the design need, in case if design will be for three phase then 3-Phase, 4-wire + Earth, 415V ± 20%, 50Hz ± 5%.
- Output: 230/415V AC ± 1% (configurable single or three-phase depending on load).
- Power Factor: ≥ 0.9 lag to unity at full load.
- Efficiency: ≥ 94% in online mode, ≥ 98% in ECO mode.
- Crest Factor: 3:1 to handle high inrush IT loads.

3. Battery System

- VRLA / Lithium-ion sealed, maintenance-free batteries in a dedicated battery rack with isolator.
- Backup time: Minimum [30/60/120 minutes – as per requirement].
- Battery monitoring system with temperature and voltage sensing.
- Recharge time: < 6 hours to 90% after full discharge.

4. Electrical & Performance Features

- True online double conversion (VFI-SS-111 as per IEC 62040).
- Total Harmonic Distortion (THDi): < 5% at full load.
- Input Power Factor: ≥ 0.99 with Active Power Factor Correction (APFC).
- Voltage Regulation: ±1% for balanced load.
- Frequency Regulation: ±0.1 Hz (free-running).
- Overload Handling: 125% for 10 minutes, 150% for 1 minute.
- Short-Circuit Protection: Electronic + Fuse.
- Surge Protection: In-built SPD meeting IEC 61643-1.

5. Mechanical & Safety

- Enclosure: Powder-coated, IP20 minimum (IP31 optional).
- Cooling: Forced air cooling with intelligent fan speed control.
- Noise Level: ≤ 55 dB at 1 meter.
- Safety Standards: IEC 62040-1 / IS 16242 compliant.
- EMC Standards: IEC 62040-2 Class A.

6. Monitoring & Controls

- Digital LCD/LED display showing load %, battery %, input/output voltage, frequency, alarms.
- Communication Ports: RS-232, USB, SNMP (optional), Modbus (optional).
- Remote monitoring capability with auto-shutdown software for servers.
- Event logging and fault diagnostics.

7. Environmental

- Operating Temperature: 0°C to 42°C.
- Relative Humidity: 0–95% non-condensing.
- Altitude: Up to 1000 m without derating (higher with derating factor).

8. Accessories

- Input and output distribution panels with MCCBs.
- Battery rack/cabinet with DC isolator.
- Maintenance bypass switch mechanical and soft both.

40. Digital Signage System: Technical Specifications or higher subject to the design confirmation

Digital Signage Displays with Embedded Players and a central Content Management Server (CMS).

A. Digital Signage Display Specifications (Per Unit)

These specifications apply to all display screens to be installed. The screens must have an integrated media player capable of running the specified signage software.

Feature	Minimum Requirement	Notes
Panel Type	Commercial-Grade IPS LED/LCD	Designed for long operational hours, superior to consumer-grade televisions.
Screen Sizes	To be specified per location (e.g., 32", 43", 55", 75")	Screen size will vary based on viewing distance and installation area.
Resolution	- **Up to 55"**: Full HD (1920x1080p) - **55" and above**: 4K UHD (3840x2160p)	Higher resolution is critical for larger screens to maintain text clarity.
Brightness	400 cd/m² (nits) or higher	Ensures visibility in well-lit indoor library environments.

Operating Hours	Rated for 16/7 or 24/7 continuous operation	Critical for reliability and longevity of the displays.
Orientation	Supports both Landscape and Portrait modes	Allows for flexible content design and installation.
System-on-Chip (SoC)	Powerful Quad-Core+ processor with dedicated GPU. Must be capable of smooth 4K playback and rendering HTML5 content.	Example: Samsung's SSSP (Samsung SMART Signage Platform) Tizen OS.
Embedded Software	Must include a built-in, licensed, commercial signage platform.	Example: **Samsung MagicINFO**. The platform must connect to the central CMS.
Connectivity	- 1x HDMI 2.0+ (for optional input) - 1x Gigabit Ethernet (RJ45) - Wi-Fi (802.11ac) - 2x USB 2.0+	Wired Ethernet is the required connection method for reliability.
Storage	16 GB internal storage or greater.	For caching and storing signage content locally on the display.
Bezel	Narrow or ultra-narrow bezel design	Provides a modern look and is suitable for potential video

		wall setups.
Warranty	3-Year On-site Commercial Warranty	Ensures support and minimizes downtime.

B. External Media Player Specifications (For Special Cases Only)

An external media player is not required for the standard deployment. This section applies only if a specific location requires a display without a compatible SoC or for running exceptionally demanding interactive content beyond the SoC's capabilities.

Feature	Minimum Requirement	Notes
Processor	Quad-Core ARM Cortex-A55 / Intel Celeron N-series or equivalent	Must be capable of smooth 4K video playback and rendering complex HTML5 content.
RAM	4 GB DDR4	Sufficient for caching content and smooth OS operation.
Storage	32 GB eMMC or SSD	Solid-state storage for reliability and fast content loading.
Operating System	Must be fully compatible with the chosen CMS software.	The OS must be stable and supported by the signage vendor.
Video Output	HDMI 2.0 with 4K@60Hz support	To match the resolution capabilities of the displays.
Connectivity	- 1x Gigabit Ethernet	Wired Ethernet is strongly preferred

	(RJ45) - Dual-Band Wi-Fi (802.11ac) - 2x USB 3.0	for stability and faster content delivery.

C. Content Management Server (CMS) Specifications

The CMS will be the central hub for creating, scheduling, and deploying content to all displays. It must be the corresponding server software for the displays' embedded platform.

4.1. On-Premise Server Hardware

Component	Minimum Requirement	Notes
Server Type	1U or 2U Rack-mountable Server	To be installed in the library's server room.
Processor	Intel Xeon E-2300 series (4 Cores / 8 Threads) or AMD EPYC equivalent	Provides sufficient processing power for multiple users and devices.
RAM	32 GB DDR4 ECC RAM	Error-correcting code (ECC) memory for server stability.
Storage	- **OS/Application:** 2x 512 GB NVMe/SSD in RAID 1 (Mirror) - **Content:** 2x 4 TB Enterprise SATA HDD in RAID 1 (Mirror)	RAID 1 ensures data redundancy and high availability.
Network	2x 1 Gigabit Ethernet (RJ45) ports	One for network connection, one for redundancy or management.

OS	Windows Server 2022 or a stable Linux distribution (e.g., Ubuntu LTS).	The OS must be compatible with the chosen CMS software.
Power Supply	Redundant Power Supply Units (PSUs)	Prevents downtime in case of a single PSU failure.

4.2. Content Management Software (CMS)

Feature	Requirement
Platform Compatibility	Must be the native server software for the displays' embedded platform (e.g., MagicINFO Server for Samsung Displays).
Architecture	Web-based interface, accessible via a browser on the local network.
User Management	Role-based access control (e.g., Administrator, Content Manager, Viewer). LDAP/Active Directory integration is a plus.
Content Creation	- Drag-and-drop template designer. - Support for multi-zone layouts (splitting a screen into multiple regions).
Media Support	Upload and management of videos (MP4), images (JPG, PNG), documents (PDF), and web/HTML5 content.
Scheduling & Playlists	- Advanced scheduling by date, time, and day-parting. - Create and manage content

	playlists.
Device Management	- Group screens by location or function. - View real-time status (online/offline) of all players. - Remotely push content updates to individual screens or groups.
Monitoring & Reporting	- Health dashboard for the entire network. - Proof-of- play logging. - Email/SMS alerts for device failures.
API / Integration	A REST API for potential integration with other library systems (e.g., event calendar, room booking).

41. Audio Library Network, hardware , system and software to ensure the audio library without any disturbances to the others, capacity confirming to the design requirements and master plan sheet.

The minimum requirements are mentioned herein subject to design confirmation and higher specifications:

i. Dedicate audio players – Raspberry PI based devices or locked down tablets
ii. Headphones over ear headphones with reinforced cords
iii. Headphone jack splitters
iv. Secure multiport USB charger
v. Audio Content Storage server
vi. Content management software
vii. Mat for protection against the charge accumulation or shock , non-slip mat etc

Etc.. as per the directives, formation and approval of the University without any extra cost.

LIST OF ACCEPTABLE MAKES / MANUFACTURERS

Sr. No.	Item Description	Acceptable Make/Brand/Manufacturer
1	Video Signal Equipment – Switcher, Cable Cubby, Scalars, Extenders for HDMI, VGA, Distribution Amplifiers, Control Processor, Wired Button Panel etc.	Crestron, Extron, Kramer
2	Wireless Touch Screen device for Control (iOS or Android based).	Apple, Samsung
3	Lecture Recording and Streaming Device	Extron, Lumens, Mediasite, Panopto
4	i) Live Streaming and VoD Application Software Platform, Hosting Solution	
	ii)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 OEM requirements	Dell, HPE, Lenovo
5	Wireless Presenter System	Barco, Vivitek, Crestron
6	Lecture Capture Camera (AV Camera)	Lumens, Sony, Panasonic
7	Document Camera – Ceiling Mounted and Desktop Mountable	Lumens, Vaddio, WolfVision
8	Digital Signage Sever	HPE, Dell, IBM
9	Digital Podium with 22” Interactive Panel	AHA, Tecom, UNI
10	Headphones	Sennheiser, BOSE, SONY,
11	Desktop PC for AV	Dell, HP, Lenovo
12	Ultra Short Throw /Laser Projectors	Barco, Christie, Digital Projection
13	Motorized Projection Screens	Dalite, Draper, Prima
14	LED Display	Panasonic, Samsung, LG,SONY
15	Wired and Wireless Microphone System including cables for wireless antenna	Beyerdynamic, Electrovoice, Sennheiser, Audio Technica

16	Microphone, Speaker and Control Cable	Belden, Klotz, Kramer
17	Audio DSP	Bi-amp, Bose, Audio Technica
18	4" and 3" Speakers, 12" & 15" Loudspeaker and Subwoofer	Bose, Electrovoice, Tannoy
19	Column Speakers	Bose, Renkus-Heinz, Tannoy
20	Audio Amplifiers	Bose, Dynacord, Labgruppen, Power Soft
21	AV Racks	Panduit, Rittal, Legrand
22	Confidence Monitor	Samsung, LG, SONY, PANASONIC
23	Video Cables (HDMI, VGA+Audio, DisplayPort DP/miniDP) and USB, Shielded CAT6 cable	Crestron, Extron, Kramer, Kanex Pro
24	AV Networking Switch and AV-Wireless Access Point	Cisco, HPE, Juniper, Allied Telesis
25	Mixer	Behring, Allen & Heath, Yamaha
26	AV Connectors as may be required	OEM Standard or Amphenol, Neutrik
27	IP CCTV	BOSCH, PANASONIC, PELCO, Axis,
28	VMS – Video Management System	Genetec, Milestone, BOSCH
29	Data Cables	CommScope, Belden, Molex,
30	VMS Storage Servers	DELL, HPE, IBM
31	Tab	Apple, Samsung

Note: Any others make as per the approval of the EIC.

2. NUMBER OF DOCUMENTS AND COPY RIGHTS:

2.1 All the documents/drawings, designs, reports, and any other details envisaged under this agreement shall be supplied in six copies. If there is any revision in any drawing/document for any reason, six copies of drawing/document shall be re-issued along with soft copy in CD without any extra charges. All these drawings will become the property of the Engineer-in-Charge. The Engineer-in- Charge may use these drawings in part or full in any other work without any notice to the consultant and without any financial claim of the consultant.

2.2 The drawings cannot be issued to any other person, firm or authority or used by the Consultant for any other project. No copies of any drawings or documents shall be issued to anyone except the Engineer-in-Charge and / or his authorized representative.

2.3 The Design should cover the following general requirements:

2.3.1 **The tentative space management of the library building is enclosed as separate document with this tender along with the tentative floor plans. However, these are indicative and may undergo changes during preparation of detail designing according to the space requirements.**

2.3.2 To cater for different functional requirements of user with creative indoor spaces, surroundings, better circulation, and flexibility in space planning.

2.3.3 Integrated designs of electrical, mechanical, and other services with structural system and construction methodology with low maintenance.

2.3.4 Climate responsive Architecture with integration of daylight and electric light, thermal comfort, ventilation, and highest performance standards for workspace efficiency.

2.3.5 All the spaces in the building provided shall be adequately ventilated for light and air.

2.3.6 Suitable escapes for fire shall be planned as per the requirement specified in NBC and other applicable standard codes of practice

2.3.7 The setbacks and height of the building shall conform to all regulatory authority rules.

2.3.8 Premium quality materials shall be provided for walls, floors, windows, doors etc. in tune with the industry standards of similar buildings.

2.3.9 Proper care shall be taken to plan movement logistics to avoid crisis – crossing of traffic.

2.3.10 The façade of the buildings shall be appealing, by judicially mixing the use of energy efficient glass, cladding materials, wall appropriate to the use of the building. The ratio of glass to wall shall vary depending on the direction and as required for 5 STAR GRIHA-LD certification.

2.3.11 Space planning for required services shall be given importance.

2.3.12 Service routing and ducts shall be planned in coordination with the Architect Consultant appointed by NU and to provide easy access, maintenance, and scalability.

2.3.13 Green building materials shall be used as far as possible for obtaining 5 STAR GRIHA-LD rating by the accredited bodies.

2.3.14 Preparation of Data sheet showing Room wise and building wise finishing, flooring and Door window, and other high-end inventory schedules.

2.3.15 Preparation of Technical Specification for AV, AR, VR , ELV and IT interior,. for all items and submit the data sheet.

GENERAL CONDITIONS FOR WORKS

General specifications, for construction

The order of precedence in case of any confusion/dispute will be as follows:

(i) GFC drawings as approved by the University.

(ii) Description of nomenclature of items in bidding documents

(iii) Description of user requirement and technical specifications.

(iv) Particular specifications and special conditions for civil, electrical and horticulture works.

(v) CPWD Specifications with up-to-date correction slips for civil, electrical and horticulture works as applicable.

(vi) Indian Standard Specifications of B.I.S.

(vii) National Building codes 2016

(viii) Manufacturer's specifications

(ix) CPWD GCC 2020 for EPC project

(x) Sound engineering practices

A reference made to any Indian Standard Specifications in this NIT, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The Contractor shall keep at his own cost all such publications of relevant Indian Standard applicable to the work at site.

Agency shall make his own arrangement of water, electricity & generator to be used in work. The University will not provide the above facility.

Samples including brand / quality of materials and fittings to be used in the work shall be got approved from the University, well in advance of actual execution and shall be preserved till the completion of the work.

The work shall be executed and measured as per metric dimensions given in the Schedule of quantities, drawings etc. (F.P.S. units wherever indicated are for guidance only).

Unless otherwise specified, the rates tendered by the contractor shall be inclusive of all cost, taxes, Royalty payable, seigniorage charges on Royalty and shall apply to all leads and lifts and nothing extra shall be payable on this account.

The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs involved in the execution of the item including the fee of consultancy etc.

No foreign exchange shall be made available by the University for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

All ancillary and incidental facilities required for execution of work like, stores, fabrication yard, offices for Contractor & Consultants, watch and ward, temporary structure for plants and machineries, temporary fencing around the working sites, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, protection works, testing facilities / laboratory charges, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the EPC Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material stocking yard, fabrication yard, etc. Contractor shall only be permitted for construction of any type of temporary labour hutment in the working site at the designated location as approved by the E-in-C.

For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them. The work in night shift and /or any holiday shall be done only after informing the E-in-C and in presence of EPC contractor technical team.

All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus may not paid for.

Quality Assurance:

The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted.

The contractor shall get the source of various raw materials to be used on the work, approved from the Engineer-in-Charge and the contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost.

Similarly, the contractor shall submit brand/make of various materials to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it. Any change will have to be got approved from Engineer-in- charge in advance.

THIRD PARTY QUALITY ASSURANCE: In order to achieve a high standard of quality, it shall be required to go for Third Party Quality Assurance. For this purpose, a separate agency shall be appointed by the University who will carry out independent testing of materials and checking and ensuring overall quality procedures. The contractor shall be required to fully cooperate with agency and facilitate them in taking samples, transportation and examination of various activities including documentation at no extra time and cost to the University. In case of any adverse findings by the agency, the contractor shall do the needful rectifications at no extra time and cost to the University. The Engineer- in-charge shall be at liberty for getting quality assurance work done through agencies like IIT, NIT, Govt. Engineering College or any other agency approved by Competent Authority, the fee of third-party quality agency shall be borne by the University. The successful tenderer shall include the provisions of Quality Assurance while framing the proposed methodology for tests.

Safety Precautions – Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for the work and avoidance of accidents. Contractor will be fully responsible to ensure safety of workers deployed at site.

Scaffolding – For façade works, outer finishing and other relevant works at height etc. double steel scaffolding having two sets of vertical supports with steel staircase for inspection of works by Engineer-in-charge or his/her representatives shall be used. The supports shall be sound and strong, tied together with horizontal piece and also secured horizontally with the building as per EHS norms, over which scaffolding planks shall be fixed.

22. SAMPLES FOR TESTING:

22.1. Samples of all materials required for testing is included in the cost of work. Therefore, all testing charges in house or through external lab shall be borne by the EPC contractor.

22.2. If any load testing or special testing is to be done for any sample whose strength is doubtful, the cost of the same shall also be borne by the contractor.

22.3. In case there is any discrepancy in frequency of testing as given in list of mandatory tests and that in individual sub-heads of work as per CPWD Specifications, higher of the two frequencies of testing shall be followed.

23. The contractor should submit for approval of Engineer-in-Charge workshop drawings, technical submittals, and samples of the work to be performed under the specified items of work before actually commencing the mass execution of the work under the item. For this they will prepare a sample room / quarters and toilet blocks for each type of building for approval of Engineer-in-charge of work. Nothing extra shall be payable on this account.

24. Maintenance of Register of Tests –

24.1. All the registers of tests carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge.

24.2. All samples of materials including cement concrete cubes shall be taken jointly with contractor by the representatives of NU Engineering Section and Engineers of PMC (MECON Ltd). All the necessary assistance shall be provided by the contractor. Cost of sampling & testing are to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site/ outside laboratory.

24.3. All the tests in field lab at construction site shall be carried out by the Engineering staff deployed by the contractor and shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE –in-Charge.

24.4. At least 10% of the tests are to be witnessed by the E-in- C. Minimum 25% of all samples should be tested in outside approved laboratory/ Govt. Engineering colleges.

24.5. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by NU Engineering Section and Engineers of PMC.

1.1. Contractor shall be responsible for safe custody of all the test registers.

24.6. Submission of copy of all test registers, Material at site register and hindrance register along with each alternate Running Account Bill and Final Bill shall be mandatory. These registers should be duly checked by NU Engineering Section and Engineers of PMC and receipts of registers should also be acknowledged by the PMC.

24.7. If all the test registers and reports are not submitted along with alternate R/A Bill & Final Bill, no payment will be released to the contractor.

24.8. Maintenance of Material at Site (MAS) Register – All the MAS Registers including cement and Steel Registers which shall be issued to the contractor by Engineer-in- Charge shall be maintained by Contractor at site and shall be open for inspection by the

University.

24.9. The contractor shall submit to the Engineer-in-charge on the 7th day of each month, 2 hard copies and one on soft copy (CD) of monthly progress report of work. Such progress report will include the project progress, summary, work progress (planned vs actual), CPM chart, status of financial progress and achievement of milestone, manpower deployment status, inventory of materials and photographs of important activities. For delay in submission of the report, compensation @ Rs. 2,000/- (Rupees Two Thousand only) per day of delay subject to maximum of Rs. 20, 000/- for each report will be recovered from the amount payable to the contractor.

24.10. Contractor(s) shall pay all fees, taxes and charges which may be levied on account of any construction activity including transportation of material in executing the contract.

24.11. The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit board, red flags, red lights and providing barriers and use of PPE gadgets as per EHS plan approved by E-in-C. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work. In case of any accident of labours / contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.

24.12. The contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in- Charge.

24.13. Contractor(s) shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of the work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.

24.14. Contractor shall put up the barricading, at his cost, all around the buildings sites through suitable method for segregating the construction site and also to control the dust pollution in the campus. Entry to all the construction sites shall be controlled for

proper security of man and materials and to avoid accidents.

24.15. On completion of work, the Contractor(s) shall submit at his own cost four prints of "AS BUILT" drawings to the Engineer-in-Charge. These drawings shall have the following information:

Run off all piping and their diameters including soil waste pipes and vertical stacks.

Ground and invert levels of all drainage pipes together with locations of all manholes and connections, up to outfall.

Run off all water supply line with diameters, locations of control valves, access panels etc.

25. Water tanks, taps, sanitary, water supply and drainages pipes, fittings and accessories should conform to the specifications provided in bidding documents, if CPWD Specifications are not available, NBC – 2016, IS codes shall be followed. The contractor(s) should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/Corporation authorities wherever required at his own cost. The Contractor shall submit for the approval of the Engineer-in- Charge the name of the plumbing Agency proposed to be engaged by him.

26. The contractor shall give performance test of the entire installation(s) as per the specifications & codes in the presence of the Engineer-in-charge or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the contractor for the test.

27. Any cement slurry added over base surface for continuation of concerting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.

28. The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department/arranged by the contractor.

1. WATER PROOFING TREATMENT OF ALL TYPES OF WORK:

The water proofing work shall be carried out by specialized water proofing agencies. The Contractor shall submit for the approval of the Engineer-in-Charge, the names of specialized agencies, of repute along with their technical capability proposed to be engaged by him, who have executed satisfactorily a minimum of three works of value not less than 40% of corresponding value each or two works of value not less than 60% each or one work of value not less than 80% of corresponding amount in the last five years. For calculation purpose only, cost of waterproofing works will be taken as Rs.

1.00 Cr. The water proofing should be full proof & use of crystalline material may also be done in combination of other water proofing (modern and sound) method to be doubly sure.

2. ALUMINIUM/GLASS WORK:

The aluminium/glass work shall be carried out by specialized agency having adequate workshop with necessary equipment and having the experience in aluminium/glass works. The Contractor(s) shall submit for the approval of the Engineer-in-Charge, the names of specialized agencies, of repute along with their technical capability proposed to be engaged by him, who have executed satisfactorily a minimum of three works of value not less than 40% of corresponding value each or two works of value not less than 60 % each or one work of value not less than 80% of corresponding amount in the last five years. For calculation purpose only, cost of aluminium/glass works will be taken as Rs. 3.00 Cr.

3. STRUCTURAL GLAZING WORK:

The structural glazing work shall be carried out by specialized agency having adequate workshop with necessary equipment and having the experience in structural glazing works. The Contractor(s) shall submit for the approval of the Engineer-in-Charge, the names of specialized agencies, of repute along with their technical capability proposed to be engaged by him, who have executed satisfactorily a minimum of three works of value not less than 40% of corresponding value each or two works of value not less than 60 % each or one work of value not less than 80% of corresponding amount in the last five years. For calculation purpose only, cost of structural glazing works will be taken as Rs. 1.25 Cr.

29. The work shall be carried out in accordance with the approved Architectural drawings and structural drawings, to be prepared and submitted by architectural/structural consultants engaged by the EPC contractor, duly vetted by the proof checking reputed institute and approved by the Engineer-in-Charge. Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available there from is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim whatsoever shall be entertained on this account.

30. Other agencies/sub-contractor will also simultaneously execute and install the works of & other specialized equipment as indicated in bid document, lifts, fire-fighting etc. of this work and the contractor shall extend necessary facilities for the same. The contractor shall leave such recesses, holes, opening etc. as may be required for the electric/ gas pipe lines and other related works and nothing extra shall be payable on this account.

31. The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in- Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed, so as not to interfere with the operations of other contractor simultaneously working or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

1. PROGRAMME CHART - The contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 15 days thereafter, if required modify, and communicate the programme approved to the contractor failing which the programme submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract along with material/equipment ordering & delivery plan with specific dates by which these details are planned by contractor without causing any delay in execution of the work. The chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save the special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.

2. In case of non-submission of construction programme by the contractor the program approved by the Engineer-in-Charge shall be deemed to be final.

3. The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.

4. The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software and format as decided by

Engineer-in-charge for the work done during previous month to the Engineer-in-Charge on or before 5th day of each month failing which a recovery Rs. 5,000/- shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5. If the work is carried out in more than one shift or during night, no claim on this account shall be entertained.

6. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar service encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted. The same shall be payable to the contractor. The contractor shall work out the cost and the same shall be approved by Engineer-in-Charge. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

7. The contractor shall be responsible for the watch and ward / guard of the buildings' safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the University. No extra payment shall be made on this account.

8. SAMPLE OF MATERIALS - BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the contractor shall, if required, by the Engineer-in-Charge furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material/ procured by the contractor for incorporation in the work satisfies the provisions of specifications/BIS codes relevant to the material and / or the work done.

   For certain items, if frequency of tests not mentioned in the CPWD Specifications and then relevant IS code shall be followed and tests shall be carried out as per the frequency specified therein.

9. The contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. nothing extra shall by payable to the contractor on this account. However, cost of photographs, slides, audio-videography etc. shall be borne by the University.

10. The contractor shall be fully responsible for the safe custody of materials brought by him/issued to him even though the materials may be under double lock and key system.

11. The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of work. The sealed samples are to be handed over to the testing lab by contractor in the presence of PMC representatives.

GENERAL CONDITIONS OF CONTRACT

(As per relevant clauses of CPWD GCC 2024 read along with correction slips issued time to time as on date)

SECTION 5

SPECIAL CONDITIONS OF CONTRACT

Definitions

The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the Competent Authority, Nalanda University and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-In-Charge/the Competent Authority at NU and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-

Work:

The expression work or works shall, mean unless there be something either in the subject or context repugnant to such construction the context otherwise requires be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.

Site:

The Site shall mean the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.

Contractor:

The Contractor shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.

Owner:

Owner shall mean the Nalanda University, Rajgir, BIHAR.

Project Manager:

Means the authorized Engineer Officer nominated by the Project Management Consultant appointed by Nalanda University. He will report to the Engineer-In-Charge and will be responsible for day to day supervision of project execution and will assist Engineer-in-Charge in Planning, Quality Assurance and Control, Execution and monitoring the Progress of work.

Architect Consultants:

Architect Consultants shall mean the Architect Consultant appointed by NU including its associate architects and their authorized consultants and Engineers to design and assist the Engineer In Charge in monitoring the Architectural, Structural, Electrical, Plumbing, Acoustic, HVAC, Landscape and Infrastructure works and also to check quality, project scheduling, cost control, installation of systems and equipment in the Works and ensure that the same is done as per the drawings approved.

Engineer-in-Charge:
Engineer-in-Charge (EIC) shall mean the authorized Engineer Officer appointed by NU, who shall supervise and be in charge of the work. Engineer-in-Charge will administer the contract with the assistance of his authorized subordinate Engineers.

Accepting Authority:
Accepting Authority shall mean the authority mentioned in **Schedule 'F'**.

Excepted Risk:
Excepted Risk are risk due to riots (other than those on account of Contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Owner damage from aircraft, acts of God, such as earthquake, lightening and unprecedented floods and other causes over which the Contractor has no control and accepted as such by the Accepting Authority (i.e. either the Owner or an Agency appointed by the Owner) or causes solely due to use or occupation by Owner of the part of the Work in respect of which a certificate of completion has been issued or a cause solely due to Owner's faulty design of works..

Market Rate:
Market rate shall be the rate as decided by the Engineer-in-Charge in consultation with Architect Consultants and Project Management Consultant (PMC) on the basis of the cost of materials and labour at the site where the Work is to be executed plus the percentage mentioned in **Schedule 'F'** to cover all overheads and profits of the Contractor and approved by the NU, provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract. Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender documents or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued up to the date of receipt of the tender.

Tendered value:

Tendered value / Contract value means the value of the entire Work as stipulated in the letter of award.

Date of commencement of work:

The Date of commencement of work shall be the date when contract comes into existence i.e. the date the Letter of Acceptance by NU is awarded or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicted in the tender document.

GST

GST shall mean Goods and Service Tax – Central, State and Inter State.

Scope & Performance

Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.

The contractor shall be furnished, free of cost one certified copy of the contract documents including specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

Works to be carried out

The Work to be carried out under the Contract shall, except as otherwise provided in these conditions shall include all labour, materials, tools and plants, equipment and transport to be provided at the cost and expense of the Contractor which may be required in preparation of and for and in the full and entire execution and completion of the Works. The descriptions given in the Schedule of Quantities (Schedule A) shall unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the Works as aforesaid in accordance with good practice and recognized principles.

Sufficiency of Tender:

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities and Tender Documents, which rates and prices

shall, except as otherwise provided, cover all its obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.

Discrepancies and Adjustment of Errors:

The several documents forming the Contact are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.

In the case of discrepancy between the schedule of Quantities, the Specifications and / or the Drawings, the following order of preference shall be observed:-

I) Description of Schedule of Quantities.

ii) Particular Specifications

iii) Special Conditions.

iv) Additional Conditions

v) General Conditions

vi) Drawings.

Vii) CPWD general specification

viii) Relevant IS or any other international code in case IS code is not available.

ix) Indian Standard Specifications of BIS.

x) Accepted good Engineering Practice based on experience of Foreign Countries'' Codes.

If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

Any error in description, quantity or rate in Schedule of Quantities or any Omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.

Signing of Contract: The successful bidder/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:

a. The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
b. Standard C.P.W.D. Form as mentioned in Schedule 'F' consisting of:
c. Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexures thereto.
d. C.P.W.D. Safety Code
e. Model Rules for the protection of health, sanitary arrangements for workers employed by CPWD or its contractors.
f. CPWD Contractor's Labour Regulations.
g. List of Acts and omissions for which fines can be imposed.

No payment for the work done will be made unless contract is signed by the contractor

General instructions:

The tender shall be written in English language. All other information such as documents and drawings supplied by the bidder shall also be in English language only. Drawings and design shall be dimensioned according to the metric system of measurements. Tender shall be forwarded under cover or a letter typewritten on the bidder's letterhead and duly signed by the bidder. Signature must be in long hand, executed in ink by a duly authorized principal/representative of the bidder. No oral, telegraphic or telephonic tenders or subsequent modifications there to shall be entertained. If a tender is submitted on behalf of the firm, then all the partners shall sign the Tender or the Tender may be signed by one of the partners in whose favour all the remaining partners have given such signing partner a valid General Power of Attorney. In case of tender submitted by a company, the person who has been authorized by the Board of Directors of the company through a resolution shall sign the tender. Copy of power of attorney/resolution as the case may be, and the authority letter in favour of the person signing must accompany the tender.

The inspection of CEA (Electrical inspector) local electricity department shall be the responsibility of contractor (if applicable).However on submission of the bills the inspection charge shall be released to the contractor. The work must be executed through a valid electrical licence holder and the supply, installation, testing and commissioning job description must be submitted by the contractor on green card as required to the electrical inspector in advance before charging of the system / line

The Bidder shall quote the percentage above/below the total estimated cost given in Schedule of Quantities. Incomplete offer under the tender shall be liable for rejection. Quantities shown in the Schedule of Quantities are approximate and can increase or decrease. No claim shall be entertained for any item of work due to variation in the quantities.

The tender shall be typed or written in indelible ink and shall be signed by the bidder or a person(s) duly authorized to sign under a valid Power of Attorney/Board Resolution on behalf of the Bidder. The person or persons signing the tender shall initial at all pages of the tender document and an initial shall be affixed at all such places where any insertions, corrections or amendments are made by hand.

The bidder shall sign at the bottom right hand corner of every page of the tender documents in token of acceptance of tender conditions and for the purpose of identification.

The Contractor shall give his address for communication along with telephone/e-mail address and all communication made by **NU** to the said address by registered post acknowledgement due, speed post, courier or any other mode of service shall be deemed to have been effected provided that communication made by mobile, telephone or e-mail shall be followed by a written communication through courier/post. All correspondence addressed to **NU** shall be in the name of **Registrar, Nalanda University, Rajgir, Bihar.**

Submission of a tender by a bidder implies that he has read all the terms and conditions contained in this document and all other contract documents and has acquainted himself of the nature, scope and specifications of the Works to be executed. The Contractor shall also be deemed to have acquainted himself of the local conditions and other factors, which might have a bearing on the execution of the Works. **NU** shall in no event be held liable for any loss/damage/harm for costs or otherwise caused to the Contractor due to such non-acquaintance.

Against the loss/damage/harm caused, **NU** shall not be liable for any act or omission of the act of the Contractor in so far as any violation of any of the aforementioned act.

Bidders have to compulsorily submit the entire tender Contract Documents. Every Bidder shall submit all documents issued to him for the purpose of this tender after duly filling the same in all respects. Tender Contracts, which are found to be vague, irrelevant and incomplete, shall be summarily rejected.

Unless otherwise stated, the contract shall be for the whole Work as described in the "Schedule of items of Works" and under the drawings. The Contractor shall be bound to complete the whole Work within such stipulated time as set out in the schedule of items

of Works and the drawings, including such additional items as may be necessary, if any, as per drawings and instructions. On the Completion of work, inspect the work and certify The Architect Consultant shall The issuance of certificate of completion, as issued by the Engineer-in-Charge on or by the Competent Authority at Nalanda University shall be mandatory for indicating the successful completion of work and such certificate of completion will be conclusive proof of completion of Work. Such certificate shall be issued only after the inspection of work by Architects Consultants and obtaining certificate from him that work is executed as per approved design and specifications

The work to be carried out under the contract shall, except as otherwise provided in these conditions shall include all labour, materials, tools, plants, equipment, transport and royalties, taxes, labour cess etc., which may be required in preparation of the full and entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated be held to include wastage of materials, carrying and all other labour necessary for the full and entire execution and completion of the Work as aforesaid in accordance with the specifications, good practice and recognized principles.

The Contractor shall be deemed to have satisfied itself before submission of the tender as to the correctness and sufficiency of the tender for the Works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works. Under no circumstances shall the Contractor withdraw from the Contract once the tender is accepted. In an event of withdrawal or default by the Contractor, suitable penal actions shall be taken as per the Bid Security Declaration Form.

No cost payable for preparing tender: The bidder shall not be entitled to claim any costs, charges, expenses in connection with preparation and submission and subsequent clarification of its tender in the event of withdrawal of the invitation of tenders by **NU**.

The Contractor shall comply with the provisions of the Apprentices Act, 1961, Minimum Wages Act, 1948, Workmen's Compensation Act, 1923, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Wages Act, 1936, Owner's Liability Act, 1938, Maternity Benefits Act, 1961, and the Industrial Disputes Act, 1947 as may be applicable and the rules and regulations issued there under from time to time. The list of the statutes mentioned above is an indicative list and all enactments applicable for workmen shall be complied with by the bidder. Any failure to comply with such statutes shall amount to breach of the Contract and the Engineer-in-Charge may, at his discretion, terminate the Contract without any prior notice being furnished to the Contractor. The Contractor shall also be liable for any pecuniary liability arising on account of violation of any of the

said statutes and shall indemnify and keep the NU indemnified for any loss or damage arising on account of the same.

The provisions in the Tender documents shall prevail over the contents of the above paragraphs if there is any contradiction or variation in the conditions mentioned hereinabove and those contained in the Contract Documents.

Additional Definitions

Nominated Sub-Contractor:

Nominated Sub-Contractor shall mean any person or agency appointed by NU for the execution of any particular Work or providing any services under the Contract.

Samples:

Samples are physical samples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Shop drawings:

Shop drawings means those drawings or other documents which are specifically prepared by or on behalf of the Contractor to illustrate details of construction for the purpose of fabrication or installation or any other construction related works mentioned in the Tender which required by the Architect Consultants and are submitted to the Engineer In charge for the approval/suggestion/verification from Architect Consultants as the Contractor's intended method of achieving the end result required by the Contract Drawings and Specifications.

Submittals:

Submittals includes progress schedules, setting out drawings, shop drawings, testing and inspection reports, and other information required by the Contract Documents to be submitted by the Contractor for information or approval by the Engineer in Charge.

Virtual Completion:

Virtual Completion shall mean completion of the Works as per drawings and specifications to the entire satisfaction of Engineer in Charge/ Architect Consultants/ NU whose decision shall be final and binding on the parties in this regard and particularly the act of securing by the Contractor to get the virtual completion certificate from the Engineer in charge and submission of the same to the NU to start the Defect liability period of the contract.

Final Completion:

Final Completion shall mean the completion of the Works and any necessary rectification

directed to be carried out during the Defects Liability Period and any extension thereof by the Contractor and securing of such final completion certificate from the Engineer in Charge/ Architect Consultants/ NU, and also obtaining the final handing over of the Works to the NU, and the acceptance of the same.

Jurisdiction of Courts: The Court at Bihar Sharif/High Court at Patna in the state of Bihar shall have the Jurisdiction to decide any dispute arising out of or in respect of the contract for this work.

CLAUSE.5.1 EARNEST MONEY

The earnest money is paid by each bidder to enable the NU to ensure that a bidder does not back out of his tender before its acceptance, or refuse to execute the work after it has been awarded to him.

Deposit of earnest money

Earnest Money can be paid in the form of a Deposit at Call receipt/ Demand Draft or Pay order or Banker`s Cheque of any Scheduled Bank drawn in favour of Nalanda University Rajgir, Bihar along with Bank Guarantee of any Scheduled Bank wherever applicable. It shall be scanned and uploaded to the e-Tendering website within the period of tender submission and original should be deposited in office of NU.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, Rs 20.00 Lakhs of earnest money will have to be deposited in the form of a Receipt of Deposit at Call receipt/Demand Draft or Pay order or Banker`s Cheque of any Scheduled Bank drawn in favour of Nalanda University Rajgir, Bihar and balance in the form of Bank Guarantee of any Scheduled bank, which is to be scanned and uploaded by the intending bidders.

The intending bidder has to fill all the details such as Banker's name, Demand Draft/Pay Order/ Banker's Cheque/Bank Guarantee number, amount and date.

The amount of EMD can be paid by multiple Demand Draft / Pay Order / Banker's Cheque / along with multiple Bank Guarantee of any Scheduled Bank.

The Earnest Money will be returned to the unsuccessful bidders within a week from the date of award of tender. Entry of Demand Draft received as earnest money with the tenders may be kept in the Tender Opening Register, and these need not be deposited in the bank except for the successful bidder. The Earnest Money will be returned to the successful bidder after he furnishes Performance Guarantee and duly enters into the contract within such time as per Schedule-F**,** the successful bidder shall furnish the required Performance Guarantee and attend the office of the NU for execution of the

contract documents.

Forfeiture of earnest money

If any bidder withdraws his tender before the expiry of the validity period, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender which are not acceptable to the NU, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the retendering process of the work.

If contractor fails to furnish the prescribed performance guarantee within the prescribed period, the earnest money is absolutely forfeited automatically without any notice.

In case the bidder fails to commence the work specified in Schedule-F or such time period as mentioned in letter of award, after the date on which the Engineer-in-charge issues written orders to commence the work, or from the date of handing over of the site, whichever is later, the NU shall, without prejudice to any other right or remedy, be at liberty to forfeit whole of the earnest money absolutely.

If only a part of the work as shown in the tender is awarded, and the contractor does not commence the work, the amount of the earnest money to be forfeited should be worked out with reference to the estimated cost of the work so awarded.

In case of forfeiture of earnest money as prescribed in above, the bidder shall not be allowed to participate in the retendering process of the work.

CLAUSE.5.2 : Sub-Contractors

Where and when the appointment of Sub-Contractors for specialized job (in the opinion of Engineer In Charge) is indicated, such Sub-Contractors shall be appointed only with the prior written approval of the Owner upon recommendation of Engineer- in-Charge/PMC/Architect Consultants on the following conditions:

The Contractor shall enter into written agreements with Sub-Contractors and ensure that the Sub-Contractors perform their Work in accordance with and subject to the terms and conditions of these Contract Documents. A copy of each such Agreement shall be furnished to the Engineer-in-Charge and the Owner.

The Contractor shall remain fully responsible to the Owner for the performance and workmanship and all actions of all sub-Contractors and persons directly or indirectly employed by them.

The Contractor shall supply and permit all Sub-Contractors to avail of site facilities and services to enable them to complete their Work safely and without hindrance or delay and conducive to produce the highest quality of Work required.

The Contractor shall upon receipt of instruction from the Engineer-in-Charge, terminate and remove from site forthwith such Sub-Contractor or their person who's Work may be considered unsatisfactory.

The Contractor shall make regular and prompt payment to each Sub-Contractor not later than one week after receipt of payment from Owner for their measured Works certified by the Engineer-in-Charge. If the Contractor fails to make payments to Sub-Contractors as aforesaid, the Owner may, without any obligation or prejudice to its rights and with prior intimation to the Contractor may make direct payments to Sub-Contractors for and on behalf and from the account of the Contractor and recover such sums from the account of the Contractor out of the amounts due and payable under the bills raised by the Contractor. Such direct payments to Sub-Contractors shall be on behalf of the Contractor and shall in no way relieve the Contractor of his responsibilities or create a contractual relationship between the Owner and Sub- Contractor.

Any Subcontractor that has been approved by the Owner shall neither be removed nor replaced without the prior written consent of the Owner.

CLAUSE. 5.4 : Reinforcement steel and structural steel

Use of Indian standard reinforcement steel and structural steel manufactured by Primary steel manufacturers only will be allowed for the work under this contract. For

Non-standard steel sections, the steel manufactured by the producers other than Primary steel manufacturers shall be allowed after prior approval of Engineer – in – Charge in writing.

CLAUSE. 5.5: Electricity

The Owner shall not provide electrical power. Contractor has to arrange with necessary permission from relevant authority if any at his own cost electrical power for construction or for general lighting and other usage

The Contractor shall, at his own cost, provide approved temporary electrical connections, cables, distribution boards and related equipment for construction, as required by the Engineer-in-Charge.

The Contractor shall permit and enable all sub-Contractors to use his power & distribution facilities. The Sub-Contractor shall pay such amount for the use of power & distribution facilities as may be determined between the Contractors.

The Contractor shall, at his own cost and in order to prevent interruption of the Work(s) due to power failures, provide for stand-by diesel generators of sufficient capacity as per the requirements to supply adequate electricity for the Works and for other uses.

Disruptions in power supply, whether due to power failures, load shedding, generator breakdowns, non-availability of Electric Supply or any other reason, shall not be accepted as a valid reason for delays and deficiencies in the Work or for claims for additional payments.

The Contractor shall, at his own cost supply the required electrical power supplies to the Site offices of the Owner as directed by the Engineer-In-Charge.

CLAUSE.5.6 : Fossils:

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Owner and the Contractor, be deemed to be the absolute property of the Owner. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer’s instructions for dealing with the same. If, by reason of

such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Owner and the Contractor, determine:

CLAUSE.5.7 : Insurance

The Contractor shall at his own expense arrange for all insurance policies, including workmen compensation policy and Contractor's All Risk policy (CAR Policy) in the amount of the Contract effective from the date of commencement of Work(s) and until final completion of the Work(s) also taking into consideration the defects liability period, against all of the following risks.

Injuries and damage of persons, property, machinery, equipment, vehicles, animals or things, within or outside the site, arising out of his operations or of any sub-Contractors, nominated or otherwise, or out of any actions of his employees, agents or representatives, limited to Rs. 20,00,000 (Rupees Twenty Lacs) per accident

Injuries to his or any Sub-Contractor's employees.

Damage to or loss of the property, equipment, and materials at site, of the Owner, Contractor and all Sub-Contractors, as a result of natural causes such as lightning, storm, flood, rain, fire, earthquake, explosion, landslide, etc.

Damage and injuries to persons, property and materials arising out of riot and civil commotion, theft, sabotage malicious acts, terrorist activities, flood, water logging etc.

The insurance policy or policies to cover risks of every nature shall be in the joint names of the Owner and Contractor, and the original of such policy/ policies shall be lodged with the Engineer-in-Charge. The Contractor shall also lodge the premium receipts with the Engineer-in-Charge, such standing jointly in the names of the Owner and the Contractor.

If the Contractor fails to arrange the requisite insurance or fails to renew the policies, the Owner shall arrange for obtaining the requisite insurance policies and or renew them and recover the cost of all premiums from the Contractor and/or subsequently deduct such amount from the payments due and payable by the Owner to the Contractor from the bills raised by the Contractor in respect of the Work(s) executed.

No certificate of payment shall be issued by the Engineer-in-Charge whether for an interim or of the final bill raised by the Contractor if the Contractor fails to arrange for total insurance cover.

The Contractor shall reinstate in a manner approved by the Engineer-in-Charge all damage of every sort caused entirely at his cost so as to deliver up to the Owner the whole of the Work(s) complete and perfect in all respects, and so certified by the Engineer-in-Charge and also make good or otherwise satisfy all claims for damage to property of third parties.

The Contractor shall be responsible for anything within his control and for all risks and consequences, which are not included in the purview of the insurance policies.

The insurance cover shall stand extended until final completion of the Works and the contract and shall also cover the defects liability period.

The Contractor undertakes not to cancel any insurance policy nor reduce its scope without the written consent of the Engineer-in-Charge.

The Contractor undertakes to file necessary insurance claims jointly with the Owner and also to join the Owner in filing any claim the Owner chooses to.

Payments against all insurance claims shall be received in the name of the Owner and commensurate adjustments shall be made in accounts with the Contractor.

The aforesaid insurance policy/policies shall not be cancelled till the Engineer-in- Charge has agreed to their cancellation.

The Contractor shall prove to the Engineer-in-Charge from time to time that it has taken out all insurance policies referred to above and has paid the necessary premium for keeping the policies alive till the end of the defects liability period.

The Contractor shall ensure that similar insurance policies are taken out by his Sub-Contractor (if any) and shall be responsible for any claims of losses to the Owner resulting from their failure to obtain adequate insurance protections in connection thereof. The Contractor shall also obtain the originals of the policies and the premium

receipts from the Sub-Contractor and shall lodge the same with the Engineer-in- Charge.

CLAUSE.5.8: Good For Construction Drawings, Details and Clearance to Construct.

After the acceptance of the Letter of Intent, issued by the Owner – Nalanda University, the contractor will be issued "Good for construction" drawings for works. The contractor will arrange to mobilize his resources in very positive and judicious manner to start work on maximum possible fronts. This Execution Plan will be discussed with Project Management Consultants, Architect Consultants and NU in detail and will be finalized subject to changes, if any, and will be agreed to by all the stake holders. If the contractor fails to show reasonable progress for the works for which the drawings and details are already available, Then the Owner Nalanda University, through the Engineer In Charge, will take suitable punitive action like withholding the payments due to contractor, which is equivalent to the amount to be withheld for completion of nearest mile stone as per this Notice Inviting Tender. The withheld amount will be released as soon as the corrective action is taken by the Contractor, for making up the time lost due to delay.

The contractor on receipt of detailed drawings for construction, will be required to prepare the mock ups for various items of work, as soon as possible, and get the same approved from the Owner- Nalanda University and the Architect Consultants. This shall be done at the actual location of each type of sample required. The Contractor is expected to execute entire work of similar nature, exactly similar to the mock up work in terms of materials used and workmanship desired. The work not matching to the above criteria will be removed and redone to the entire satisfaction of the Owner and the Architect Consultants.

CLAUSE.5.9 : Protection of Persons, Works and Property
Accident or Injury to Workmen

The Owner shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Owner, his agents or servants**.**

Accident Prevention:

General:

In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons preventing damage to or theft or loss of property, materials, supplies, and equipment; and avoiding Work interruptions. For these purposes, the Contractor shall- Provide appropriate safety barricades, signs, and signal lights.

Comply with the standards issued by any statutory bodies having jurisdiction over occupational health and safety and Ensure that any additional measures as required by the Engineer-in-Charge for this purpose.

Records.

The Contractor shall maintain an accurate record of exposure data on all accidents taken place incidental to performance of Work(s) under this contract resulting in death, traumatic injury, occupational disease, or damage to or theft / loss of property, materials, supplies, or equipment. The Contractor shall report this data in the manner prescribed by the Engineer-in-Charge.

Sub-Contractors:

The Sub-Contractors shall be bound to comply with the clause in the same manner as complied with by the Contractor. In the event of non-compliance by the Sub-Contractor of such clause, the Contractor shall be responsible for compliance of the Sub-Contractor.

Written program:

Before commencing the Work, the Contractor shall submit to the Engineer-in-Charge a written proposal for implementing this clause,

Hazardous Material Identification.

Notification:

The Contractor shall notify the Engineer-in-Charge in writing of all hazardous material 5 days before delivery of the material. This obligation applies to all materials delivered under this contract, which will involve exposure to hazardous materials or items containing these materials.

Responsibility of Contractor:

Neither the requirement of this clause nor any act or failure to act by the Owner shall relieve the Contractor of any responsibility or liability for the safety of Owner, Contractor, or Sub-Contractor's personnel or property.

Compliance with laws:

The Contractor shall comply with applicable laws, including the Public Liability Insurance Act 1991, Fatal Accident Act 1855, codes, ordinances, and regulations (Including the obtaining of licenses and permits) in connection with hazardous materials. Contractor shall pay fees and other expenses for obtaining such permission or licenses.

Sub-Contractors:

The Contractor shall insert these above clauses, relating to hazardous material, with appropriate changes on entering into contracts or agreements with Sub-Contractors and the sub-contractors shall be bound and be liable to comply with the same, and in the event of non-compliance of the same, the Contractor shall be held liable for damages or otherwise on the acts of the Sub-Contractor in this regard.

Protection of Property

Vegetation, structures and equipment:

The Contractor shall preserve and protect all structures, equipment, and vegetation on or adjacent to the Work site, and which do not unreasonably interfere with the Work required under this contract and shall not be removed by the Contractor. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place.

Utilities and improvements:

The Contractor shall protect from damage and have all existing improvements and utilities at or near the Work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall be liable to repair any damage caused to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the Work. If the Contractor fails or refuses to repair the damage promptly, the Engineer-in-Charge may have the necessary Work performed and charge the cost to the Contractor or reduce such amounts from the bills of the Contractor due and payable by the Owner.

a) Contractor shall be required to work within specified areas and they shall be allowed to use only those areas around the works under their scope, for storage of their materials, construction of site offices, erection of batching plant etc. at predetermined locations as shown on the plans. The area so demarcated, shall be barricaded in such a way that the construction activities or the moving vehicular traffic involved in carriage of construction materials/ construction waste etc. do not create interference with any other areas within the premises or activities of the Institute or the activities of other contractor/s working within the premises.

b) The contractor shall provide suitable barricading approximately 2.0 m high, with suitably painted with three rows of G.I. Sheets about 2’-6” to 3’- 0” wide (75 cms to 90 cms.) nailed or bolted with wooden poles spaced 2 to 3 meter apart and each pole 1.6 m to 2 m long 8 cm. to 10 cm. dia. The poles will be

embedded in mobile iron pedestal rings suitably framed for giving stable support as per direction of the Engineer-in-charge. All management (including watch and ward) of barricades shall be the full responsibility of the contractor. The barricades shall be removed only after completion of the work or part of the work. The contractor's rate shall include all above items of work and nothing extra shall be paid to the contractor over and above his quoted rates.

c) The positioning of barricading will be reviewed from time to time and necessary shifting barricading as directed by Engineer - in – charges shall be done forthwith by the contractor. Payment of initial erection of barricading and the shifting thereof at a later date as per requirement shall be made under relevant tender items

a) Contractor will make his own arrangements for making temporary roads and approaches to various locations of work under their scope and up to disposal sites marked on the drawing. These internal approaches and temporary roads shall be made in such a way that they do not affect construction activities of permanent roads within the premises at any time.

Watchmen and Security

The Contractor shall provide sufficient personnel and materials to provide adequate protection to the property and personnel at the site, in transit and stored goods/materials including but not limited to measures specifically required by and under the Contract Documents and any security requirements under this contract.

Corrective Action

Authority to Stop Work:

The Engineer-in-Charge shall notify the Contractor of any non-compliance with the safety and property protection measures as required under this contract of which the Engineer-in-Charge becomes aware and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's authorized representative at the site of the Work shall be deemed sufficient notice of non- compliance and

corrective action required. After receiving the notice, the Contractor shall immediately take necessary steps to correct the action. If the Contractor fails or refuses to take corrective action promptly, the Engineer-in-Charge shall at his discretion after due consultation with the Owner may issue an order stopping all or part of the Work(s) until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop Work order issued under these circumstances.

Rectification:

The Contractor shall be solely responsible to make good at his cost any damage to the Works, property of the Owner and/or any adjacent property, to the satisfaction of the Engineer-in-Charge. In case the contractor fails to do so within a reasonable time the Engineer-in-Charge shall get the same executed at the risk & cost of the contractor & deduct the same from his due payments.

CLAUSE.5.10 :Site Security:

Contractor shall be deemed to be in possession of the Works site and shall be responsible for its total security, and shall ensure that all materials, sheds, equipment, plant, tools, etc.; whether his own or belonging to any Sub-Contractor, are well protected.

The Contractor shall at his own cost install and maintain sufficient security fences and gates and employ full time round-the-clock security personnel to prevent the Works site from and against the intrusion of the public or any other unauthorized persons or vehicles.

Total security of the site, property, and materials shall be the sole responsibility of the Contractor. The presence of his consultants representatives, or the NU ’s security personnel shall in no way relieve or absolve the Contractor of his responsibilities in ensuring the security and protection of the site and everything stored or lying thereon

CLAUSE.5.11 :Warranty/Guarantee

The Contractor shall be responsible for the proper performance of the Work(s), including installations and systems, as specified under the Contract Documents.

Subject to Clause the Contractor shall, at his own cost and in the shortest possible time, repair and remove any defect or deficiency in the Works, which may appear prior to or during the defect liability period, to the satisfaction of the Engineer-in-Charge.

A guarantee will be given by the Contractor for the complete installation of the Works including its functioning, replacement of parts etc. as specified under the Contract Documents.

The defect liability period will be 24 months for the project from taking over of the system by the University. However, beyond the Defect Liability Period(i.e. after completion of 24 months), if the manufacturer provides the warranty of the appliances for more than two years, in that case, the warranty/guaranty of the system will be valid as per the OEM practice.

All the Guarantees referred above shall commence from the date of Completion Certificate.

GUARANTEE FOR WATER PROOFING TREATMENT

The contractor shall be fully responsible for and shall guarantee proper performance of the entire water proofing system for a period of 7(Seven) years from the final completion of works. In addition, specific 7 years written guarantee (to be furnished in a non-judicial stamp paper of value not less than Rs.100/-) in approved Performa shall be submitted for the performance of the system, before final payment and shall not in any way limit any other rights the Owner may have under the contract. Guarantee for waterproofing and anti-termite treatment shall comprise of all the items described in particular specification.

All waterproofing work and anti-termite treatment shall be carried out through approved specialist agency as per method of working approved by the Engineer-in-

charge. However the Contractors shall be solely responsible for waterproofing and anti-termite treatment until the expiry of the above guarantee period.

Seven years guarantee in prescribed Performa attached shall be given by the contractor for the waterproofing treatment. In addition10 %(ten percent) of the cost of those items of waterproofing under this subhead shall be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after five years from the date of completion of the work, if the performance of the waterproofing work is satisfactory. They're meaning withheld amount shall be released after completion of ten years from the date of completion of work, if the performance of the waterproofing work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through the agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period, is produced and deposited with the Owner.

CLAUSE.5.12 :Contractor's Responsibilities and Work Control

The Contractor shall have complete control of the Works and shall effectively and diligently control, direct and supervise his employees, supervisors, subordinates and Sub-Contractor(s) so as to ensure timely completion of the Works in order and in conformity with the Contract Documents. It shall be the sole responsibility of the Contractor for construction means, methods, techniques, sequences and procedures, and for coordinating the various parts of the Work, whether carried out by the Contractor or any Sub-Contractor.

The Contractor shall provide adequate, qualified and experienced personnel for the proper superintendence and execution of the Works until completion. The category and strength of such personnel shall be determined by the Engineer-in-Charge, and such approved site organization strength shall be maintained by the Contractor at all times until completion of Work(s), and also during defects liability period and as may be decided by the Engineer-in-Charge.

The Contractor shall be responsible for the design, erection, operation, maintenance and removal of temporary structures and other facilities at his own cost during completion of the Works. Any approval sought, given or implied, regarding sufficiency, stability and safety of temporary staging and facilities, shall in any way not relieve the Contractor of his responsibility.

The Contractor shall study all Contract Documents and promptly report to the Engineer-in-Charge any non-conformity, discrepancy, inconsistency or omission he may discover in the same. In the event of such discovery, the Contractor shall not proceed with the affected Works until he has received due corrections and clearances from the Engineer-in-Charge.

The Contractor shall be deemed to have thoroughly studied and satisfied himself regarding Contract Documents and particularly all drawings before commencement of the Work(s). Should any discrepancy or error be discovered during execution of parts of the Work(s) necessitating demolition, repairs or reconstruction, all such remedial measures shall be carried out only with the approval of the Engineer-in-Charge and entirely at the cost of the Contractor. In such an event the Contractor shall neither claim any extra payment nor any extension of time for any delay caused by virtue of such demolition, repairs and reconstruction.

Any instructions given to the Contractor’s supervisory staff by the Engineer-in-Charge shall be deemed to have been given to the Contractor. Instructions that involve any variations in design or specifications and which may have a bearing on time and cost shall be through a written Change Order by the Engineer-in-Charge and at rates agreed in writing prior to implementation

The Contractor shall at his own cost, obtain any permits or authorizations necessary for the execution of the Work and obtaining any permits or approvals for the works executed by him, from all concerned statutory and Owner Authorities/Authority's, including but not limited to Municipal bodies, Electrical Authority, Fire Service Authorities etc.,

The Contractor shall not be entitled to claim additional sums on account of having to work overtime in order to complete an operation that cannot be interrupted, for working in extended shifts / night shifts /holidays.

In the event the Contractor chooses to work overtime, in extended night shifts as and by way of overtime either by working extended/night shifts or morning or holidays in order to complete the Work(s) within the specified period or on holidays, he shall do so by obtaining prior written approval from the Engineer-in-Charge at least twenty-four hours in advance. The Contractor moreover shall ensure that in any of the above circumstances he maintains the full-agreed strength of his supervisory staff.

The Contractor shall take all necessary precautions to protect the site and Works, materials, plant and equipment, whether his own or belonging to the Owner or any Sub-Contractors, against hazards of fire, rains, floods, landslides, underground water, accidents, etc.

The Contractor shall not be permitted to replace nor remove his Project Manager/Project Engineer / Site Engineer etc. from the site without the prior written approval of the Engineer-in-Charge.

Submittals

"Shop drawings" means those drawings or other documents, which are specifically prepared by or on behalf of the Contractor to illustrate details of construction for the purpose of fabrication or installation and are submitted to the Owner to indicate the Contractor's intended method of achieving the end result required by the Contract Drawings and Specifications.

"Project data" includes standard drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar

materials furnished by the Contractor to explain in detail specific portions of the Work required by the. Contract.

"Samples" are physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

"Other submittals" includes progress schedules, setting drawings, testing and inspection reports, and other information required by the Contract Documents to be submitted by the Contractor for information or approval by the Owner.

Schedules of Submittals

Promptly after contract award the Contractor shall submit to the Engineer-in-Charge the submittal schedule showing when product data sheets, samples and other submittals required by and under the Tender Documents would be submitted for the approval of the Engineer-in-Charge.

Review and approval of submittals by Contractor

The Contractor shall co-ordinate and compiles all submittals required by and under the Contract Documents, and thoroughly check them for accuracy, completeness, and compliance in accordance with contract requirements and shall indicate his approval thereon in the form required by the Contract Documents as evidence of such co-ordination and checking. Submittals to the Engineer-in-Charge without the approval of the Contractor shall be returned by the Engineer-in-Charge for resubmission. Submission of shop drawings, product data or samples shall constitute a representation that the Contractor has agreed to, asserted and guaranteed that the assemblies, products or materials indicated therein will be available in a timely manner and in the quantities required for the project as set out under the Contract Documents.

Submission

All submittals shall be in English language, and any system of dimensions (i.e.; English or metric) shown shall be consistent with that used in the Contract Documents. The Contractor shall submit all Submittals in the form and number

required by the Contract Documents within required time limits and sufficiently in advance of construction requirements to permit adequate review by the Owner for correction, approval and resubmission if required. No extension of time shall be allowed on account of any delay by the Owner in approving such submittals, if the Contractor has failed to act promptly and responsively in making his submissions. Each submittal shall be identified as required by the Contract Documents.

Action on Submittals

The Engineer-in-Charge will indicate an approval or disapproval of the Submittals for and on behalf of the Owner requiring approval by the Owner and if not approved as submitted shall indicate the Owner's reasons thereof. Approval by the Engineer-in-Charge shall not relieve the Contractor from responsibility for any errors or omissions in his submittals, nor from responsibility for complying with the requirements of this contract, except with respect to variations described by the Contractor and approved in accordance with "Variations in Submittals" Clause. The approval of the Engineer-in-Charge on the submittals will be for general compliance with the intent of the Contract Documents and with the information given therein, and shall not be construed

As permitting any departure from the contract requirements

a) As relieving the Contractor of responsibilities for any error including details, dimensions, materials, etc. and

b) As approving departures from details appearing on Contract 'Drawings and Specifications.

Where approval of Submittals is required, the Contractor shall perform the Work in accordance with such approved Submittals. Any Work performed by the Contractor prior to such approval by the Engineer-in-Charge shall be at the sole risk and liability of the Contractor.

Variation in Submittals

If Submittals contain any variations from the contract requirements, other than those requested on previous submittals, the Contractor shall specifically describe such

variations in writing and the reasons thereof to the Engineer-in-Charge. If the approval of any such variation affects the Contract Price or the Completion time of the Contract, the Engineer-in-Charge shall issue an appropriate Contract modification. Otherwise, the variation may be approved by the Engineer-in-Charge, only by specific reference thereto in writing. The Contractor shall not be entitled to rely on general approval of a submittal as an approval of variations of requirements of the Contractor. If the Contractor fails to describe such variations and shall not be relieved from the responsibilities of executing the Work in accordance with the contract, notwithstanding a general approval of such submittals. Nothing contained herein shall relieve the Contractor of the responsibility of notifying the Engineer-in-Charge of any part of the Contract Drawings or Specifications, which the Contractor knows or reasonably should have known which could result in defects under construction.

Use of submittals

The Owner may duplicate, use, and disclose in any manner and for any purpose shop drawings, product data and other submittals delivered under this contract.

Placement of Orders

The Contractor shall place orders for items requiring a sample or product data submittal promptly after receiving the written approval of the submittal by the Engineer-in-Charge. No such materials or products shall be ordered or used in the Work until such written approval by the Engineer-in-Charge has been given. In the event such materials or products pre ordered or used in the Works without the written approval of the Engineer-in-Charge, the same shall be at the risks, consequences, liability and costs of the Contractor.

Use and testing of samples

Use:

Approved samples not destroyed in testing will be sent to Engineer-in-Charge. Those samples, which are in good condition, will be marked for identification and may be used in the Works. Materials and equipment incorporated in the Work shall match the approved samples within any specified tolerances. Other samples not destroyed in

testing nor approved will be returned to the Contractor at the expense of the Contractor if so requested at the time of submission.

Failure of samples to pass specified tests:

Failure of any material to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material or equipment which previously has proved unsatisfactory in service.

Taking and testing of samples:

Samples of various materials or equipment delivered on the site or in place may be taken by the Engineer-in-Charge for additional testing by the Owner outside of those found not to have met contract requirements, unless the Engineer-in-Charge determines it to be in the Owner's interest to accept the non-conforming materials or equipment with an appropriate adjustment of the Contract Price/Value as determined by the Engineer-in-Charge.

Cost of additional testing:

Unless otherwise specified, when additional tests are made, only one test of each set of sample proposed for use will be made at the expense of the Contractor. Samples, which do not meet contract requirements, will be rejected. Further testing of additional samples, if required, will be made at the expense and costs of the Contractor.

CLAUSE.5.14 : Quoted Rates

The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental

works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies as applicable (including works contract tax and GST as per Clause 38). Labour cess applicable as per relevant Central/State laws will be deducted from every bill of the contractor and deposited to respective Government department. TDS for Income- tax and Works Contract tax as applicable will be deducted from contractors' bills and deposited to respective Government department. The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. Effect of any tax due to new legislation shall be adjusted accordingly as per actual on production of documentary proofs of payment of such tax to concerned Government departments.

No foreign exchange shall be made available by the Owner for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in- Charge), shall be deemed to be included in rates

quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.

For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the laborers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

Rate shall including of Liaison work required, if any, in this regard with the local bodies. Nothing extra shall be payable on this account. Statutory charges, fees etc. required to be paid to the local bodies in this connection shall only be payable by the Owner or shall be reimbursable to the contractor on production of proof of actual payment made by him.

It is clarified that the contractor shall be responsible for obtaining all No- objection certificate (NOCs) and relevant licenses for services like lift installation, electrical installation, fire installation and like. Nothing extra shall be payable on this account.

CLAUSE.5.15 :Inspection and rectification of Works

Access:

The Owner and their authorized agents and representatives shall at all times have access to the site and other locations where parts of the Work are under preparation.

Contractor tests:

The Contractor shall notify the Engineer-in-Charge well in advance, of tests and inspections to be carried out, and shall obtain his written approval wherever so stipulated before proceeding with the Works.

Inspections:

The Contractor shall maintain an adequate inspection system and perform such inspections from time to time as will ensure that the Work called for by this contract conforms to contract requirements and does not result in any deviation. The Contractor shall maintain complete inspection records and make them available to the Owner. All Work shall be conducted under the general direction of the Contractor and is subject to Owner's inspection and test at all places and at all reasonable times before final completion and acceptance with a view to ensure strict compliance with the terms and conditions of the contract.

Owner's inspections and tests:

Inspections and tests conducted by or on behalf of the Owner are for the sole benefit of the Owner and do not: -

Relieve the Contractor of responsibility for providing adequate quality control measures,

(A) Relieve the Contractor of responsibility for damage to or loss of the material before final completion and acceptance of the Work;

(B) Constitute or imply acceptance. Or.

(C) Affect the continuing rights of the Owner after acceptance of completed Work.

Owner inspectors:

The presence or absence of an Owner's inspector does not relieve the Contractor from any of the obligations under the contract nor is the inspector authorized to change any term or condition of the contract.

Performance of inspections and tests:

The Contractor shall promptly furnish, without an additional charge all facilities, labour, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Engineer-in-Charge as per the terms of the Contract. The Owner may charge to the Contractor any additional cost of inspection or testing when work is not ready at the time specified by the Contractor for inspection or testing, when prior rejection makes re inspection or retesting necessary. The Owner shall perform all its inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the Contract Documents.

The Contractor shall be solely responsible for the protection of all finished surfaces and Works so as to avoid any repairs and shall deliver to the Owner upon final completion the Works free of any blemish, defect or damage.

(D) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the other agency as and when required by NU in addition of the Engineer-in-charge and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-charge to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.

(E) Inspection of the work by Architect Consultants appointed by the NU.

(i) The Architect Consultants appointed by NU shall be inspecting the works frequently to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract.

(ii) The Architect Consultants appointed by NU shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.

CLAUSE.5.16 :Rejected Work

The Architect Consultants and/or Engineer-in-Charge/or Owner shall be authorized to reject any Work, which in their/his opinion is not in conformity to the specifications set out in the Contract Documents. The decision of the Architect Consultants /Engineer-in-Charge in this regard shall be final and binding on the Contractor.

Defective Work whether caused due to poor workmanship, use of sub-standard materials, or on account of damage or for any other reason whatsoever, whether caused by the Contractor and/or the Sub-Contractor may be rejected by the Architect Consultants/Engineer-in-Charge and shall be demolished by the Contractor and removed promptly from the site and replaced or re-executed expeditiously by the Contractor at his own cost. The Owner, Architect Consultants and the Engineer-in-Charge shall in no event be responsible to bear any costs/liability arising on account of such defective workmanship.

If in the opinion of the Engineer-in-Charge/ Architect Consultants, it is not expedient nor feasible to correct the defective Work, the Owner shall be entitled to deduct from monies due to the Contractor, the difference in value between the executed Work and that required under the Contract, such amount of which shall be determined by the Engineer-in-Charge in due consultation with the Owner.

Clause. 5.17 :On Account Payment of Interim Bills

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.

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.

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Clause. 5.18 :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 construction and installation drawings for all Works, and Site development, 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/warrantee 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.

CLAUSE.5.19 :Limit of price Adjustment

Provided that, in determining all such price adjustment in accordance with the aforesaid sub-clauses:

No account will be taken of any amount by which any cost incurred by the contractor has been increased by default or negligence of the contractor.

If the contractor fails to complete the work within time for completion, increase or decrease of cost of specified materials shall be made using either the indices or prices relating to prescribed time for completion, or the current indices or prices, relating to prescribed time for completion, or the current indices or prices, whichever is more favourable to the Owner, provided that if an extension of time is granted, the above position shall apply to the adjustment made after expiry of such extension of time.

On completion of the works and before final payment the contractor shall give a certificate that he has made full and complete disclosure to the Engineer-in-Charge of every increase or decrease in price obtained by him on materials affected by this clause.

CLAUSE.5.20 :Exemption from price Adjustment

The following items shall not be included in the price adjustment calculation:

Liquidated damages:

(A) Retention withheld and released:

(B) Advance payments in the form of loans and their repayments:

(C) The value of any additional or varied work valued at current prices

CLAUSE.5.21 :Specifications

In the case of any class of work for which there is no such specifications as referred to in detailed specification, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per C.P.W.D. /District/ state P.W.D. / Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge. Specifications for a type of work are not covered by the detailed specifications/State P.W.D. specifications/I.S.I specifications or particular specifications, the same shall be decided by the engineer-in-charge and shall be binding on the contractor.

The engineer-in-charge shall have the power to insist upon the contractor to purchase and use such materials of particular approved make which may in this opinion be necessary for proper and reasonable compliance with the specifications and execution of work.

In the event of any variation/discrepancy in the drawings, specification and tender documents, the decision of the Engineer In charge shall be final, binding and conclusive on the contractor.

As required by the Engineer-in-charge, the contractor shall provide all facilities at site or at manufactures work or an approved laboratory for testing of materials and/or workmanship, all the expenditure in respect of this shall be borne by the contractor unless specified otherwise in the contract. The contractor shall when required to do so by the engineer-in-charge submit that the materials have been tested in accordance with requirements of the specifications.

Neither the confirmation by the engineer-in-charge not to test the materials nor the production of manufacturer(s) certificate etc. as aforesaid shall affect the right of the engineer-in-charge to reject, after delivery; the materials found not in accordance with the specifications.

CLAUSE.5. 22 :Setting Out

The Contractor shall carry out survey of the work area and it's surrounding with spot levels of the existing ground at every 2.0 mt interval before starting of any work on ground. Contractor has to submit a soft copy of the drawing in CAD format showing the spot levels and contour at every 0.5 mt interval with three set of Hard copy in the same scale of the issued drawing for setting out at his own cost. Contractor has to carry out setting out the layout of building in consultation with the Engineer-in-Charge & proceed further for the approval of Architect Consultants. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge. It shall be responsibility of the Contractor to ensure correct setting out of alignment. Total station survey instruments etc. shall be used for layout, fixing boundaries, and centerlines, etc. Nothing extra shall be payable on this account.

The Contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer-in-Charge before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.

If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the Contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

Though the site levels are indicated in the drawings the Contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. If required, contractor will have to make his own temporary/permanent benchmark to carry out further work at site. The Contractor shall protect and maintain

temporary/permanent benchmarks at the site of work throughout the execution of work. The Engineer-in-Charge or his authorized representatives shall check these benchmarks. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.

The approval by the Engineer-in-Charge, of the setting out by the Contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.

The Contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer- in-Charge.

The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work (including marking of reference points, center lines of buildings), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc. and any other incidental works like making temporary approaches to the place of work required to complete this work. Nothing extra shall be payable on this account.

CLAUSE.5.23 : Contractor shall submit fabrication/ shop drawings/ Technical data sheet for obtaining approval

The contractor shall submit technical data sheets as per the design parameters given by the Architect Consultants, in triplicate for obtaining preliminary approval of the Engineer-in-Charge for all design drawing. One copy of this document duly corrected and signed wherever necessary by Architect Consultants will be returned to the contractor for preparing and resubmitting document after incorporating the said

corrections again in triplicate for final approval, if required. Along with the completion and approval of each TDS the contractor shall also submit the sample list for checking and approval to the Engineer-in-charge. NO TDS shall be approved finally without Sample list. Once the TDS, if finally approved no request for any alternative section will be entertained. The contractor shall submit to Engineer in Charge 3 copies of all approved TDS out of which 3 copies will be issued back to the contractor for the execution of work. The contractor shall also submit copies of design calculations. Approval of shop drawings however will not absolve the contractor of his responsibility for the safety and correctness of the fabrication.

CLAUSE.5.24 :Quality Assurance

The proposed project is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like double slab structure with exposed finish form works, coarse rubble stone masonry specialized flooring work, Polysulphide sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, textured finishing, water proofing treatment with APP, Extruded Polystyrene insulation boards, china mosaic on terrace and chemical treatment in toilet drops will specially require engagement of skilled workers having experience particularly in execution of such items.

The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

In addition to the supervision of work by project management consultants, the Architect Consultants appointed by the NU shall also be carrying out regular and periodic inspection of the on-going activities in the work and deficiencies,

shortcomings, inferior workmanship pointed out by them shall be communicated by engineer in charge to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement up to his complete satisfaction. Special attention shall be paid towards line and level of internal and external finishing, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.

The Contractor shall submit, within 20 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer-in- Charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the Specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer-in- Charge. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer-in-Charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer-in-Charge.

The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contactor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-

Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge. All materials shall be got checked by the Engineer- in-Charge or his authorized supervisory staff on receipt of the same at site before use.

The tests, as necessary, shall be conducted in the laboratory approved by the Engineer–in- Charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in- Charge or his authorized representative.

The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the engineer-in-Charge, at such time and to such places, as directed by the Engineer-in- Charge. Nothing extra shall be payable for the above.

The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor .The Contractor or his authorized representative shall remain in contact with the Engineer-in–Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.

All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be

deposited with Engineer in charge or his authorized representative, prior to hiding these items.

The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.

The Contractor shall maintain all the work in good condition till the completion of entire work. The Contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in- Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

CLAUSE. 5.26 : Special Conditions – Electrical Works

1. Minimum Criteria for selecting Electrical Subcontractor.

The contractor must hold Valid Class 1 License issued by appropriate authority.

1. The Electrical contractor must have completed following under one project head in last 7 years for similar kind of projects etc.

A Supply, Installation, Testing & Commissioning of HV/MV/LV Cabling and termination work.

B Supply, Installation, Testing & Commissioning of all M.V. Switch gear and power panels made by CPRI Tested/ approved panel vendor.

C Supply, Installation, Testing & Commissioning of UPS Systems & AVR / Stabilizer systems.

D Internal wiring with PPI (Per Phase Isolation) type Distribution Boards.

E Supply, Installation, Testing & Commissioning of external lighting including poles, Fixtures and cables.

F Electrical sub-contractor should make necessary arrangement with OEM for Supply, Installation, Testing & Commissioning of Stirling engines under the supervision of supplier and all required cabling and synchronization.

BIDDERS TO READ THIS CAREFULLY.

It is in the scope of Contractor to prepare necessary drawing for approval, submitting to authorities (i.e. Local supply co., pollution control board, Getting Approval from

Authority for the Installation of Diesel Storage Tank, Electrical Inspector, etc.), getting their approval / sanction and final certificate to energize the sub-station equipment's. Filling the necessary application to supply co. following up and getting the supply, filling the necessary test report to the supply co. including required attachments. All official / statutory fees shall be paid by Owners & all other required expenses shall be borne by the contractors; no extra payment shall be made to contractor for said job.

The associate agency shall also to produce No Objection Certificate

SPECIAL CONDITIONS FOR ELECTRICAL WORKS

Main contractor shall have to associate with electrical contractor of appropriate class and category for the electrical works for the purpose of submitting technical/commercial/and execution of job as part of the contract.

In case of Main contractor himself having the Valid License and intend to execute the work may need not associate separate agency for the specific electrical component.

Main contractor shall have to submit credentials of the proposed associated agencies for verification and approval of the Engineer in charge in Performa at Annexure I. Consent letter of such selected agencies for association shall also be enclosed in the prescribed format (Annexure- II). Main contractor may propose up to three names of eligible associates with tender document to Engineer-in-charge for electrical works.

After obtaining concurrence of Engineer In charge for such association, the main Contractor shall finalize one associate for execution of the electrical component of the work.

All technical discussions need to be attended by the associate electrical contractor with the main contractor. Commercial/Technical submissions for the electrical works shall be signed and submitted by the associate electrical contractor along with the main contractor.

Main contractor has to enter in to agreement with his associate electrical contractor for the complete electrical work contained in the agreement. Verified/Attested copy of such agreement shall be supplied to the Engineer in charge within one month of the award of work or date of start of electrical works whichever is earlier. The agreement shall clearly depict rates of each item of work mutually agreed upon by the main contractor and associate electrical contractor.

The main contractor shall be entirely responsible and answerable for all the works done by his associated electrical contractor regarding their quality, adherence to the laid down specification, terms and conditions, warranty/guarantee etc. and he shall be liable to bear any compensation that may be levied by the Engineer In charge under any of the clauses of the agreement.

The main contractor shall also give necessary general power of attorney under the contract to the associated electrical contractor to enable him to receive instructions from Engineer In charge at site, sign the site order book, bills MBs for acceptance of measurement and receive stipulated materials etc.

In case the main contractor wants to change the associate electrical contractor during the currency of the contract he shall obtain prior permission of the Engineer- In-Charge. The substitute should fulfil the requisite qualification as given above.

In the event of the concerned electrical contractor not performing satisfactory or not completing the work, the Engineer In charge can also direct the main contractor to remove the electrical contractor deployed on the work and ask him to deploy another associate electrical contractor who fulfils the eligibility conditions. The new associate contractor will be bound to execute the left over work without any loss of time or variation in cost. Such associate shall also submit its details as per above and after approval of the Engineer-In- Charge shall enter into a memorandum of understanding as in earlier case.

The main contractor shall be responsible for coordinating the activities of all the works and will ensure progress of all works as per the laid down program. The main

contractor shall also arrange for proper storage of the electrical accessories at site and will be responsible for their watch and ward.

The successful bidder will have to supply the makes as per approved make list in tender in consultation with the Engineer in charge without any extra cost.

As far as possible, the successful bidder will have to place order directly to the manufacturer OR it's authorized dealer after obtaining approval from Architect Consultants through Engineer in charge. The Engineer in charge has right to check the Challan of supplier.

Make of components required to be used by contractor to complete the installation, if not mentioned anywhere, shall be required to GET IT APPROVED by Architect Consultants through Engineer in charge before installation in writing.

Within 4 week after receipt of work order, the contractor shall submit the sample of each item / component of approved make for the approval of the Owner and Architect Consultants through Engineer in charge.

The contractor must have ETAP or equivalent software support for design.

The main contractor shall ensure that electrical contractor is doing all necessary Integration, synchronization between different strategies for power generation, distribution strictly per design documents and specifications without additional cost and meets the requirement.

Electrical contractor is responsible for obtaining any kind of training in order to install and commissioning of stilling engines and without additional cost.

Electrical contractor to ensure at least one of engineer from the Stilling engine vendor shall remain present during the time of Installation and testing without additional cost.

Electrical contractor to issue shop drawings for Stilling engine assembly and integration with other systems before installation and take approvals of Architect Consultants and Engineer In charge.

Annexure I

PROPOSAL FOR ASSOCIATING LIBRARY AUTOMATION CONTRACTOR

We hereby propose the following electrical agencies as per details mentioned against each. Their consent letters are also attached as per Annexure II.

Sl. No.	Name of the Electrical contractor	Category and class of registration	Registration No.	Monetary Limit of Work	Validity of registration	Consent letter attached (Yes/No)
1						
2						
3						

Note: A copy of registration order shall be attached for each agency.

Contractor's Signature

Annexure II

CONSENT LETTER

I/We hereby give my/our consent to work as electrical contractor till the completion of work and I/we will be responsible for necessary action to hand over the work and for rectification of defects and repair during the maintenance period and defect liability period. I/we will execute the work as per specifications and conditions of the contracts.

I/we will also engage suitable Engineer for the work as per condition of contracts. I further certify that the above particulars pertaining to me are correct.

Signature of Associate Electrical Contractor

CLAUSE. 5.27 : Special Conditions - Low Voltage Works

1) Main contractor shall have to associate with ELV contractor and LV integrator of appropriate class and category for the ELV works for the purpose of submitting technical/commercial/and execution of job as part of the contract.
2) The agency to which LV sub system is sub contracted that is tendering for the total project shall be called as "LV Integrator".
3) All and entire responsibility towards the successful execution of the LV sub-systems of the project shall remain with the LV Integrator.
4) The entire Supply, Installation, Testing & Commissioning (SITC) scope of all items falling under LV sub-systems shall be executed by a single LV Integrator.
5) The LV Integrator shall be certified and authorized to supply, commission and provide services at site as may be required, including warranty and post-warranty support, as being the Original Equipment Manufacturer's authorized partner for the project. The LV Integrator shall have to formally submit the Manufacturer's Authorization as per the prescribed format annexed to this specification before commencement of the work.
6) The OEMs whose products are getting commissioned should have service centers for service and support of their respective products, preferably with toll-free nos.
7) The passive components of CAT6E cabling system and all fiber optic cables and fiber optic components, options and accessories shall be from a single manufacturer / make / brand.

8) The structured cabling system consisting of CAT6E channel, its components and fiber optics and its components shall be installed by a manufacturer's certified partner.
9) The structured cabling system consisting of CAT6E components and fiber optic components shall be duly certified with test reports submitted by the manufacturer or their authorized partners and guaranteed for a period of 20 years minimum.
10) For all LV systems, the firmware, core software, operating systems, application software and GUI etc. shall be of the latest versions.
11) The application software, operating systems software and product-specific GUI applications, here in after collectively called as APPLICATIONS shall be original licensed versions from the OEMs.
12) The active components of networking and distribution such as networking switches, their options and modules shall be also from a single manufacturer/make/brand, to ensure that software and firmware images and functionality is identical. The upgrades, patches or enhancement of firmware for switches, options and modules shall be available to the Owner free of cost for the entire life cycle of these switches.
13) The upgrades, patches and enhancements of the software images, core software and firmware for all hardware, i.e., network or networkable devices - such as controllers, interfaces, network camera, ip telephones, pabx, fire alarm panels, PA main units etc. – shall be available to the Owner free of cost for the entire life cycle of these products.
14) At the end of execution or at the time of hand-over, for all equipment that are covered in SITC, the integrator shall transfer all warranties and guaranties from OEM – original equipment manufacturer – to the Owner. The respective OEMs shall be bound to honour any and all warranties, guaranties and support commitments as agreed and committed by the LV Integrator.
15) The LV Integrator is advised to provide technical datasheets and specification sheets for approval for all items prior to initiating any supply. Any items having deviations, in absence of specific approval from Owner and

Architect Consultants through Engineer In charge shall be returned whether installed or uninstalled at the risk, liability and expense of the LV Integrator.

16) The LV Integrator is advised to inform the Engineer In charge of any specific requirements for equipment such as heat dissipation, earthling, ventilation etc. before supply so as to incorporate the same at site by other agencies.

17) At the time of project hand-over, the Owner shall nominate personnel for O&M of LV systems. The LV Integrator shall depute a qualified and well-trained engineer to impart proper training to Owner personnel on all aspects of operation, use, programming, administration and management of items under SITC scope.

18) The LV Integrator shall operate in complete cooperation with other agencies and contractors or their sub-contractors to achieve harmony of work and maintaining the overall functionality of each systems and aesthetics.

19) The LV Integrator has to use items from the approved make list and provide information on compliance of performance specifications.

20) Make of components required to be used by LV Integrator to complete the installation, if not mentioned anywhere, shall be required to be GET APPROVED from Owner and Architect Consultants through Engineer In charge in writing before installation.

21) Within 4 weeks of work order, the LV Integrator shall submit the sample of each item / component of approved make for the approval of the Owner and Architect Consultants through Engineer In charge.

Initial Criteria for Eligibility for Pre-Qualification – LV Integrator

For ELV such agency shall be termed as 'ELV System Integrator'.

ELV System Integrator shall commission the complete ELV package under the SITC scope, i.e., Supply, Installation, Testing and Commissioning.

The Principal Contractor shall honour the support obligations for the ELV scope items as per the tender document; the ownership for satisfactory commissioning, support and services during the warranty period shall be that of the Main Contractor.

ELV system integrator shall be a duly registered entity having valid registration with commercial tax, sales tax, service tax, central excise, professional tax & income tax department of the appropriate government departments. The ELV System Integrator should have been in existence in the business for at least past 07 years.

The ELV system integrator shall be a profit making entity continuously for the past 3 business years ending March 2014. The same shall be substantiated with the submission of audited balance sheet, account statements, profit and loss accounts as applicable.

ELV system integrator's business turnover for FY13-14 should be at least INR 10 Crores as at end of March 2014.

ELV system integrator should have completed at least one ELV project (telecom, I.T networking, and safety, security and building automation) of not less than INR 50 Lacs or 2 projects of value not less than INR 40 Lacs or 3 projects of value not less than INR 25 Lacs, prior to submission of their tenders. The projects could have been executed globally & their completion certificate for the same should be furnished along with the techno- commercial proposal.

ELV system integrator should be well experienced in executing projects of the above order of multi-disciplinary nature, i.e., including at least 2 sub-system heads of the ELV component of the tender, in order to ensure smooth execution of the project.

ELV system integrator should be associated (or partner) with the respective OEM(s). Proof to this effect shall be produced as per the OEM Manufacturer's Authorization Format along with the techno commercial proposal.

The ELV system integrator shall have a pan-India presence.

The LV integrator must have obtained certification under ISO 9001 or ISO 14001 or both.

BIDDERS TO READ THIS CAREFULLY.

It is in the scope of Contractor to preparing necessary drawing for approval, submitting to authorities (i.e. Local supply co., pollution control board, etc.), getting their approval / sanction and final certificate to energize the sub-station equipment's.

Filling the necessary application to supply co. following up and getting the supply, filling the necessary test report to the supply co. inclusive. All official / statutory fees shall be paid by Owners after certified by the Engineer in Charge and all other required expenses shall be on the contractors account; no extra payment shall be paid to contractor for said job.

CLAUSE.5.29 : Special Conditions – AV, VR, AR, ELV and IT Works

1. SHOP DRAWINGS

The contractor should submit shop drawings for all the works including Partition works, Façade works, False ceiling, wall paneling etc for approval to the Architect.

The Façade works shall be designed as per the technical requirement of the project and the contractor shall submit the shop drawings including all the fixing, joinery and sealing details including flashing and all other accessories as per the technical specifications before commencement of the work.

Mockup for all the interior items shall be prepared for approval at site and on the approval of the same from NU and Architect, the contractor can commence the work.

2. ASSOCIATED CIVIL WORKS

Note that all civil works associated with fixing related Interior works are included in the Contractor's scope of work, like wall chasing by wall chaser, making holes etc. for installation of piping/ducting and making good. These shall be executed in accordance with approved shop drawings of the contractor. The minor civil works & structure support for cable trays etc shall be inclusive in the scope

No extra payment / claim shall be made on this account.

3. CO-ORDINATION WITH OTHER WORKS

The Contractor during the execution of the Works shall co-ordinate with other Works, and other Agencies associated with the Project and shall work in harmony with them without causing any hindrance or obstruction or impeding the progress of their work in any way. Shafts/cut-outs (sizes)

confirmation that specified can be accommodated within the available size of shafts etc.

In respect of the work of other Services and Agencies, where the commencement or progress of such work of any other Service, or Agency is dependent upon the completion of particular portions of the Contractor's Works or generally upon the Contractor maintaining progress in accordance with the approved co-ordinate construction programmed, it shall be the responsibility of the Contractor to complete such portions and maintain such progress.

Should any differences arise between the Contractor and the other Works, and Agencies, these shall immediately be brought to the attention of the Construction Manager/Consultants who after reviewing the matters causing the differences will give his decision which shall be final and binding on the Contractor.

4. CO-ORDINATION WITH FIRE PROTECTION SYSTEM WORKS

To collect all relevant information regarding contracts etc. for the operation condition of CHP under fire conditions.

5. CO-ORDINATION WITH CIVIL WORKS

To prepare detailed shop/ working drawings for related works in accordance with the civil construction drawings.

6. CO-ORDINATION WITH HVAC, ELECTRICAL, PHE WORKS

To co-ordinate all relevant information regarding power and exact location of panels.

7. PROJECT EXECUTION AND MANAGEMENT

The Contractor shall ensure that senior planning and erection personnel from his organization are assigned exclusively for this project. The Contractor shall appoint one Project Manager holding senior management position in the organization. He shall be assisted on full time basis by a minimum of two mechanical & electrical engineer & three senior supervisors. The entire staff shall be posted at site on full time basis. Separate ID card to be given by the Contractor to each worker working on site.

The project management shall be through modern technique. The Contractor’s office at site shall be fully equipped with fax, computers &

plotter and shall prepare proper bar chart and completion schedules to be submitted & ensure timely completion. Erection engineer and supervisors shall be provided with mobile communication system so that they can always be reached.

For quality control & monitoring of workmanship, contractor shall assign at least one full-time engineer who would be exclusively responsible for ensuring strict quality control, adherence to specifications and ensuring top class workmanship for the CHP and related installation. Contractor shall furnish details of licenses of supervisors/workmen to be employed at site

CLAUSE. 5.30 : Store :

The site store of the Contractor shall be verified at the end of every month by the concerned University's officials certifying the level of minimum inventory, as specified. The Contractor is required to replace the defective work within 12 hours of its failure. A monthly breakdown report shall be submitted to the owner.

CLAUSE 5.31 : Inspection:

Bidder/manufacturer shall indicate the various specified sources of the items being procured. Type of checks, quantum of checks and acceptance norms shall be intimated, and random test and check results should be made available for inspection whenever so desired.

CLAUSE 5.32 : Pre-Dispatch Inspection:

The contractor will intimate to owner well in advance or with sufficient notice period for readiness of material at manufactures' works. The Employer/his representative may carry out stage inspection of the plant/equipment during manufacturing/ assembling stage. The Employer shall have absolute right to reject the raw material/ component/ sub-assemblies or complete equipment not found to be conforming to the specification or being of poor quality/ workmanship. The stage inspection will particularly include tests specified for any particular plant or equipment in the technical specification, general routine tests and physical measurements to be conducted during manufacturing stages as per manufacturer's standard practice.

The Bidder/manufacturer shall give fifteen (15) days advance notice to enable the Employer to arrange for inspection. Inspection and testing shall be conducted at the place of manufacture. Inspection and testing of any material under this specification by the Employer shall not relieve the Bidder/manufacturer of his obligation to supply the plant/equipment in accordance with the specification and shall not prevent subsequent rejection if it is found to be defective.

The Bidder/manufacturer shall afford the Employer's representative all reasonable facilities, without charge, to satisfy him that the plant/ equipment is being manufactured in accordance with the specifications. The Bidders/manufacturer must have adequate set of instruments for conducting tests as per IS specification. Instruments for testing shall be duly calibrated and calibration certificate should not be older than one year on the date of inspection. Calibration shall be done by NABL accredited laboratories. A comprehensive list of testing equipment/ instruments indicating make, Sr. No, type, class of accuracy, calibrating agency, calibration date etc. should be furnished, as and when desired. Calibrated instruments shall be duly sealed by calibrating agency to avoid any tampering with calibration and the details thereof shall be clearly mentioned in the calibration certificate(s).

CLAUSE 5.33 : Material Supply Lot :

Only tested material shall be supplied in compliance of relevant IS. The Test should be issued by NABL or NABL accredited laboratory and it should not be older than 3 years.

CLAUSE 5.34 : Fake Inspection Call :

In case of fake inspection call announced by the inspecting officer or University's authority, a penalty of Rs. 25000/- against Contractor shall be imposed and such amount shall be deducted from the running bill of the contractor.

CLAUSE.5.35 :Special Conditions For Directives Of Hon'ble National Green Tribunal 04.12.2014 & 10.04.2015 And EIA Guidance Manual

1. The contractor shall not store/dump construction material or debris on metalled road.

2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and /or other similar material to ensure that no construction material dust fly outside the plot area.

4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that en- route their destination, the dust, sand or any other particles are not released in air/contaminate air.

5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

7. The contractor shall ensure that C&D waste is transported to the C & D Waste site only anddue record shall be maintained by the contractor.

8. The contractor shall compulsory use of wet jet in grinding and stone cutting.

9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.

10. The contractor shall carry out on-Road- Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

11. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannoteffectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

14. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.

CLAUSE.5.35 :Special Conditions For RFID Works

(Refer Minimum Acceptable Technical Specifications)

CLAUSE.5.35: Special Conditions For OPAC System

(Refer Minimum Acceptable Technical Specifications)

SECTION 6

ADDITIONAL CONDITIONS FOR GREEN BUILDING PRACTICES

6.1 The campus is proposed to be registered for obtaining GRIHA LD Rating from GRIHA Secretariat under MNRE scheme. The contractor is required to execute the work in a befitting manner to obtain the targeted GRIHA rating by Owner.

Special conditions for GRIHA rating:-

The contractor shall prepare scheme for the approval of Engineer-in-charge for obtaining GRIHA rating in the criteria relevant to the execution of work.

The contractor shall plan and execute the work in a manner to preserve and protect the landscape during construction and shall arrange the materials/equipment and follow the procedure as per criterion 2 of the GRIHA rating as applicable.

The contractor shall appoint/engage consultant/ consultancies to provide technical guidance and supervise the work, pertaining to the criterion related to the execution of work, so that it finally achieves the targeted GRIHA rating.

The contractor shall preserve the topsoil layer for supporting vegetative growth as per the guidelines given in chapter 4, Section 1, Part 10, NBC 2005.

The contractor shall comply with NBC norms on construction safety, health and sanitation as per criterion.

The construction activity shall be done in a befitting manner and the contractor shall adopt measures to prevent air pollution at site in compliance with criterion 9 of GRIHA rating as applicable.

The contractor shall comply with all the instructions and schemes for execution of green building.

Nothing shall be paid extra for fulfilment of all these conditions except for the items existing in the schedule of quantities. For such items work done shall be paid on the basis of the agreement rates.

6.3 Pre- construction stage

Construction Vehicles, Equipment and Machinery

All vehicles, equipment and machinery to be procured for construction shall conform to the relevant Bureau of India Standard (BIS) norms.

Emission from the vehicles must conform to environmental norms.

Dust produced from the vehicular movement and other site activities is to be mitigated by sprinkling of water. Noise limits for construction equipment shall not exceed 75 dB(A), measured at one meter from the edge of the equipment in free area, as specified in the Environment Protection Act,1986, schedule VI part E, as amended on 9th May,1993. The maximum noise levels near the construction site should be limited to 65 dB (A) Leq (5 min) in project area. Contractor has to make a confined boundary to restrict construction activities within it. Contractor is required to prepare the Construction waste management plan for segregation, storage and safe disposal of construction waste for the approval of engineer in charge.

Construction Stage

6.4.1 Construction Wastes Disposal

The pre-identified dump locations will be a part of solid waste management plan OR construction waste management plan or safe handling, storage and recycling of construction waste to be prepared by the Contractor in consultation with Engineer-in-charge. Contractor needs to designate the area for construction waste storage. Inert and hazardous waste should be collected and stored separately on site.

The other construction waste should be either reused on site or safely dispose them off to designed agencies for recycling. The procedure of waste disposal either on- site reuse or selling for recycling purpose should be documented by photographs / log books / receipt copies and evidences needs to be submitted to the Engineer In charge. Contractor shall get approved the location of disposal site prior to commencement of the excavation on any section of the project location.

Contractor shall ensure that any spoils of material will not be disposed of in any municipality solid waste collection bins.

6.4.2 Procurement of Construction Materials

All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and maintain cleanliness of the roads.

Wheel Tires of all vehicles used by of the contractor, or any of his sub-contractor or materials supplies shall be cleaned and washed clear of all dust/mud before leaving the project premises. This shall be done by routing the vehicles through tire washing tracks.

Contractor shall arrange for regular water sprinkling at least twice a day (i.e. morning and evening) for dust suppression of the construction sites and unpaved roads used by his construction vehicles.

6.4.3 Water Pollution

The Contractor shall take all precautionary measures to prevent the wastewater during construction to accumulate anywhere. The wastewater arising from the project is to be disposed of in the manner that is acceptable to the Engineer-in- charge.

6.4.4 Air and Noise Pollution

Contractor shall use dust screens and sprinkle water around the construction site to arrest spreading of dust in the air and surrounding areas.

Contractor shall ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that emission levels comply with environmental emission standards/norms.

For controlling the noise from Vehicles, Plants and Equipment, the Contractor shall confirm the following:

All vehicles and equipment used in construction will be fitted with exhaust silencers.

Servicing of all construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective will be replaced.

Noise emission from compactors (rollers) front loaders, concrete mixers, cranes (movable), vibrators and saws should be less than 75 dB(A).

As per the standards/guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) sets, noise emission in dB(A) from DG Set (15-500 KVA) should be less than 94+10 log 10 (KVA). The standards also suggest construction of acoustic enclosure around the DG Set and provision of proper exhaust muffler with insertion loss of minimum 25 dB (A) as mandatory.

6.4.5 Personal Safety Measures for Labour

Contractor will provide the following items for safety of workers employed by contractor and associate agencies:
Protective footwear and gloves to all workers employed for the work on mixing, cement, lime mortars, concrete etc. and openings in water pipeline/sewer line.
Welders' protective eye-shields for all workers who are engaged in welding works.
Safety helmet and Safety harness/ belt.

The following provisions shall be maintained by the contractor at site:

6.5.1 Provide adequate sanitation/safety facilities for construction workers to ensure the health and safety of the workers during construction, with effective provisions for

the basic facilities such as sanitation, drinking water and safety equipment or machinery.

All the workers should be wearing helmet and shoes all the time on site.

Masks and gloves should be worn whenever and wherever required.

Adequate drinking water facility should be provided at site, adequate number of decentralized latrines and urinals to be provided for construction workers.

Full time workers residing on site should be provided with clean and adequate temporary hutment. Crèche/Day-care facility should be provided to young children of laborers residing on site. Child labour should be banned on site.

First aid facility should also be provided.

Overhead lifting of heavy materials should be avoided. Barrow wheel and hand-lift boxes should be used to transport materials onsite.

Tobacco and cigarette smoking should be prohibited onsite.

All dangerous parts of machinery are well guarded and all precautions for working on machinery are taken.

Maintain hoists and lifts, lifting machines, chains, ropes and other lifting tackles in good condition.

Use of durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.

Ensure that walking surfaces or boards at height are of sound construction and are provided with safety rails and belts. Provide protective equipment such as helmets.

Provide measure to prevent fire. Fire extinguisher and buckets of sand to be provided in fire-prone area and elsewhere.

Provide sufficient and suitable light for working during night.

Ensure that measures to protect workers from materials of construction, transportation, storage and other dangers and health hazards are taken.

Ensure that the construction firm/division/company have sound safety policies.

Comply with the safety procedure, norms and guidelines (as applicable) as outlined in NBC 2005 (BIS 2005c).

Adopt additional best particles and prescribed norms as in NBC 2005 (BIS 2005).

6.5.2 Identify roads on-site that would be used for vehicular traffic. Update vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral type that make up the surface base. Add surface gravel to

reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10-20%. Limit vehicular speed on site 10km/h.

6.5.3 All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust/particulate emissions.

6.5.4 Spills of dirt or dusty materials shall be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained/cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.

6.5.5 Ensure that water spraying is carried out by wetting the surface by spraying water on:

Any dusty material.

Areas where demolition works is carried out.

Any unpaved main-haul road and.

Areas where excavation or earth moving activities is to be carried out.

The contractor shall ensure the following:

Cover and enclose the site by providing dust screen, sheeting or netting to scaffold along the perimeter of a building.

Covering stockpiles of dusty material with impervious sheeting.

Covering dusty load on vehicles by impervious sheeting before they leave the site.

Transferring, handling/storing dry loose materials like bulk cement and dry pulverized fly ash inside a totally enclosed system.

Spills of dirt or dusty materials shall be cleaned up promptly so that the spilled material does not become a source of fugitive dust and also to prevent seepage of pollutant-laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained/cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.

Clear vegetation only from areas where work will start right away.

Vegetate/mulch areas where vehicles do not ply.

Apply gravel/landscaping rock to the areas where mulching/paving is impractical.

6.6.1 Adopt measures to prevent air pollution in the vicinity of the site due to construction activities. There is no standard reference for this. The best practices should be followed (as adopted from international best practice documents and codes).

6.6.2 Provide hoardings of not less than 3m height along the site boundary, next to a road or other public area.

6.6.3 The contractor shall provide experienced personnel with suitable training to ensure that these methods are implemented. Prior to the commencement of any work, the method of working, plant equipment and air pollution control system to be used on-site should be made available for the inspection and approval of the Engineer-in-Charge to ensure that these are suitable for the project.

6.6.4 Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed of to Municipal Corporation/local bodies dump yard and landfill sites.

Preserve and protect landscape during construction

6.7.1 Following provisions shall be made at site by the contractor to preserve and protect landscape. Nothing shall be paid on this account unless specifically provided for in the schedule of quantities.

6.7.2 To preserve the existing landscape and protect it from degradation during the process of construction. Select proper timing for construction activity to minimize the disturbance such as soil pollution due to spilling of the construction material and its mixing with rainwater. The construction management plan including soil erosion control management plan shall be prepared accordingly for each month. The application of erosion control measures includes construction of gravel pits and tyre washing bays of approved size and specification for all vehicular site entry/ exits, protection of steep slopes. Sedimentation Collection System and run-off diversion systems shall be in place before the commencement of construction activity. Preserve and protect the existing vegetation by not disturbing or damaging to specified site areas during construction. The trees that are identified to be retained on site are protected during the construction period using the following measures:

The damage to roots is prevented during trenching, placing backfill, driving or parking heavy equipment. The dumping of trash, oil, paint and other material is detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the trees.

The trees are not used for support; their trunks should not be damaged by cutting and carving by nailing posters and advertisements or in any other way.

The lighting of fires or carrying out heat or gas emitting construction activity within the ground covered by canopy of the trees is not permitted.

The young trees of saplings identified for preservation within the construction site must be protected using tree guards of approved specification.

The grades of soil should be maintained around existing vegetation. Lowering or raising the levels around the vegetation should not be allowed unless specifically directed by the Engineer –in – Charge.

Maintenance activities should be performed, as and when needed, to ensure that vegetation remain healthy.

6.8 Staging is dividing a construction area into two or more sections to minimize the area of soil that will be exposed at any given time. Staging should be done to separate undisturbed land from land disturbed by construction activity and material storage. A vector drawing plan to be submitted identifying the areas of sites, which shall be disturbed for the construction activity and apart from these other areas on site should not be disturbed. Measures should be followed for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels and perimeter dike/swale should be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line). The plan should indicate how the above was accomplished on site well in advance of the commencement of the construction activity.

6.8.1 The Contractor should follow the construction plan as proposed by the Architect Consultants/landscape consultant to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.

6.8.2 Spill prevention and control plans should clearly state measures to stop the source of the spill. Measures to contain the spill and measures to dispose the contaminated material and hazardous wastes. It should also state the designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners and petroleum products.

A soil Erosion and Sedimentation Control Plan (ESCP) should be prepared prior to construction and should be applied effectively. Measures for prevention of top soil are given below:

6.9.1 Top Soil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas and external services. It should be stockpiled to a

maximum height of 40 cm in designated areas and reapplied during plantation of the proposed vegetation. The topsoil should be separated from the sub soil debris and stones larger than 50 mm in diameter. The stored topsoil may be used as finished grade for planting areas post construction or cordoned off undisturbed areas on site. Stockpiled topsoil should not be compacted to help process of aeration. It should be stabilized on the top by temporary seeding or plastic sheets to avoid wind and water erosion. During construction period contractor has to preserve and protect existing nalas or natural drainage channel at site of work.

6.9.2 Sedimentation basin, a temporary dam or basin at the lowest convenient point of the site should be constructed for collecting, trapping and storing sediment produced by the construction activities. A flow detention facility must also be constructed for reducing peak run-off rates. This would also allow most of the sediments to settle before the run-off is directed towards the outfall.

6.9.3 Contour trenching is to be provided which an earth embankment or ridge-and-channel arrangement constructed parallel to the contours, along the face of the slope, at regular intervals on the lengths and steep slopes. They are used for reducing run- off velocity, increasing the distance of overland run-off flow. They are also used to hold moisture and minimize sediment loading of surface run-off.

6.10 Prepare the list of trees to be felled with reference to the tree survey, Compensate the loss of vegetation (trees) due to the construction activity by compensatory plantation. Replant same native and/or non-invasive species, which existed on the site before elimination, in the proportion of 1:3 (as per the suggestion of the landscape consultant).

6.11 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

6.12 The contractor shall ensure that no construction leaches (Ex: cement slurry) is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

6.13 All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

6.14 All paints, adhesives and sealants should comply with the VOC limits prescribed by GRIHA, as follows:

6.15 All the building materials and systems used on site must be as per the specifications and approved makes by the consultants.

6.16 All required certificates explaining the properties of the building material/system needs to be obtained from the manufacturer/vendor as required by the green building rating authority.

The final certificates would be produced after the approval of green building consultant with necessary due diligence.

The purchase orders of all the materials made with the manufacturers/authorized vendors should be maintained and shall be provided for the process with due diligence upon request.

6.17 Water saving measures as suggested by the consultants need to be followed on site.

6.18 The contractor / subcontractor shall prepare and submit a Site Management Plan (SMP) within 10 days of start, for approval by the Engineer-in-charge. This SMP shall indicate the locations of godown, stockpiles, barricading, waste storage, offices, vehicular movement routes etc. In short this SMP would comprehensively represent how the site activities shall be managed conforming to GRIHA guidelines.

6.19 Any other site management measures suggested by the Engineer-in-charge / green building consultant shall be followed on site.

6.20 The contractor shall submit to the Engineer-in-Charge after construction of the buildings, a detailed as built quantification of the following:

Total materials used,

Total top soil stacked and total reused,

Total earth excavated,

Total waste generated,

Total waste reused,

Total water used,

Total electricity consumed, and

Total diesel consumed.

6.21 The contractor shall submit to the engineer-in-charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.

6.22 Evidence for the implementation of the all the above required measures shall be provided to the green building consultant in the form of photographs and templates (as provided), which is required for the submission to the green building rating authority (GRIHA).

6.23 Nothing extra shall be payable for above provisions unless otherwise specified in Schedule of Quantities.

6.24 SPECIAL CONDITIONS FOR ENVIRONMENT MANAGEMET PLAN

A. The contractor shall obtain approval for laying electrical lines from the concerned SE of BERC/BSPHCL/SBPDCL and comply with the provisions as per Terms and condition for determination of Tariff Regulation, 2007 of for construction purpose as well as for final connection.

B. The contractor shall ensure taking necessary steps on urgent basis to improve the living conditions of the labour at site and provide necessary facility to the labour.

C. Contractor has to construct housing colony for labour within the site with all necessary infrastructure and facilities such as health facility, sanitation facility, and fuel for cooking, along with safe drinking water, medical camps, and toilets for women, crèche for infants. The housing may be in the form of temporary structures to be removed after the completion of the project. Details of provisions should be submitted to Engineer In charge for them to submit it to Bihar State Pollution Control Board at the time of obtaining Consent to Establish.

D. During construction period mobile STP of capacity 60 & 20 KLD shall be provided by the contractor for the labour colony. The drains should be of adequate capacity and be lined till the final disposal points. Provision for disinfection of wastewater after treatment and before reuse to be ensured by the contractor.

E. All required sanitary and hygienic measures shall be in place before starting construction activities. The safe disposal of wastewater and solid waste generated during the Construction phase shall be ensured.

F. All the laborers engaged for construction shall be screened for health and adequately treated before engaging them to work at the site.

G. All the topsoil excavated during the construction shall be stored for use in horticulture/landscape development within the project site.

H. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people only in approved sites with approve competent authority.

I. The contractor to ascertain that, there is no threat to the ground water quality by leaching of heavy metals and other toxic contaminants during construction will test soil and ground water samples.

J. Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they do not leach into the ground water.

K. The diesel generator sets to be used during construction phase shall be of low-sulphur diesel type and shall conform to Environment (Protection) Rules for air and noise emission standards.

L. Vehicles hired for bringing construction material and laborers to the site shall be in good conditions and shall conform to applicable air and noise emission standards and shall be operated during non-peak/approved hours.

M. Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase.

N. NOC shall be obtained from National State Disaster Management Authority, · wherever applicable.

O. Water demand during construction shall be reduced by the use of pre-mixed concrete, curing agents and other best practices.

P. Total domestic water requirement shall not exceed 94 KLD during construction stage.

Q. Adequate measures shall be taken to reduce air and noise pollution during construction as per CPCB norms.

R. A First Aid Room should be provided at the project site during construction phase of the project.

S. Any hazardous waste generated during construction phase shall be disposed of as per applicable rules and norms with necessary authorization of the BSPCB.

T. Regular supervision of the above and other measures for monitoring shall be done by Engineer In charge throughout the construction phase, so as to avoid nuisance to the surroundings.

SECTION 7

C.P.W.D. SAFETY CODES AND RULES

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1(¼ horizontal and 1 vertical.)

2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guardrail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.

4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.)

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm.(11½") for ladder up to and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.

6. Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

7. Demolition - Before any demolition work is commenced and also during the progress of the work,

(i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

(ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged. (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.

i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.

iii) Those engaged in welding works shall be provided with welder’s protective eye-shields.

iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with

warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :-

a) Entry for workers into the line shall not be allowed except under supervision of the safety officer or any other higher official.

b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.

d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.

h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery natureof the malba.

i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non-sparking gas engines also could be used but they should be placed at least 2metres away from the opening and on the leeward side protected from

wind so that they will not be a source of friction on any inflammable gas that might be present.

l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.

m) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.

n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-

a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :

i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.

iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.

iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

v) Overall shall be worn by working painters during the whole of working period.

vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.

vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority.

viii) Competent authority may require, when necessary medical examination of workers.

ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-

i) (a) These shall be of good mechanical construction, sound materials and adequate.

(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.

iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and

the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

iv) In case of Owner machines, the safe working load shall be notified by the Electrical Engineer deputed by the Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimize the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by Engineer-in-Charge or their representatives.

16. WARNING/ CAUTION BOARDS: All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.

17. SIGN BOARDS**:** The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in- Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Owner / owner, architects, structural consultants, University etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies. Nothing extra shall be payable on this account. Necessary protective and safety equipment shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site. No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer -in-Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

18. The PMC of the project has prepared an EHS manual and exhaustive process and guidelines for the EHS implementation plan at site. The documents and the manual containing these process and guidelines are enclosed separately with the tender documents as "EHS Manual". Contractors are expected to go through all the provisions of this EHS manual and apprise themselves of these requirements before submitting their tenders as they would be required during the execution of the project to strictly adhere to those guidelines, provisions and processes.

SECTION 8

Model Rules for the Protection of Health and Sanitary Arrangements for Workers Employed by Nalanda University (As per Standard Central P.W.D. Procedure)or its Contractors

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of Nalanda University (Central Public Works University/ PWD (DA))in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

(i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
(ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:-

(a) For work places in which the number of contract labour employed does not exceed 50-

Each first-aid box shall contain the following equipment's:-

1. 6 small sterilized dressings.
2. 3 medium size sterilized dressings.
3. 3 large size sterilized dressings.
4. 3 large sterilized burn dressings.
5. 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
6. 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
7. 1 snakebite lancet.
8. 1 (30 gms.) bottle of potassium permanganate crystals.
9. 1 pair scissors.
10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
11. 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
12. Ointment for burns.
13. A bottle of suitable surgical antiseptic solution.

b) For work places in which the number of contract labour exceed 50.

Each first-aid box shall contain the following equipment's.

1. 12 small sterilized dressings.
2. 6 medium size sterilized dressings.
3. 6 large size sterilized dressings.
4. 6 large size sterilized burn dressings.

5. 6 (15 gms.) packets sterilized cotton wool.
6. 1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
7. 1 (60 ml.) bottle containing salvolatile having the dose and mode of Administration indicated on the label.
8. 1 roll of adhesive plaster.
9. 1 snake bite lancet.
10. 1 (30 gms.) bottle of potassium permanganate crystals.
11. 1 pair scissors.
12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes /Government of India.
13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
14. Ointment for burns.
15. A bottle of suitable surgical antiseptic solution.

Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.

Nothing except the prescribed contents shall be kept in the First-aid box.

The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.

In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.

Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

(I) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.

(II) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.

(III) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.

(IV) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein

Separate and adequate cleaning facilities shall be provided for the use of male and female workers.

Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition

6. LATRINES AND URINALS

Latrines shall be provided in every work place on the following scale namely :-

Where female are employed, there shall be at least one latrine for every 25 females.

Where males are employed, there shall be at least one latrine for every 25 males

Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.

Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.

Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.

(A) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.

(b) The notice shall also bear the figure of a man or of a woman, as the case may be.

There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one

urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.

(a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.

Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.

Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).

The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b& c.

The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.

The contractor shall provide one ayaa to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.

The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.

The canteen shall be maintained by the contractor in an efficient manner.

The canteen shall consist of at least a dining hall, kitchen, and storeroom, pantry and washing places separately for workers and utensils.

The canteen shall be sufficiently lighted at all times when any person has access to it.

The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime-washed every four months.

The premises of the canteen shall be maintained in a clean and sanitary condition.

Waste water shall be carried away in suitable covered drains and shall not be allowed to Accumulate so as to cause a nuisance.

Suitable arrangements shall be made for the collection and disposal of garbage.

The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.

The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.

(a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.

(b) Washing places for women shall be separate and screened to secure privacy.

Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.

(a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment's necessary for the efficient running of the canteen.

2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.

(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.

2. A service counter, if provided, shall have top of smooth and impervious material.

3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment's.

The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.

The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.

(xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-

(a) The rent of land and building.

(b) The depreciation and maintenance charges for the building and equipment's provided for the canteen.

(c) The cost of purchase, repairs and replacement of equipment's including furniture, crockery, cutlery and utensils.

(d) The water charges and other charges incurred for lighting and ventilation.

(e) The interest and amounts spent on the provision and maintenance of equipment's provided for the canteen.

(xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

SECTION 9

Nalanda University Contractor's Labour Regulations as per Standard (C.P.W.D.) Regulation

C.P.W.D. Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the C.P.W.D./PWD (DA) Contractors Labour Regulations.

2. DEFINITIONS

Workman means any person employed by the Owner or its contractor directly or indirectly through a subcontractor with or without the knowledge of the Owner to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-

Who is employed mainly in a managerial or administrative capacity : or

Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or3

Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the age of 14 years shall be employed to act as a workman.

Fair Wages means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

Wages shall have the same meaning as defined in the Payment of Wages Act.

3.

i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. PAYMENT OF WAGES

The contractor shall fix wage periods in respect of which wages shall be payable No wage period shall exceed one month.

The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.

iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.

v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.

vi) Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.

vii) All wages shall be paid in current coin or currency or in both.

viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.

x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the authorized representative of the Engineer-in-Charge who will berequired to be present at the place and time of disbursement of wages by the contractor to workmen.

xi) The contractor shall obtain from the authorized representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:-

"Certified that the amount shown in column No .....has been paid to the workman concerned in my presence on ..... at ....."

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

(i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-

(a) Fines

(b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

(c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default

(d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.

(e) Any other deduction which the Central Government may from time to time allow.

No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: - An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-X

No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.

No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.

Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV)

The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).

(i) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI).

(ii) Register of accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

a) Full particulars of the labourers who met with accident.
b) Rate of Wages.
c) Sex
d) Age
e) Nature of accident and cause of accident.
f) Time and date of accident.
g) Date and time when admitted in Hospital,
h) Date of discharge from the Hospital.
i) Period of treatment and result of treatment.
j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
k) Claim required to be paid under Workmen's Compensation Act.
I) Date of payment of compensation.
m) Amount paid with details of the person to whom the same was paid.
n) Authority by whom the compensation was assessed.
o) Remarks

(iii) The contractor shall maintain a Register of Fines in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI)

The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

(iv) The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)

(v) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)

(vi) viii) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

8. ATTENDANCE CARD-CUM-WAGE SLIP

The contractor shall issue an Attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-VII)

The card shall be valid for each wage period.

The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.

The card shall remain in possession of the worker during the wage period under reference.

The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.

The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX)

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorized by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorized by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorized as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor’s bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after the Competent Authority has given his decision on such appeal.

The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report form the Labour Officer or the Superintending Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorized may appeal against such decision to the Superintending Engineer concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Executive Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

5. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:-

a) An officer of a registered trade union of which he is a member.
b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :-

a) An officer of an association of employers of which he is a member.
b) An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.

No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central Government on his behalf.

17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application/Interpretation or effect of those regulations the decision of the Superintending Engineer concerned shall be final.

SECTION 10

LIST OF ACTS AND OMISSONS FOR WHICH FINES CAN BE IMPOSED

LIST OF ACTS AND OMISSONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7(v) of the CPWD Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language

1. Willful insubordination or disobedience, whether alone or in combination with other.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of CPWD.
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behavior
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the CPWD or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age father's name, etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized particles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the University and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorized divulgence of business affairs of the employees.

19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.

20. Holding meeting inside the premises without previous sanction of the employers.

21. Threatening or intimidating any workman or employer during the working hours within the premises.

TENTATIVE SPACE MANAGEMENT PLAN
(Separate Document)

ARCHITECTURAL PLAN OF THE BUILDING
(Separate Document)

PAYMENT – SCHEDULE FOR ORIGINAL WORK

All running / intermediate & final payments shall be made to the agency in accordance with the following schedule:

1. Unless explicitly stated otherwise in the Tender Documents, the Contract shall be for the whole Works, based on the milestones and payment shall be as accepted in the Contract.

2. The design notes, calculations, specifications, dimensioned drawings and milestone schedules prepared by the tenderer in respect of his technically acceptable proposal shall be for limited purpose of tender evaluation and for enabling its technical acceptability, price and construction time to be prima facie assessed.

3. Irrespective of the estimated quantities and /or dimensioned details for various items of work as furnished in the design notes, calculations, specifications or outline /dimensioned drawings accompanying the tender for the work, the successful tenderer shall carry out all changes, modifications or alterations that may, during the scrutiny of the detailed designs and working drawings, or during construction be considered necessary in the opinion of the Engineer for compliance with the Employer's Requirements.

4. All duties, taxes, fees, octroi and other levies, payable by the Contractor under the Contract shall be included in the total Contract Price submitted by the Tenderer. The evaluation of the Tender by the Employer shall be made on the basis of quoted price only.

5. The Payment shall be in accordance with the provisions of Clauses of the schedule of payment.

SCHEDULE OF PAYMENT FOR EPCC WORK

SCHEDULE OF PAYMENT FOR AUDIO VISUAL (AV), LR/AR, DESIGN & EXECUTION WORKS (EPC)

Payments to the EPC Contractor shall be released as Running Account (RA) Bills and Final Bill, against measurable and certifiable milestones, in accordance with the provisions of the contract and subject to certification by the Engineer-in-Charge (EIC).

Sl. No.	Description of Milestone	Payment (% of Total Contract Value)
1	Submission and approval of conceptual designs, AV / LR-AR system architecture, functional layouts and 3D views, complete in all respects	2%
2	Submission and approval of Detailed Project Report (DPR), Design Basis Report and technology / OEM selection report for AV and LR-AR systems	3%
3	Submission and approval of final AV & LR-AR system drawings including plans, sections, schematics, signal flow diagrams, rack layouts and Schedule of Quantities (SoQ)	3%
4	Submission and approval of detailed macro and micro level construction / execution programme using Primavera / MS Project	2%
5	Submission and approval of Quality Assurance Plan (QAP), Inspection & Test Plan (ITP) and acceptance criteria	2%
6	Submission and approval of “Good for Construction” (GFC) drawings for AV, data, power and control systems	3%
7	Completion of AV, control, data and power cabling works including containment, supports, racks and mounting arrangements, duly inspected	10%

8	Supply of all AV, LR/AR and allied equipment at site, including displays, projectors, immersive systems, servers, processors, speakers, microphones, cameras, control systems, etc., complete and accepted at site	40%
9	Installation, termination and integration of all AV and LR-AR systems including racks, displays, immersive systems and peripherals	20%
10	Testing, commissioning, calibration and system optimisation of AV & LR-AR systems, including interoperability and performance verification	10%
11	Final completion, handing over and submission of complete documentation including as-built drawings, OEM guarantees / warranties, software licenses, manuals and training to end users	5%

Notes:

1 RA payments shall be made pro-rata based on actual progress of work executed at site, as measured, verified and certified by the Engineer-in-Charge.
2 Payment against supply milestone shall be released only after physical receipt of material at site, inspection and acceptance by the Engineer-in-Charge.
3 This Schedule of Payment excludes all associated civil, interior, furnishing and furniture works.
4 Payment stages may be re-sequenced by the Engineer-in-Charge to suit site requirements without altering the total contract value.
5 Final payment shall be released only after successful testing, commissioning, rectification of defects and issue of completion certificate.
6 For above all AV-AR, LR supply & installation works prorata payment will be made as assessed during execution by Engineer in Charge and will be final.
7 The payment stages is tentative and it can be rescheduled depending upon work exigency/requirement, as recommended by concerned Engineer for AV & E/M services work in consultation with Engineer-in-Charge and agency.