

**TENDER DOCUMENTS FOR**

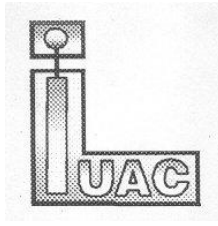
**Setting up of:**

- (1) Lecture Hall with audio & visual aids, wall paneling, furniture etc.,  
and  
(2) Scholars Room with modular furniture etc.,  
in existing halls on the second floor  
in  
Inter-University Accelerator Center,  
New Delhi - 110067**

**Tender Enquiry No.: IUAC/NIT/05/HAR/2018-19  
Date of opening: 02/07/2018 (at 3:30 PM)**

**INTER-UNIVERSITY ACCELERATOR CENTRE  
ARUNA ASAF ALI MARG  
NEW DELHI-110067**

**Phone: + 91-11-24126024 / 24126025, 24126026  
website: <http://www.iuac.res.in/>**



**INTER UNIVERSITY ACCELARATOR CENTRE  
(FORMERLY KNOWN AS NUCLEAR SCIENCE CENTRE)  
ARUNA ASAF ALI MARG, NEW DELHI - 110067**

**NOTICE INVITING TENDER NO: IUAC/NIT/05/HAR/2018-19**

- Name of the work** : **Setting up of: (1) Lecture Hall with audio & visual aids, wall paneling, furniture etc., and (2) Scholars Room with modular furniture etc., in existing halls on the second floor in Inter University Accelerator Centre (IUAC), New Delhi - 110067**
- Estimated Cost** : **Rs. 54.00 Lakhs**
- Earnest Money** : **Rs. 1,08,000/- (Rs One Lakh Eight Thousand)**
- Last Date and Time of Submission of Tender** : **02/07/2018 at 3:00 PM**
- Date & Time for opening of Tender (Techno-commercial bid - Part-A)** : **02/07/2018 at 3:30 PM**
- Date & time for opening of Price Bid (Part-B)** : **To be intimated later to the technically qualified bidders**
- Address for submission of Tender** : **Administrative Officer (S&P)  
Inter University Accelerator Centre  
Aruna Asaf Ali Marg  
New Delhi-110067**
- Place of opening of the Tender** : **Inter University Accelerator Centre  
Aruna Asaf Ali Marg  
New Delhi-110067**

Tender Documents can be collected from Administrative Officer (S&P) at a cost of **Rs. 500/-** (Rupees Five Hundred Only) by paying either in cash or through Demand Draft. The tender documents can also be downloaded from IUAC web site [www.iuac.res.in](http://www.iuac.res.in) or Central Public Procurement Portal (CPPP) [www.eprocure.gov.in](http://www.eprocure.gov.in). Tender fee is not payable if tender documents are downloaded.

Any clarifications / amendments / corrigenda etc. to NIT before last date of submission of tender will only be available on our website [www.iuac.res.in](http://www.iuac.res.in). Tenderers are requested to keep visiting this web site for all updates. In case of any correspondence for clarifications they may contact Administrative Officer (S&P) through email: [joseph@iuac.res.in](mailto:joseph@iuac.res.in).

## **Part -I: GENERAL CONDITIONS OF TENDER:**

1. **Submission of Tender:** Tenders should be submitted in sealed envelopes in two parts separately, i.e. "Techno-commercial bid" (Part-A) and "Price bid" (Part-B). Both the parts should be further sealed in an envelope super-scribing NIT No., name of work, due date for opening, bidders name & address. The tender duly filled in may be sent to the above mentioned address either by post or hand delivered in the tender box kept in the area near west side entrance, after ensuring that due entries are made in the register kept at the counter. It should not be handed over to any employee of the Centre. No tender shall be accepted later than the time schedule specified above. Tender once submitted will remain with the Centre and never be returned to the bidders.

Any clarifications/amendments/corrigenda etc., to NIT before last date of submission of bids will only be available on our website: [www.iuac.res.in](http://www.iuac.res.in). Therefore bidders are advised to keep visiting our website [www.iuac.res.in](http://www.iuac.res.in).

2. **Techno-commercial Bid (Part-A):** In this bid, the bidder should submit his company profile, organizational setup, credentials, copies of work orders and completion certificates of successfully executed similar works during last seven years, copy of Income tax clearance certificate and earnest money draft. No deviations in respect of NIT conditions are acceptable. The bidders are required to attach entire NIT (except for the price bid part) duly signed & stamped (all pages separately) as a token of acceptance to the NIT conditions with this bid.

### **The following specific conditions are essential for pre-qualification:-**

- 1) The tenderer must have completed at least THREE similar works each of value Rs. 22.0 Lakhs and above OR TWO similar works each of value Rs. 33.0 lakhs & above OR ONE similar work of value Rs.44.0 lakhs & above during last SEVEN (7) financial years. "Similar works" shall mean setting up of Lecture Halls/ Class Rooms/ Auditoriums/ Training Rooms/ Conference Rooms etc., including audio & visual aids in institutions of higher education and / or corporates etc. Copies of work orders AND completion certificates of same should be submitted with the offer.
  - 2) The bidder should have an average annual turnover of minimum Rs 1.6 Crores (Rupees one crore sixty lakhs only) for the last three financial years.
  - 3) The bidder should submit the required Earnest Money Deposit.
  - 4) The bidder should submit the entire NIT (except Price bid) duly signed & stamped by the bidder as a token of acceptance to the NIT conditions.
  - 5) The bidder should submit detailed technical specifications/ leaflets of the systems offered.
  - 6) The Centre reserves the right to either visit the works of the bidders and the similar site of installations of the bidders and carryout the verification of the works claimed to have been completed by them during last seven years for qualification of their bids.
3. **Price Bid (Part-B) :** In this bid the bidder is required to quote his items rates/prices for the works mentioned in the scope of work & technical specifications. The rates/prices should be inclusive of all material cost, labour, services, charges for the plant/machinery/tools & tackles required for completion of work, freight, insurance, octroi, up to IUAC site basis. However **Goods & Services Tax (GST) shall be quoted extra as applicable.**

No charges towards quantity variations, escalation, site difficulties, other hidden cost even though they may not have been explicitly mentioned in the scope and schedule of works shall be payable extra. It is mandatory on bidder to quote all items rate as asked for in the **Schedule of Prices**. Failure to adhere to this condition will lead to rejection of tender. The bidder should quote unconditional rates, neatly written without any overwriting and duly signed and stamped on all pages.

4. **Earnest Money Deposit:** An earnest money of **Rs 1,08,000/- (Rupees one lakh eight thousand only)** has to be enclosed along with the Techno-commercial bid (Part-A). The EMD shall be only in the form of a Bank Draft in favor of **Inter University Accelerator Centre**, payable at **New Delhi**. No Cheque/Cash shall be accepted as EMD. The refund of EMD to all other bidders except the lowest bidder shall be made within 15 days from the date of opening of price bid. The refund of EMD of the successful bidder shall be made after completion of works and acceptance of system by IUAC.
5. **Exemption from EMD:** Unit registered with National Small Scale Industries Corporation (NSIC) are exempted from payment of EMD, subject to:
  - The unit being registered with NSIC for the items tendered.
  - Furnishing of Self Attested copy of valid NSIC registration Certificate.
  - Photocopy of application for registration at NSIC or for renewal of NSIC will not be acceptable. Such offers will be treated as offers received without EMD.
6. **Validity of Tender:** Tender shall be valid for our acceptance without any change in rates and NIT conditions for a period of 90 days from the date of opening of price bid.
7. **Escalation:** No escalation over and above items rates quoted by the bidder shall be paid during the execution of contract.
8. **Performance Bank Guarantee:** The successful bidder has to submit a performance bank guarantee of an amount equal to 5% of total contract value valid for 18 months within a period of 10 days from the date of issue of LOI/Purchase Order, failing which LOI/Purchase Order shall be deemed to be canceled and EMD of the bidder shall be forfeited.
9. **Completion time:** The time shall be the essence of this contract and entire work as detailed in schedule of rates is to be completed in all respect within a period of **120 days** from the date of submission of Performance Bank Guarantee (as per clause 8 above) by the Bidder. Any delay in completing the work for reasons attributable to the Contractor is liable for liquidated damages as per clause 18 of NIT. However under the force-majeure conditions or delay due to reasons beyond control of the bidder, IUAC may grant suitable time extension for which the contractor has to request along with the justification/ reasons well in advance to the Director, IUAC for approval without any prejudice to price escalation. No time extension request shall be considered after the expiry of completion period of contract. The decision of the Director will be final and binding on the bidder/contractor.
10. **Scope of Work:** Detailed scope of work, terms and conditions, technical specifications, list of approved makes etc. are enclosed with this NIT as Part-II: Special Conditions & Technical Specifications.
11. **Deviations:** No deviation from the stipulated commercial terms and conditions will be allowed. Tenders should be unconditional.

12. **Site Conditions:** Bidder shall acquaint himself fully with the site conditions and the working environment of IUAC before quoting his rates by visiting the site on any working day during normal office hours. The bidder shall also submit a Certificate/Undertaking as per attached format regarding the site visit. No compensation on account of any site difficulties will be entertained at a later date after award of works. Arrangement for site visit can be made by contacting at [joseph@iuac.res.in](mailto:joseph@iuac.res.in) well in advance before the due date of submission of tender. No claim for extension of time shall be entertained in this regard.
13. **Correspondence:** All the correspondence in respect of tender/contractual obligation shall be made to A.O. (S&P), Inter University Accelerator Centre, Aruna Asaf Ali Marg, New Delhi-110067.
14. **Terms of Payment :** The payment shall be made on submission of the bills by the bidder and after due certification by the IUAC person responsible for supervision of the work in following manner:-
  - i) 60% Payment will be released on delivery of items at site on pro-rata basis after inspection by IUAC.
  - ii) 30% Payment will be released after installation, testing and commissioning of all parts/items of ordered works including minor finishing works & cleaning of site up to the satisfaction of IUAC Engineers.
  - iii) Balance 10% Payment will be released after installation, testing and commissioning and furnishing of a performance bank guarantee of an amount equal to 5% of final bill amount valid for the guarantee period.
15. **Guarantee/Defect liability period:** The bidder should guarantee for the works/items executed/supplied by him from manufacturing/engineering defects and bad material/workmanship for a period of **365 days** from the date of acceptance by IUAC. During this period if any replacement of items and/or repairs/rectification is needed, he shall make the same free of cost.
16. **Labour Laws:** The contractor will abide by all the rules and regulations related to labour laws, accident, Workman Compensation Act, workmen insurance, ESI, PF etc. This will be the sole responsibility of the contractor. IUAC will not be a party at any stage in any of the disputes relating to the above. In case any liability arises due to non-conformance by the contractor, under no circumstances IUAC will be liable for the same.
17. **Rules governing the Contractor's employees working in the IUAC Premises:** The contractor's employees working inside the IUAC campus will abide by the instructions which are furnished to them by Engineer in-charge from time to time. Any damage to the IUAC property due to mishandling, carelessness on the contractor's or his workmen's part will be recoverable from the contractor's bills.
18. **Liquidated damages:** In case the work is delayed beyond the specified completion period for reasons attributable to the contractor, deductions on account of Liquidated damages @ 0.5% per week will be made subject to a maximum of 10% of the total order value awarded by IUAC. However, in case the works are delayed beyond the scheduled completion/ contract period, IUAC reserves the right to get the work done by any other agency at the risk and cost of the existing contractor and amount to this affect will be deductible from existing contractor's bills/dues with an additional amount @ 15% as departmental charges.

19. **Right of The Director IUAC: Director, IUAC reserves the right to accept or reject any tender without assigning any reason and does not bind himself to accept the lowest tender.**
20. All the persons deployed by the contractor at IUAC site will have to carry valid gate passes, which will be issued after submission of their bio-data in desired format by the contractor. Any negligence/offense on their part will attract immediate removal of person(s) from site.
21. Watch and ward of all material till the system is taken over by IUAC shall be the sole responsibility of the contractor and pilferage etc. shall be entirely to his account.
22. All the employees of the contractor working at our site will have to be covered under insurance against any personal accident and IUAC will not be liable for payment of any compensation on that account.
23. The works shall be carried out as per the norms set by the manufacturer of respective equipment/material, specification and specific instructions as may be issued by the IUAC Engineer responsible for work from time to time.
24. During execution of work the contractor should follow all standard norms of safety measures/precautions to avoid accident/damages to persons, machines and buildings. On non-adherence of this clause, suitable fines as decided by the Director IUAC shall be imposed.
25. Manpower deployed by the contractor at our site for carrying out contracted works is strictly prohibited being associated with any other works in the campus.
26. No material belonging to the contractor whether consumable or non-consumable should be brought inside the IUAC campus without proper entry at the main gate nor any material should be taken out without proper gate pass issued by the Centre.
27. IUAC will provide free water and electricity during installation work at IUAC at one point. The contractor has to make his own arrangements for drawing power and water from that point as per his requirement.
28. Tenders once submitted will remain with the Centre and will never be returned to the bidders.
29. **Termination of Contract:** The Director, IUAC reserve the right to terminate the contract on account of poor workmanship, failure to start the work within 30 days from the date of issue of LoI/Purchase Order, non-compliance of set norms/ specifications for the works, delay in progress of work, violation of any contract provisions by the Contractor. The contract can also be terminated at the request of Contractor within 10 days from the date of LOI/ purchase order. In such case the EMD of the Contractor will be forfeited. If the contractor requests the termination of contract any time after submission of performance bank guarantee, the Performance Bank Guarantee shall be encashed along with forfeiture of EMD.
30. **Any dispute arising out of this contract will be subjected to jurisdiction of New Delhi/Delhi.**

Accepted

(Signature of bidder)

**Note: Entire NIT (except price bid) is to be attached with "Techno-commercial Bid (Part-A)" duly signed & stamped by the bidder.**

## **Part-II: Special Conditions & Technical Specifications**

### **1. SCOPE OF WORK**

#### **1.1 Lecture Hall**

The general scope under this contract includes various works for setting up of a Lecture Hall for PhD level students, like wooden wall panel, perforated false ceiling acoustic works, electrical power & lighting works, raising the floor in steps, SITC of audio/visual items, projector, PTZ cameras, SITC of digital podium, writing board, projection board, etc. as detailed in this document as per detailed specifications. The scope of work broadly includes the following:

- a. Providing wooden paneling on walls and replacement of existing false ceiling panels / tiles with perforated panels / tiles, as required for acoustic purposes.
- b. Raising the existing tiled floor in four steps to make it into a classroom friendly stepped floor in the Lecture Hall.
- c. Providing PVC flooring in the entire floor area of the Lecture Hall.
- d. Providing furniture in the Lecture Hall.
- e. SITC of Digital Podium including audio/visual instruments like PC (Personal Computer), Touch Screen Monitor, Switcher Controller, Wireless Microphones, Receiver, Digital Signal Processor (DSP), Audio Amplifier, Loud Speakers, Document Visualizer, etc. complete with all required licensed software, accessories etc.
- f. SITC of Ultra-Short Throw Projector, along with spare interactive pens, in the Lecture Hall.
- g. SITC of two PTZ Video Camera units complete with all hardware, software, accessories etc. suitable for recording lectures and for web conferencing, with one camera unit having lock and track feature.
- h. Integration of above items (f) and (g) with item (e) including all wiring, cables, power supplies, controllers, conduits, connectors etc. for centralized control.
- i. Supply and installation of Lacquered Glass Writing Board with pen & duster holder etc.
- j. Supply and installation of Projection Board.
- k. Providing Wooden Shelves & Center Desk in Lecture Hall.
- l. Providing a round analog electronic quartz type Wall Clock of size approximately 40 cm with roman numerals on the dial.
- m. Providing exit signboard, fluorescent adhesive tape on floor in the aisles, corner guards, pin-up board etc.

- n. Providing power outlet in each student desk, central desk, digital podium, projector, PTZ cameras etc. by laying conduits, wires and junction boxes on floor/wall/ceiling & extending the existing power points, LAN points, telephone points from wall to the wooden paneling.
- o. Providing additional two-way light switches by extending the light circuits by laying suitable conduits, wiring, boxes, switches etc.
- p. In addition to the above, the bidder has to do all minor sundry works including supply and fixing of assemblies, accessories, junction boxes, hardware items, foundation bolts, termination lugs for electrical connections as required and all other sundry items which are useful and necessary for proper assembly and efficient working of various components of the work, whether or not such details are indicated in the schedule of prices. Nothing extra shall be paid on this account. Such works shall be deemed to have been included in the bidder's offer.

## **1.2 Scholars Room**

The general scope under this contract includes various works for setting up of a room for PhD research scholars to work, called Scholars Room, by providing modular workstations, chairs, personal locker units, shelves, pin up boards, etc. as detailed in this document as per detailed specifications. The scope of work broadly includes the following:

- a. Supply and installation of Modular Workstation type furniture.
- b. Providing power outlet for each modular workstation by laying conduits, wires and junction boxes on floor/wall & extending the existing power points.
- c. Providing sitting Chairs.
- d. Supply & installation of Personal Locker Units.
- e. Providing Wooden Shelves as per approved design / drawings.
- f. Providing square shaped open Wooden Boxes for keeping posters, charts etc.
- g. Providing and fixing a round analog electronic quartz type Wall Clock.
- h. Providing and fixing exit signboard, pin-up boards, etc.





## 2. Technical Specifications

### 2.1 Wooden Paneling on side walls

In the Lecture Hall, all internal surfaces of walls including exposed columns, window & door corners etc. shall be covered with wooden paneling for providing acoustical wall surface. The wooden paneling shall be installed by providing suitable frame work for holding the plywood & veneer panels properly leveled along the wall.

Wooden paneling shall be made out of 9 mm thick plywood duly screwed on leveled teak wood frame work and 4 mm thick decorative veneer fixed on the plywood of suitable design & colours having groves at certain intervals as per approved design & colour scheme. The batten, plywood, veneer and teak wood shall be of termite and borer free, water proof for longer life from approved manufacturers only. The outer surface of the wall panels shall be properly polished by providing initial sealer polish & melamine polish for final finish. The edges of the wooden paneling shall be finished by using wooden molding, beading etc., wherever required.

**Installation:** The wooden panels are to be installed by providing & fixing a wooden frame made out of 50×25 mm first class teak wood battens. The frame work shall have battens fixed to each other making sections of size 600×600 mm center to center. It shall be properly fixed on the walls from floor to ceiling by using required screws & plugs at spacing of 1000 mm to hold the load of frame & wooden panels. The wooden frame shall be properly leveled for holding all plywood panels on the same level. The edges of the wooden paneling shall be finished by using wooden molding, beading etc. wherever required.

### 2.2 Replacement of False Ceiling Tiles

The existing false ceiling tiles in the Lecture Hall shall be replaced with acoustic ceiling tiles. The existing frame work shall be used and only the removable tiles shall be replaced. There should be no warping and sagging in the final finished ceiling. The acoustic grid ceiling tiles shall be of GI metal off-white colour of size 600×600 mm, 0.5 mm thick and 12 mm height, made out of GI sheet having galvanizing of 100 gm/sq.m (both side inclusive) and 20% perforation area with 1.8 mm dia. holes having a sound absorption (NRC) of 0.5, electrostatically polyester powder coated of thickness 60 microns (minimum), glossy finish and having suitable cotton lining at the inner side of the tiles. At least 15 ceiling panels shall be installed by making suitable cut out for AC diffusers. The existing smoke detectors shall also be installed to the new tiles after removing from existing tiles.

### 2.3 Raising the Floor with Steps

The existing leveled tiled floor shall be converted into stepped floor in the Lecture Hall by creating 4 steps of height 100 mm each. The stepped floor shall be created by raising the floor in steps by using brick work boundary & light weight Cinder / Foam Concrete as filling material as per the attached drawing. The actual size of the stepped flooring shall be decided in consultation with the furniture manufacturer's design. The Cinder / Foam Concrete shall be properly compacted to bear the load of standard lecture hall of post graduate student's level. The brick work with common burnt clay F.P.S. (non-modular) bricks of class designation 7.5 in Cement mortar 1:4 (1 cement: 4 coarse sand) shall be used for making the boundary of raised portion. Cement Concrete (CC) work of 75 mm deep shall be laid on the Cinder / Foam Concrete surface by using M25 grade CC properly leveled for installing PVC flooring.

The outer surface of the brick work shall be properly plastered by using 1:4 cement & fine sand.

#### **2.4 PVC Flooring (Vinyl Sheet Flooring)**

The finished floor of the Lecture Hall shall be provided with PVC flooring including all vertical steps sides etc. in different colours. The colour & surface finish of the flooring shall be approved by providing sample to the Engineer-in-charge before supply. The colour shade shall be different in sitting area from the dais side. The vinyl sheet flooring shall be made of using 2 meter wide and overall thickness of 2 mm for covering the entire floor. The thickness of wear layer would be 2 mm. The product should be homogeneous and single layered. The wear surface shall consist of impregnated polyurethane homogeneous mixture of PVC with TRUESHIELD technology, Plasticizers without DOP, Urethane, colour pigments and filler calendered to form a sheet. Colour and pattern details shall be dispersed throughout the thickness of the wear layer. It shall conform to group "T" wear resistance as per EN 649, Clean Room certified with class 'A' as per ASTM F5100, Flammability resistance of class Bfl-s1 as per GB8624-2006, Dynamic coefficient of friction of class DS as per EN 13893, Thermal Resistance of 0.072mK/W as per EN 12667, Thermal conductivity of 0.071W/mK as per EN12524, impact sound reduction of 3dB as per ISO 10140, Slip Resistance of class R9 as per DIN 51130, Residual indentation of 0.03 mm as per GB/T 4085-2005, Colour fastness rating of  $\geq 6$  as per ISO 105-B02, total weight being 2.8 kg/m<sup>2</sup> as per EN430. The product shall be suitable for applications in class 23/34/43 areas as per EN685. Product shall exhibit anti-static behavior, resistance to bacteria, resistance to chemical, resistance to staining, suitability to caster chair.

**Installation-** It is important to ensure that the sub-floor on which the sheet is being laid is smooth, flat, hard and free from moisture, grease etc. In case of an uneven sub-floor, the same should be leveled using self-leveling compound. The moisture present in the sub-floor should be less than 8% before installation of the floor. The sheet should be installed as per recommended adhesive. The installation shall be undertaken as per manufacturer's installation instructions.

#### **2.5 Step Guards in aisle**

The steps in PVC floor in aisle in the Lecture Hall are to be protected at corners by using corner guards. The corner guards shall be made out of 2 mm thick 50 mm wide anodized aluminium channels. The channel surface should have un-even pattern to avoid slip (sample to be got approved before supply). It shall be properly screwed on the steps by using 50 mm tapered head screws or fixed by using standard glue at corners in aisle to protect the corners as required.

#### **2.6 Electrical, LAN & Telephone Points on Wall**

The existing electrical power points, LAN points & telephone points on the plastered wall in the Lecture Hall should be extended to the proposed wooden wall paneling at the same location by providing & fixing suitable boxes, wires etc. as required. The existing switches, sockets & cover plates shall be re-used for extending the existing power points. Additional power points for projector, video recorder etc. shall be provided by looping with the existing power points on the wall. Required PVC conduits, wires, switches & sockets, boxes etc. of modular type shall be used for making additional power points above the false ceiling.

## **2.7 Electrical Power Points for the Desks, Modular Work Stations & Digital Podium**

Each desk in the Lecture Hall shall have at least one 6 Amp switch & two sockets of 6 Amp for laptop computer charging. All switches & sockets shall be modular type with suitable box, proper wire management system, ducts etc. as required. These shall be properly fixed on the desired location as finalized by the Engineer-in-charge. A total of 5 circuits by using 3C×1.5 sq.mm copper flexible cables shall be laid through the conduits laid in the floor from the existing power points on the side wall.

Similarly each modular work stations in the Scholars Room shall be provided with at least 2 numbers of 6 Amp universal type modular sockets with switch and suitable box at suitable location. Wire management through main spine shall be provided using suitable cable ducts embedded within the partition. The concealed conduits shall be provided for carrying wires up to the power outlets. Each set of 8 work stations shall be looped together using 3C×1.5 sq.mm copper flexible cable for providing power. The main circuit to 8 work stations shall be of size 3C×2.5 sq.mm copper flexible cable to be drawn from the power points available on the side wall of the hall.

In both the Lecture Hall as well as the Scholars Room, PVC conduits of 1 inch diameter shall be laid in the floor from near wall to desk / work station with suitable junction boxes and metallic covers to lay the cables for power points. In the locations where the floor is not being raised, smaller diameter conduits as per depth availability shall be laid by cutting the floor tiles and digging suitable groove on the floor.

## **2.8 Converting Light Switches into Two-way Switches**

The Lecture Hall presently has two light switches near the entry door. These two switches have to be combined into a single switch board near the entry door by extending wires from these switch boards to a combined switchboard which shall be fixed on the wooden panels. Another switch board is to be fixed near the lacquered board at desired location by laying suitable conduit on the wall/ceiling and copper wires including earth wire at the desired location. All materials like suitable metallic box, 15 Amp modular two-way switches, modular cover plates etc. are to be supplied & fixed by the bidder.

## **2.9 Integrated Digital Podium**

An Integrated Digital Podium shall be supplied and installed in the Lecture Hall with the following specification:

1. Fixed stand type, solid built housing with powder coated high quality steel of thickness 1.6 mm; colour: off-white.
2. Locking system of drawers and panel to prevent theft.
3. Sliding Door should be made of metal and medium density fiberboard (MDF) to protect the Tablet Monitor and also to act as a Laptop Stand.
4. Separate compartments within the Digital Podium to accommodate personal computer (PC), standard switcher, DSP, amplifier, document visualizer, keyboard, Wi-Fi receiver, and mouse.

5. The Digital Podium should be equipped with angle adjustable, highly sensitive capacitive tablet monitor minimum 19" wide LED back light interactive colour display with resolution 1440×900 or better having aspect ratio of 16:10, having USB, VGA / HDMI interfaces, and compatible with most recent version of Windows & Linux operating systems.

Software Functions: Writing, annotation, erasing, recording of session with video, cut & paste of annotated images, multi-flag pages available for short notes, facility of making e-book, dual page option, fit to curve, multicolour page insert, insertion of video MS office file.

6. Lecturer Laptop interface terminals and slots to use an external laptop. Podium must be equipped with One-Gang WPB Wall Plate for USB, Net 3.0, HDMI / VGA, Stereo Audio, and power sockets.
7. Mounted gooseneck adjustable microphone (condenser type, super cardioid pattern) with good sensitivity, fit user's height with good acoustics to attain good quality audio (Qty.: 1 no.).
8. Standard Wi-Fi mouse & keyboard, mouse pad for navigation during lecture.
9. 6" size or more LCD Control Panel (Pad) for Multi-control (at least 12 keys) which can utilize and control all the devices in the Lecture Hall such as room light, PC, projector, visualizer, etc.
10. Podium must be equipped with a built-in mixer, digital signal processing (DSP) unit having full duplex echo canceling, high efficiency Power Amplifier etc. which can support up to 2 column line array speaker, 2 additional wireless Microphones. The DSP should have USB port for integrating with unified software solution. The Power Amplifier should be of 300 W (150 W× 2) at 4 ohms, SNR>80 dB.
11. Supplying 2 Speakers having output at least 120W @ 4 ohm or more, Frequency range ~80 Hz to 18,000 Hz, Sound Pressure Level 96dB or better, Total harmonic distortion 0.1% (1kHz) or better.
12. Podium is to be supplied with 1 number of compatible VHF / UHF Wireless Hand held microphone and one number of compatible VHF / UHF wireless collar microphone along with transmitter / receiver systems.
13. Podium must be equipped with presentation switcher controller that accepts and scales a wide range of video and audio signals to a common, high resolution output rate. It should accommodate two composite video, two S-video, one standard or high definition component video, VGA, HDMI, LAN, and RGB computer-video sources as required for establishing the Integrated Digital Podium.
14. Digital podium must be equipped with a compatible, plug & play Document Visualizer with a built-in side lamp and software with following specifications:
  - a) Full HD Resolution with 30 frame rate per second or better,
  - b) Image Sensor 1/2" at least 1.3M Pixels CMOS or better mounted on gooseneck,

- c) Manual Focus Function,
- d) Zoom: optical zoom 16×, Digital zoom 12× or more, auto focus,
- e) Output resolution: XGA, SXGA, WXGA, 1080p,
- f) Interface: HDMI in and out, VGA in and out, audio out, composite video, USB 2.0 or better,
- g) Built-in LED light source, with workable area of 400 × 300 mm,
- h) Image capturing in single or continuous mode, sound synchronous with built-in audio,
- i) Feature to record audio and video on external USB memory card.

The Visualizer shall be integrated with the Digital Podium with all other necessary hardware and software.

15. The Digital Podium should be equipped with a Personal Computer (PC) of internationally known brand like HP, IBM, Dell, etc. with small Form factor in order to fit in the digital podium drawer. It shall have the following specifications:

- a) Processor: Intel 6<sup>th</sup> Generation Core i5, 2.4 GHz, 64 bit, with memory 4 MB cache or better and HD graphic processor.
- b) OEM motherboard with expansion slots for USB, 2.0, 3.0, NIC: 10/100/1000M on board integrated network port and reputed Wi-Fi Card, audio in and out.
- c) Memory: 8 GB DDR3 RAM expandable
- d) HDD: 512 GB PCIe NVMe Solid State Drive
- e) DVD ROM Drive: 8× or better
- f) Operating system (64 bit): Windows-10 Pro-academic Licensed version, Microsoft MS office Academic Licensed version.
- g) Reputed Anti-virus software with one year subscription.

16. The system should have a plug & play wireless slide changer cum laser pointer.

17. Logo of IUAC with the words “Inter University Accelerator Centre” engraved on a separate piece of suitable size and colour to be fitted on the front side of the Podium.

18. The air ventilation and/or fan and filters, if any, must be provided on the sides of the Digital Podium **and not on the front side**.

19. The equipment must be supplied with OEM issued tender specific authorization certificate for warranty and after sales service support.

## **2.10 Web Conferencing System:**

The Lecture Hall shall be equipped suitably to record the lectures and also to conduct web conferencing at 1920×1080p at the rate 30/60 fps resolution and must be able to work with 4 mbps to 18 mbps bandwidth, complete with all required hardware and software (at least 1+1 perpetual licensed copies of software). The system should be compatible and integrated with the Digital Podium. The equipment must be supplied with OEM issued tender specific authorization certificate for warranty and after sales service support.

## **1. PTZ Camera Unit for Lecturer**

SITC of ceiling mount, PTZ camera unit with remote controller of following specifications for recording the lecture and conducting web conferencing. The video signal shall be suitably synchronized with audio feed from microphone/ switcher controller. All required hardware & suitable software for control of PTZ camera, recording etc., shall be supplied with streaming feature which should be integrated with the Digital Podium.

1/2.8" HD, at least 2MP CMOS P/T/Z colour video camera unit with at least 12× optical zoom lens and at least 12× digital zoom, 1080p, HD video, Pan angle: at least +/-170° with speed 60°/s., tilt angle: + 90° to -30°, speed 60°/s, view angle ~65° in wide, selectable backlight compensation feature, SNR: 50dB or better, min. illumination 0.095 lux at F1.6 or better, HDMI, USB video output, at least 90° field of view (FOV) with state of the art face recognition and motion tracking technology precisely locking and tracking lecturer all around the classroom automatically, essential controls including remote controller and required perpetually licensed software, along with all necessary accessories such as ceiling bracket, wire rope, cables, cable retainer, connectors, etc.

## **2. PTZ Camera for Students / Audience**

SITC of ceiling mount, PTZ camera with remote controller of following specifications for conducting web conference. The video signal shall be suitably synchronized with audio feed from microphone/ switcher controller. All required hardware & suitable software for control of PTZ camera shall be supplied. This should be integrated with the Digital Podium.

1/2.8" HD, at least 5MP CMOS P/T/Z colour video camera with at least 10× optical zoom lens and at least 12× digital zoom, 1080p, HD video, Pan angle: at least +/-160° with speed 60°/s., tilt angle: + 90° to -30°, speed 60°/s, view angle ~65° in wide, SNR: 50dB, HDMI, USB video output, at least 90° field of view (FOV), essential controls including infrared remote controller and required perpetually licensed software, along with all necessary accessories such as ceiling bracket, wire rope, cables, cable retainer, connectors, etc.

### **2.11 Interactive Ultra-short throw LCD Projector in Lecture Hall**

SITC of fully Integrated Interactive wall mounted, Ultra short throw projector having resolution of full HD WUXGA (1920 × 1200 pixels), aspect ratio 16:10, projection type of 3-LCD with laser light source, with contrast ratio of better than 2000000:1, colour, white light brightness 4000 (ANSI) lumens or more to be used in a classroom having nominal ambient light during projector use. The laser light source must have guaranteed long life span. The diagonal image size obtained with supplied lens must be of at least 70" to 100" obtained on the prepared surface with throw ratio of 0.27 to 0.37. The projector must have automatic image keystone correction. The interactive pens 2 nos. and 2 nos. spare pens, applicable software (with perpetual license) along with remote control and other necessary accessories, must be supplied. The projector and supplied software must support split screen with two displays simultaneously from two different sources, multiscreen interaction, white board

sharing, direct class room mirroring, etc. The system should allow storing of slides in pdf / jpg formats. The Projector shall be integrated with the Digital Podium. The equipment must be supplied with OEM issued tender specific authorization certificate for warranty and after sales service support.

Compatibility: HDTV Formats, Digital Input (HDMI), Personal Computers, Laptop Computer, Standard Video, Composite Video.

Interface: USB, RS-232C, VGA /HDMI both in & out, Audio in & out (stereo), S-video in & out, Mic-in, USB, SYNC in &out, wired and wireless LAN IEEE802.11b/g/n, USB keyboard & mouse, DVI, Miracast, remote desktop connectivity etc.

The Projector shall be supplied with all necessary accessories hardware such as OEM supplied wall mount kit, cables, cable retainer, connectors, etc.

### **2.12 Lacquered Glass Writing Board with Eraser / Duster & Pen Holder**

The Lecture Hall shall be provided with wall mountable lacquered glass writing board for teaching applications. The lacquered glass writing board shall be of fully scratch resistant 6 mm thick with suitable background colour surface to be selected by Engineer-in-charge, non-absorbed dry erase type, whiteboard marker ink cleanable with any non-absorbive cleaner. The glass shall be applied with suitable safety film. The size of the writing board shall be 3000×1200 mm. It should also have a common pen & duster holder suitable to hold at least 4 pens & one eraser (duster) mounted on suitable location near the board for easy access.

The writing board shall be mounted on the wall having wooden panels by making required cutout in the wooden panel as per the manufacturer's installation guide using installation hardware like clips, fixing pads etc. from the same manufacturer in consultation with Engineer-in-charge ensuring that the arrangement is adequate and safe for bearing the weight of the glass board.

### **2.13 Projection Board**

The Lecture Hall shall be provided with suitable projection board for the Ultra-short throw projector. The projection board shall be of size 2400 mm × 1200 mm made out of kiln seasoned and chemically treated hallock wood 25 mm thick. The board shall have plane & smooth surface finish properly painted with at least two coats of wood primer and two coats of white synthetic enamel paint of approved brand & manufacturer. The final painted surface shall be non-reflective, non-glossy, matt finished suitable for projection. The corners & boundary shall be properly finished by removing sharp edges. It shall be mounted on the wall by making suitable cut-outs in the wooden panels for mounting pads.

### **2.14 Pin-up Board**

The Lecture Hall and Scholars Room shall be provided with pin-up boards mounted outside in the corridor, as also inside the Scholars Room. Supply & fixing of pin-up board without front cover of size 2'×5' with high density fiber board back material providing soft board backing with padding to use push pins, of following specifications.

- Alloy aluminium frame and ABS corners for superior aesthetics
- High density fiber board base material

- Satin-finish in maroon/blue colour

The board shall be mounted on the wall using 4 wall mounting clip set as provided by manufacturer in consultation with Engineer-in-charge.

### **2.15 Wooden Shelves, Central Desk and Poster Holders in Lecture Hall and Scholars Room**

The Lecture Hall shall be provided with two wooden shelves to be placed along the side walls in the Dais area and one central desk in the middle of the Dais. Each wooden shelf shall be of approximate size 2000 mm × 750 mm × 450 mm (W×H×D) with compartments, having sliding doors.

The Scholars Room shall be provided with two wooden shelves to be placed along one side of the wall. The wooden shelves shall be of approximate size 3000 mm × 750 mm × 450 mm (W×H×D) and 1800 mm × 750 mm × 450 mm (W×H×D) respectively with compartments, having sliding doors. Four (4 nos.) square type open Poster Holders of approximate size 500 mm × 500 mm × 500 mm (W×H×D) shall also be provided in the Scholars Room.

All the shelves and poster holders shall be fabricated by using 19 mm thick first class teak wood board pre-laminated one side decorative lamination as per the approved design and colour. The tentative design is provided in the attached drawing. The sliding doors in the shelves shall be made out of 9 mm teak ply one side decorated mounted on high quality slide guides & SS rollers, rails, channels, handles, locks and other hardware etc. for smooth movement and long life. The edges of the wooden paneling shall be finished by using wooden molding, beading etc. wherever required.

The central desk in the Lecture Hall shall be of approximate size of 2000 mm × 750 mm × 450 mm (W×H×D) without compartment and front open to be used like a study table. It shall be fabricated by using 19 mm thick first class teak wood board pre-laminated one side decorative lamination as per the approved design and colour.

The shelves and central desk in the Lecture Hall shall be of matching colour with the wall panel so as to look aesthetically pleasing.

The shelves and poster holders in the Scholars Room shall be of matching colour with the workstation so as to look aesthetically pleasing.

The outer surface of the shelves, central desk and poster holders shall be properly polished by providing initial sealer polish & melamine polish for final finish.

### **2.16 Desk & Seat type Furniture**

The Lecture Hall is proposed to accommodate 40 Post Graduate students using seat & desk type furniture. The desks & seat furniture shall consist of 4 seater independent mountable front desk, middle seat & desk, and back seat type module. The modules shall be suitable for step floor having adjustable seat height of up to 180 mm step height. The desk shall be fixed & seats shall be folding/tipping type (popularly known as 'NAMASTE' type foldable seat) to provide more space. The seat & backrest shall have base structure made up of 16 gauge MS duly powder coated with 12 mm ply having at least 50 mm thick foam. The foam shall be made of polyurethane having density of 40- 45 kg/cubic meter. The seat & backrest shall have high quality leatherite covering having microfiber with polyester laminate fabric. The



desk should be made out of at least 14 gauge MS section frame powder coated and having high quality decorative 19 mm thick particle board faces & partitions. The product should be from BIFMA and FSC Certified Company.

Each desk shall have 2 numbers 5 Amp universal type power sockets for laptop charging etc. The desks shall have suitable wire management ducts for laying of cables/ wires for power distribution. Bag hooks shall be provided with each desk for hanging bags / backpacks for proper space management.

### **2.17 Modular Workstations**

The workstations in the Scholars Room shall be modular type design equivalent to Godrej Recta Workstations combining 8 workstations in one set (4 workstations back to back) with partitions as shown in the attached layout drawing. Each workstation shall be of approximate size 1200 mm width × 600 mm depth and height of 1200 mm. The partition shall be of approximate thickness of 50 mm made out of GI section frame having both side particle board mounted with powder coated aluminium trims. The particle board shall be pre-laminated decorative finish both sides as per approved colour of thickness 18 mm minimum. Tiles on main spine shall be combination of fabric, writing board & pinup board to suit a modern office space.

The work surface shall be of size 1200 mm wide × 600 mm deep. It shall be provided using 25 mm thick pre-laminated particle board with flat PVC lipping edge banding. Side panels shall be made out of 25 mm pre-laminated decorative particle board with flat PVC lipping edge banding. Suitable powder coated metallic legs of height 120 mm shall also be provided with the modular work stations to give the system an elevated look. All partitions and side panels shall also have suitable leveling screws for adjustment on un-even surfaces.

Each workstation shall have pedestals having two drawers and one file tray, which can be locked using a single lock & key. The approximate size of the pedestals shall be 400 mm width × 450 mm depth and of suitable height which can perfectly fit inside the work station. It shall be made out of powder coated metallic sheet & suitable frame. All partitions and side panels should have leveling screws for adjustment to take care of +/- 20 mm of uneven flooring.

Each workstation shall be provided with at least 2 numbers of 5 Amp universal type modular sockets with switch and suitable box at suitable location. Wire management through main spine shall be provided using suitable cable ducts embedded within the partition. The concealed conduits shall be provided for carrying wires up to the panel's power outlets. 8 workstations shall be looped together using 3 core 1.5 sq.mm copper flexible cable for providing power. The main circuit to 8 work stations shall be of size 3 core × 2.5 sq.mm copper flexible cable to be drawn the power points available on the side wall of the hall.

### **2.18 Personal Locker Units in Scholars Room**

The Scholars Room shall be provided with two (2) nos. Personal Locker Units made out of prime quality CRCA sheet with anti-corrosive treatment powder coated in Prince Grey colour, each Personal Locker Unit having 12 lockers compartmentalized vertically & horizontally. Each locker shall be of minimum size of around 380×450×450 (W×H×D) mm. The maximum height and width of the unit shall be limited to 1830 mm & 1140 mm respectively including base frame etc. Each compartment shall be provided with suitable

label holders and CAM lock & key arrangement having at least 3 keys for each locker. Each locker shall have arrangement for air circulation by providing suitable ventilating louvres.

### **2.19 Revolving type Chairs**

The revolving chairs shall be Godrej Gallop type Mesh chair. The seat shall be made up of 12 mm thick hot pressed plywood upholstered with fabric and molded polyurethane foam. The back shall be fabricated from tubular frame assembly powder coated and upholstered with a high tenacity polyester mesh fabric. The back tubular structure shall have main frame of 1.6 mm thick 16 mm diameter round tube welded to a spine structure of 2 mm thick 35×15 mm elliptical tube and 6 mm thick MS bracket. Lumber support back assembly shall consists of height adjustable cushioned lumber support pad which can be adjusted through 2 projecting knobs at the rear side of the back. The lumber pad should be adjustable by 60 mm in height (7 positions).

The polyurethane foam for seat shall be molded with density 45 kg/meter cube and hardness 20 on Hampden machine at 25% compression. The spine cap shall be made up of polypropylene which covers the back frame and spine junction. The armrest shall have only height adjustment of 80 mm provided in arm structure. The armrest top shall be made up of PU with metal insert fitted on the armrest structure.

### **2.20 Wall Clock**

The Wall Clock should be analog electronic quartz type off-white dial of size approximately 40 cm with roman numerals.



### 3. SPECIAL CONDITONS FOR WORKS

1. **Quantities:** The quantities mentioned in Schedule of Rates are tentative. The successful bidder has to take the measurements at site and get approval from the Engineer in-charge of required quantities before supplying at site. In case the bidder supplies the items without above approval from Engineer in-charge, the left out items shall not be paid and the bidder has to remove them from site.
2. **Drawings & Manuals:** Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid.
3. **As Built Drawings:** After completion of works the bidder has to submit two copies of all as-built drawings and layout of cables as laid including soft copies etc. as required by engineer in-charge.
4. The contractor has to make his own arrangement for all the materials required for the awarded work and get the sample of each material approved from Engineer-in-charge before using the same in the work.
5. The dismantling, wherever required, shall be done in a manner that no other portion of the building or its fixture, are damaged. If any damage is done to the building it will be made perfectly in good order by the contractor at his own cost up to the satisfaction of Engineer-in-charge and no claim whatsoever will be entertained on the work
6. The contractor shall have to carry out the work according to the programme mutually decided between him and the Engineer-in-charge of the work. No claim for idle labor on any account shall be entertained. In this regard PERT/Bar Charts are to be provided by Contractor based on which progress of the work will be monitored.
7. Samples of various materials required for testing shall be provided free of charge by the contractor. Testing charges, if any, shall be borne by IUAC. All other expenditure required to be incurred for taking the sample, conveyance, packing, sealing, loading etc. shall be borne by the contractor himself. For samples that have failed the test, fresh samples of alternate material will be made available by the contractor, but testing charges of the failed samples shall be deducted from the payment of the contractor for such materials.
8. No residential accommodation shall be provided to any staff engaged by the contractor.
9. The contractor shall not store/dump construction materials or debris near the site.
10. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction materials or debris can be stored. This area shall not cause any obstruction to the free movement of people/ inconvenience to other users of the common area. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
11. As the proposed Lecture Hall and Scholars Room are on the second floor of the building, all the construction material has to be **manually shifted** to second floor as and when required as per the available space.

- 12.** Inspection of materials and work: All the materials brought to the site by the contractor for use in the work as well as fabricated work shall be subject to inspection and approval by the Engineer-in-charge.
- 13.** Removal of rejected materials: In case any materials are rejected by the Engineer-in-charge, the same shall be removed from site within 48 hours, failing which the same may be got removed by the Engineer-in-charge at the risk and cost of the contractor.
- 14.** Cleaning of site: The contractor has to clean the nearby common area on daily basis avoiding any inconvenience to other users of the building. Also on completion of works the contractor has to remove all the left out material/ debris from the IUAC campus within a week's time failing which IUAC shall reserve the right to get the area cleaned and deduct the actual cost from the final bill of the contractor.
- 15.** Manufacturer's Test Certificate: The contractor shall, if required by the Engineer-in-charge, produce Manufacturer's Test Certificate for any material of the particular batch supplied by him. The test(s) carried out shall be as per relevant specification/BIS code.
- 16.** All the permissions to the labour and supervisory staff will be issued by the Engineer In-charge on the basis of the production of the supporting recommendations of the contractor in writing and proof of the identity of the individual person involved in the above work.
- 17.** Staff working at site will follow all the safety measures required like use of helmets, safety shoes, goggles, welding glasses, safety belts etc. IUAC shall not be responsible for any injury / accident that the workers may sustain during the execution of the works at the site. This shall be the responsibility of the contractor.
- 18.** Integration of audio video equipment with the Digital Podium shall mean the operation and control of all such equipment from the Digital Podium.
- 19.** All the audio, video, control equipment must be supplied with OEM issued tender specific authorization certificate for warranty and after sales service support.
- 20.** All software supplied with equipment must be perpetually licensed to IUAC.

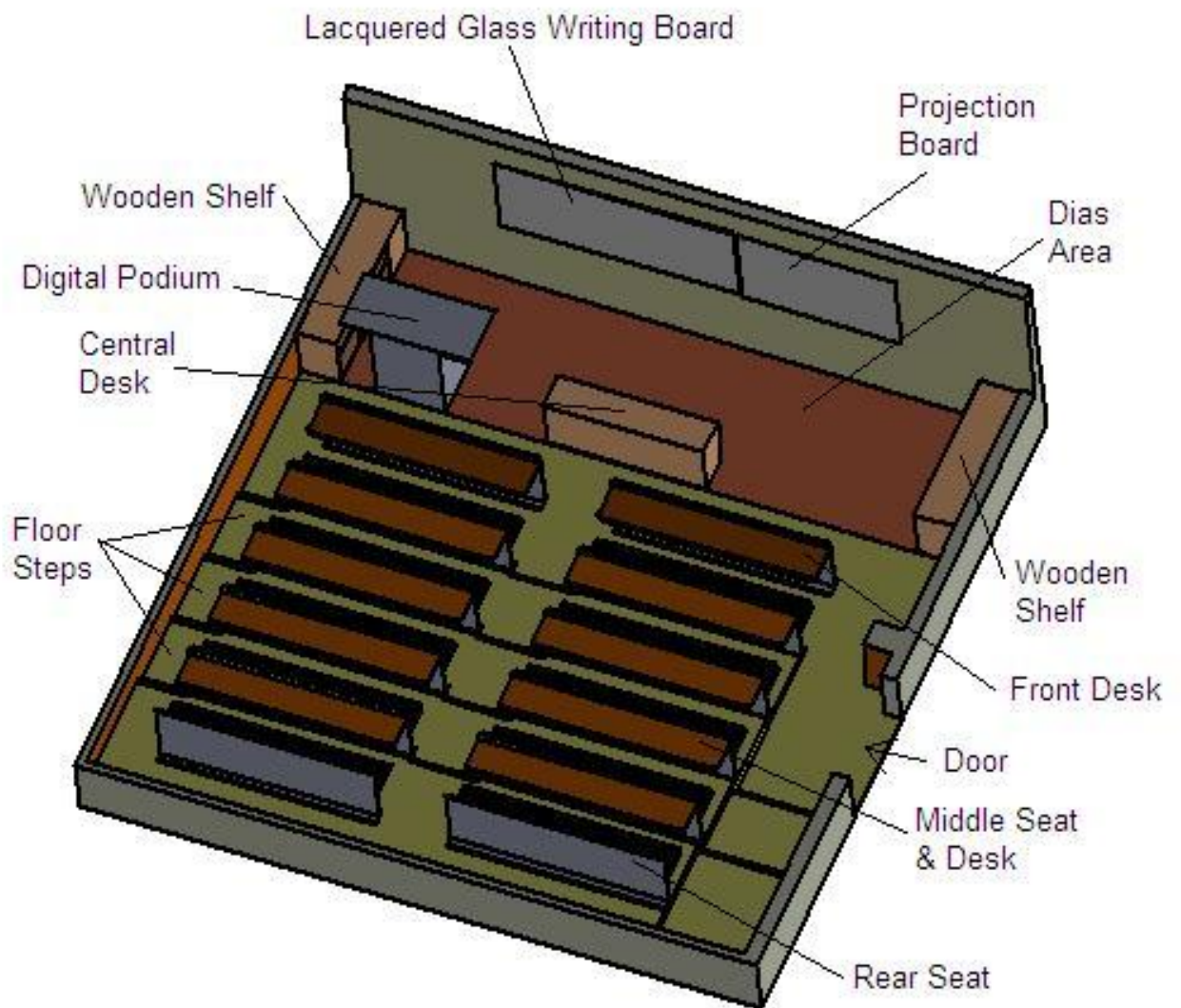


## **List of Approved Makes**

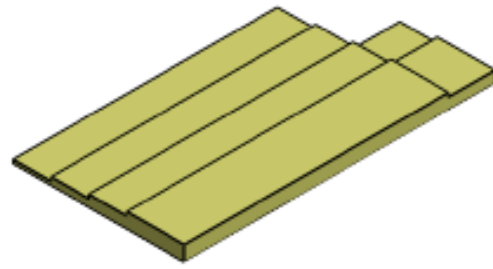
The bidder has to quote the items considering the following make of various items.

1. Audio Visual Instruments:
  - a) Integrated Digital Podium: PeopleLink, EAPL, Globus Infocom, or equivalent
    - i) Visualizer: Lumens, Epson, EAPL
    - ii) Personal Computer (PC): HP, IBM, Dell
  - b) Projector: Epson or equivalent
  - c) PTZ Cameras: PeopleLink, SONY, Panasonic, Vaddio
2. Wooden paneling and shelves: Centuryply, Grassim, Kitply, Greenply
3. Furniture: Godrej
4. Workstation: Godrej
5. Personal Locker Units: Godrej
6. Electrical switches & sockets: Havells, ROMA, Legrand
7. Electrical cables and wires: Havells, Finolex, Kalinga, National
8. Primer & paint: Asian Paint, Nerolac, Berger
9. Lacquered writing board: Saint-Gobain
10. Pin-up Board and Whiteboard: Pragati, or equivalent
11. Clock: Casio, Seiko
12. PVC Flooring: Armstrong, PERGO
13. False Ceiling Tiles: Armstrong, Gyproc, Prismma, DEXUNE

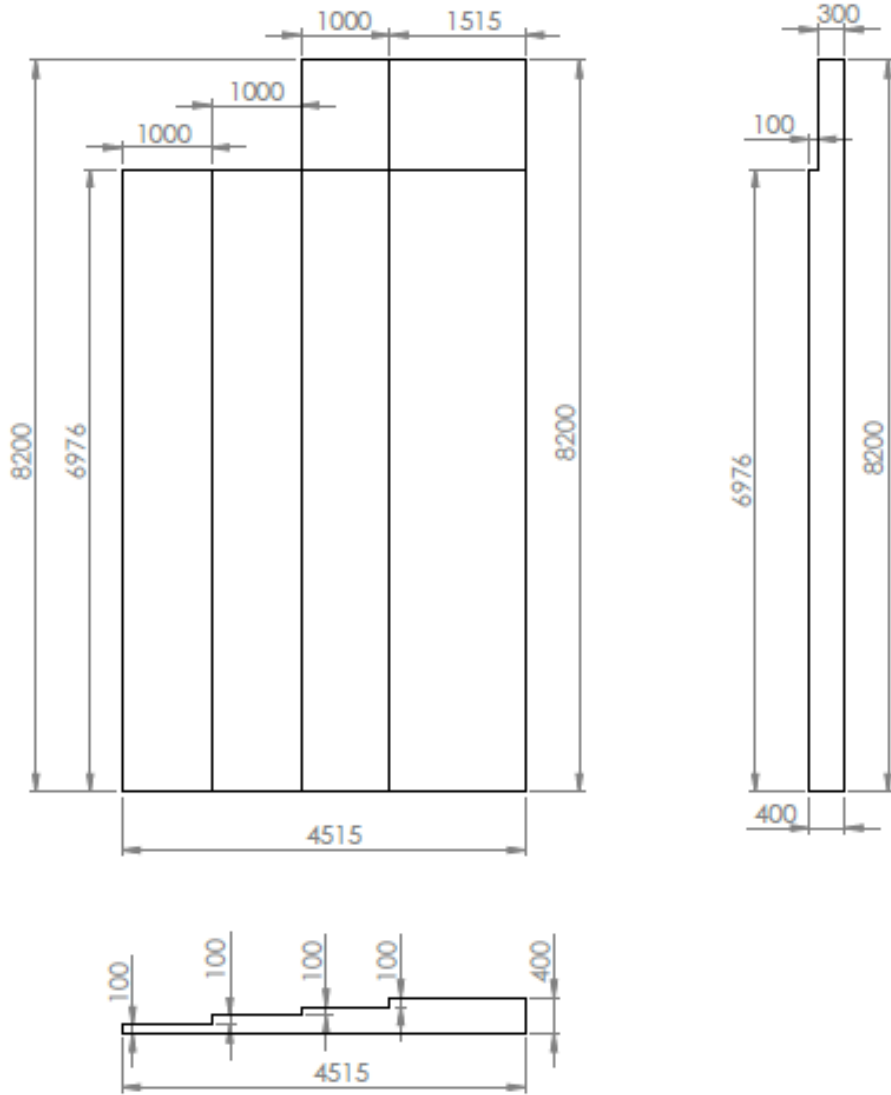




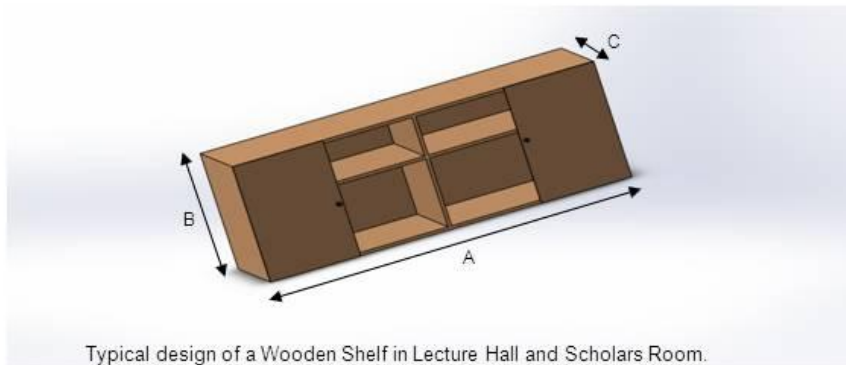
Proposed Lecture Hall Cut-out View



Isometric view of Floor Steps

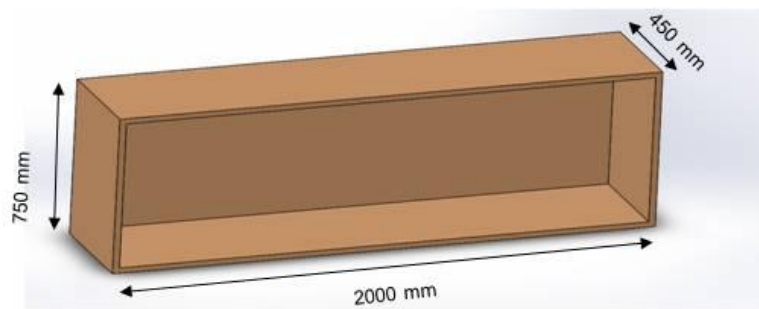


Drg: Tentative dimensions of proposed stepped flooring



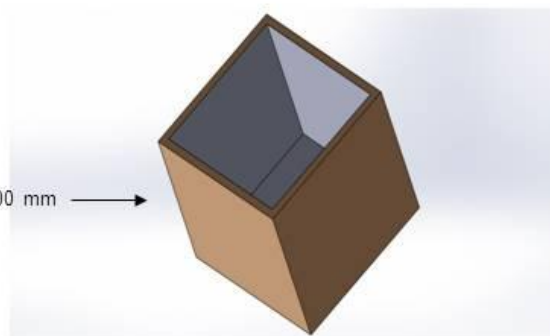
Typical design of a Wooden Shelf in Lecture Hall and Scholars Room.

Item	A (mm)	B (mm)	C (mm)
Wooden shelf-1&2 in Lecture Hall	2000	750	450
Wooden shelf-1 in Scholars Room	3000	750	450
Wooden shelf-2 in Scholars Room	1800	750	450

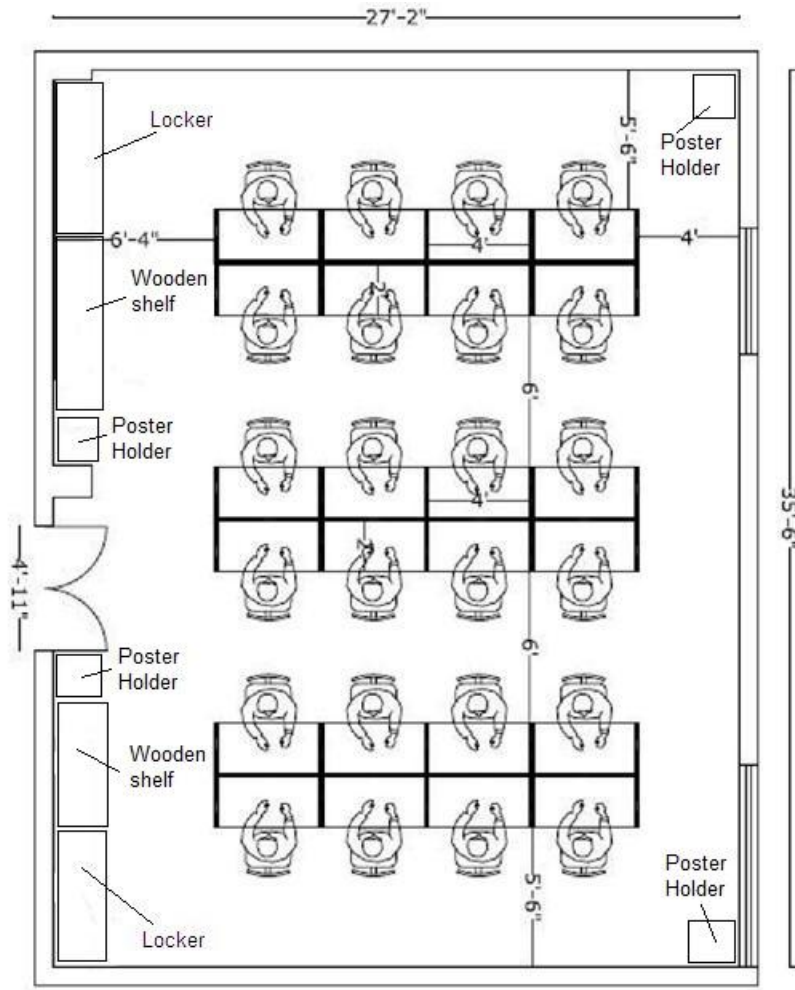


Central Desk of in Lecture Hall.

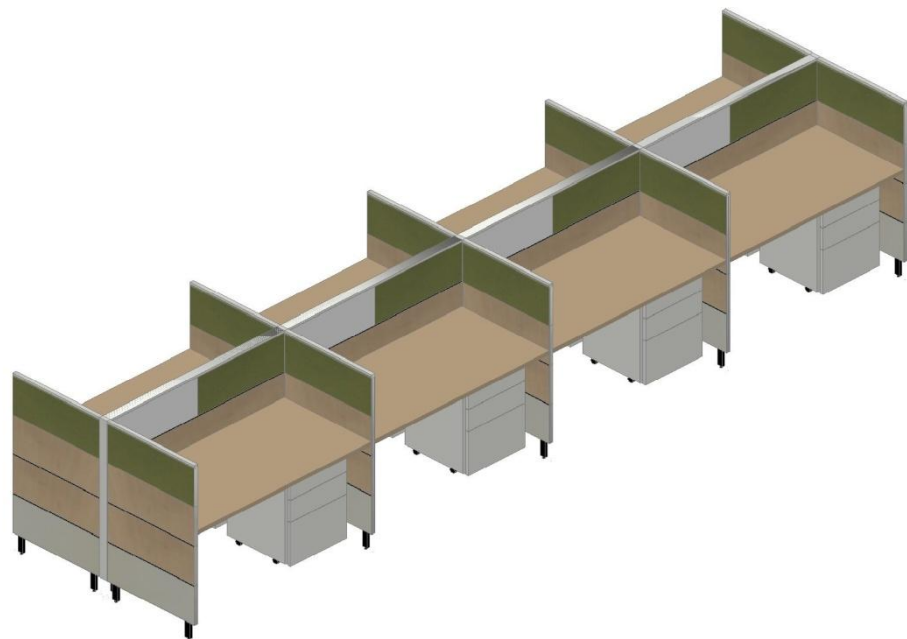
Poster Holder of size 500X500X500 mm  
In Scholars Room.







**Layout of Scholars Room**



**Modular Work-station Model (indicative)**

This certificate shall be furnished with **Techno-commercial Bid** printed on bidder's Letter Head

**Certificate/ Undertaking**

This is to certify that we have visited the site for **Setting up of: (1) Lecture Hall with audio & visual aids, wall paneling, furniture etc., and (2) Scholars Room with modular furniture etc., in existing halls on the second floor in Inter University Accelerator Centre (IUAC), New Delhi (Tender Enquiry No.: IUAC/NIT/05/HAR/2018-19)**, lab complex on ..... and assessed the actual situation & nature of site. We have also assessed the amount of work involved at site for tendered work before submitting our offer. We will be able to complete the above work within stipulated time as per site conditions.

We further undertake that no extra cost will be claimed by us later on for any difficulties/ modifications involved during the execution of tendered works. We understand that work is related with already operational/ functional Institute.

**(Signature & Seal of Bidder)**

Name:.....

## Part-B: SCHEDULE OF RATES

<i>Item No.</i>	<i>Description of Work</i>	<i>Approx. Qty.</i>	<i>Unit Rate (INR)</i>	<i>Total (INR)</i>	<i>GST %</i>
	<b>1 Civil Works</b>				
1.1	<b>Acoustic Wall Paneling:</b> Supply and fixing acoustic wall paneling using 9 mm thick plywood and 4 mm thick decorative veneer fixed on teak wood batten frame work suitably treated and properly polished by using sealer and melamine polish as per technical specification as required.	90 Sq. Mtrs.			
1.2	<b>Acoustic Grid Ceiling Tile:</b> Replacement of existing false ceiling tiles by providing and fixing of GI metal ceiling white colour tiles of size 600 × 600 mm, 0.5 mm thick and 12 mm height, made out of GI sheet having galvanizing of 100 gm/sq.m (both side inclusive) and 20% perforation area with 1.8 mm dia. holes having an NRC of 0.5, electro-statically polyester powder coated of thickness 60 microns (minimum), glossy finish and having suitable cotton lining as per specifications as required.	70 Sq. Mtrs.			
1.3	<b>PVC Flooring:</b> Supply & fixing of vinyl sheet flooring in different colours having thickness of 2 mm conforming to group "T" wear resistance as per EN 649, clean room certified with class 'A' as per ASTM F5100 including supply and fixing of leveling compound on the floor as per technical specifications as required.	75 Sq. Mtrs.			
1.4	<b>Creating stepped floor:</b> Raising the existing floor by providing 4 steps using brick work boundary and filling by ultra-light weight Cinder / Foam Concrete compacted & providing 75 mm thick M25 grade cement concrete covering as required including 15 mm cement plaster on the brick boundary of mix: 1:4 (1 cement: 4 fine sand) overall size of 8200 × 4514 × 400 mm (to be finalized in consultation with furniture manufacturer) as per tentative drawing as required.	1 Lot.			
1.5	<b>Step Guards:</b> Supply & fixing 2 mm thick 50 mm wide anodized aluminium corner guard channels properly screwed on the step corners as per specifications as required.	35 Mtrs.			

1.6	Providing and fixing Lecture Hall seat & desk type furniture in four seater configuration having folding/ tipping type seats (popularly known as 'NAMASTE' type foldable seat) as per specification as required.	40 Seats			
1.7	Supply & fixing lacquered glass writing board 6 mm thick of size 3000 × 1200 mm as per specifications with duster & pen holders including supply of 4 numbers of high quality dusters and 20 numbers of suitable writing pens of different colours.	1 Set			
1.8	Supply & fixing projection board of size 2400 mm × 1200 mm made out of kiln seasoned and chemically treated hallock wood 25 mm thick properly painted with white synthetic enamel paint of approved brand & manufacturer as per specifications and as approved by Engineer-in-charge.	1 No.			
1.9	Supply & fixing of Pin-up board of size 2'×5' having satin-finish with alloy aluminium frame and ABS corners etc. as per specifications.	4 Nos.			
1.10	Supply & fixing 4 numbers wooden shelves of different sizes with compartments and 4 nos. open square type poster holders, made out of 19 mm thick first class teak wood board pre-laminated one side decorated lamination with sealer and melamine polish having wooden sliding doors as per specifications as per approved drawing as required.	25 Sq. Mtrs.			
1.11	Supply & fixing sliding doors in wooden shelves made out of 9 mm thick decorative plywood 5 ply one side decorative veneer and commercial veneer on other face (Type 1) conforming to IS 1328 BWR Type including providing high quality SS rollers, rails, channels, handles, lock, and all hardware etc. with melamine polish as per specifications as per approved drawing as required.	7 Sq. Mtrs.			
1.12	Supply & fixing one number central desk of size 2000 × 750 × 450 mm made out of 19 mm thick first class teak wood board pre-laminated one side decorated lamination, with melamine polish as per specifications as per approved drawing as required.	5 Sq. Mtrs.			
1.13	Supply & fixing <b>Modular type Work-station</b> furniture having 24 seats in 3 sets of 8 seats configuration with electrical power points, free standing type pedestal with each work-station as per drawing & specifications as required.	1 Lot			

1.14	Supply of Godrej Gallop Mesh revolving chair with back support upholstered with a high tenacity polyester mesh fabric having adjustable height as per specifications as required.	26 Nos.			
1.15	Supply & fixing fluorescent adhesive tape 2" wide on PVC floor for indicating steps.	20 Mtrs.			
1.16	Supply & fixing fluorescent type EXIT BOARD of suitable size for guiding exit door.	2 Nos.			
1.17	Supply & installation of Personal Locker Units in Prince Grey colour having 12 lockers compartmentalized vertically & horizontally, with suitable label holders, CAM lock & key arrangement, as per specification as required.	2 Nos.			
<b>Total Amount for Civil works (INR)</b>					
<b>2. Digital Podium &amp; Audio Visual Works</b>					
2.1	Supply, installation, integration, testing, commissioning, demonstration and operational training of <b>Integrated Digital Podium</b> consisting of PC, interactive monitor, gooseneck microphone, document visualizer, integrated switcher / controller, DSP, audio amplifier, speakers, collar mike, cordless hand held mike, including all licensed (perpetual) software, hardware, cables, connectors, accessories complete as per specifications as required.	1 Set			
2.2	Supply, installation, integration, testing, commissioning, demonstration and operational training of <b>Ultra-Short Throw Projector</b> with 3-LCD technology, full HD WUXGA, with contrast ratio of better than 2000000:1, aspect ratio 16:10, with laser light source white light brightness 4000 (ANSI) lumens or more, including interactive pen/s (with spare 2 nos.), all software, OEM supplied mounting hardware, cables, connectors, accessories complete as per detailed specifications as required.	1 No.			
2.3	Supply, installation, integration, testing, commissioning, demonstration and operational training of ceiling mounted <b>Pan Tilt Zoom (PTZ) Colour Video Camera unit: 1/2.8" HD</b> , at least 2MP CMOS with at least <b>12× optical zoom lens</b> and at least 12× digital zoom, with state of the art face recognition and <b>motion tracking technology precisely locking and</b>	1 unit.			

	<b>tracking</b> the lecturer, including all software, hardware, cables, connectors, accessories, ceiling mounting bracket, complete as per specifications as required.				
2.4	Supply, installation, integration, testing, commissioning, demonstration and operational training of ceiling mounted <b>Pan Tilt Zoom (PTZ) Colour Video Camera: 1/2.8" HD, 5MP CMOS</b> with at least <b>10× optical zoom lens</b> and at least 12× digital zoom, including all software, hardware, cables, connectors, accessories, ceiling mounting bracket, complete as per specifications as required.	1 unit.			
2.5	Supply of spare laser lamp for the Ultra-short Throw Projector ( <b>optional item</b> ).	1 No.			
	<b>Total amount of E-Podium &amp; Audio Visual Works (INR)</b>				
	<b>3. Electrical Lighting &amp; Power Distribution Works:</b>				
3.1	Shifting the existing 5/15A modular type power point, LAN point, telephone points from the wall to the proposed wooden paneling in the Lecture Hall by providing suitable cutouts in wooden panels and fixing of power, LAN & telephone sockets including all required items like boxes, screws, wires, sheet etc. as per specifications as required.	30 Nos.			
3.2	Providing & fixing 1.0" dia. PVC conduit pipe embedded in the proposed step flooring work in the Lecture Hall, including providing bends/elbows for each row of desk for laying the wires for power points (in the desks) as required.	40 Mtrs.			
3.3	Providing & fixing 1.0" dia. PVC conduit pipe in tiled floor in Lecture Hall as well as Scholars Room, by cutting tiles and making groove in floor including providing bends/elbows and filling groove with cement mortar etc. for wiring as required	20 Mtrs.			
3.4	Providing & fixing metallic junction boxes of approx. size 100×100 mm with SS cover in Lecture Hall / Scholars Room in the step floor or tiled floor after making suitable cutout in floor for providing power to desks, digital podium, work stations etc. as required.	20 Nos.			
3.5	Providing & fixing circuit/power wiring using 3C×2.5 sq. mm copper flexible wires for circuit & earthing laid in the installed PVC conduit on floor/ceiling/ wall etc. as required.	150 Mtrs.			

3.6	Supply & laying of 3C×1.5 sq.mm copper flexible cables in the installed conduits/channels for providing power to desks.	200 Mtrs.			
3.7	Supply & fixing of modular type lighting switch board on wooden paneling having 5×15 Amp two-way modular type switch for light control including suitable box, cover plate etc. as required.	2 Nos.			
3.8	Supply & fixing modular type 5/15 Amp socket with 15 Amp switch with suitable box, cover plate etc. as required on wall/wooden paneling.	10 Nos.			
3.9	Supply & fixing of 1” dia. PVC conduit on cemented brick wall in the Lecture Hall after making suitable groove in wall & fixing of conduit with hooks & finishing and plastering with 1:4 cement & fine sand for laying wires for power points, lighting, speakers etc. as required.	40 Mtrs.			
3.10	Supply & fixing of 1” dia. PVC conduit on wall surface/ceiling including bends, elbows, junction boxes as required by using suitable GI saddles for laying wires for power points, lighting, speakers etc. as required.	40 Mtrs.			
3.11	Supply & fixing of analog type Wall Clock as per specifications as required.	2 Nos.			
<b>Total amount of Electrical Lighting &amp; Power Distribution Works (INR)</b>					

**Total Amount of all above (1+2+3) Rs**

Total Amount in words (Rupees ..... )  
 .....)

Signature & Seal of Bidder

**NOTE: The above quoted rates shall be exclusive of Goods & Services Tax (GST). The GST rates shall be mentioned separately.**