

तेजप्र विश्वविद्यालय / TEZPUR UNIVERSITY

(केंद्रीय विश्वविद्यालय /A Central University)

कुलाध्यक्ष का सर्वोत्तम विश्वविद्यालय पुरस्कार,2016 और एनआईआरएफ़ भारत रैंकिंग 2016: नं. 05 • Visitor's Best University Award, 2016 and *NIRF India Ranking 2016: No. 05*

कुल सचिव का कार्यालय / OFFICE OF THE REGISTRAR

तेजप्र-784028 :: असम / TEZPUR-784028 :: ASSAM

Notice Inviting Tenders

For

Multi-Function Video Conference (MFVC) Facility at Humanities and Social Sciences (HSS) Academic Complex, Tezpur University, Tezpur, Assam (India) TU/11/-24/Pur/Qtn/2017-18/358-A Dated: 28.04.2017.

Scope of Work

Tezpur University proposes to setup a Multi-Function Video Conference (MFVC) Facility at the Humanities & Social Science (HSS) Academic Complex on turnkey basis using well-proven branded products. The term MFVC is used here in the sense that the facility will be used as CODEC as well as Non-CODEC based Video Conference facility. In addition to this, the facility may be used for Virtual Classroom purpose. This facility should also be adaptable to any form of software based video conferencing systems like *Aview, Skype, Vidyo, Google Hangout, etc.*

The proposed room for MFVC Facility is situated at the ground floor of the HSS Academic Complex. The dimension and Plan Diagram of the said room is attached in *Annexure-A*.

Interested bidders should design and propose a sitting capacity of approx. 168 peoples with suitable desk/benches *etc.* arrangement with clean spacing and comfortable walkway [sample design shown in *Annexure-B*]. Some acoustic treatment and interior work of the room may be necessary along with Heating Ventilation and Air-Conditioning (HVAC) work. Electrical and Lighting work should be cleanly designed and mounted to provide at most ambience to the room.

The proposed room should be multifunctional in the sense that it should be usable as normal video conference room (receiving end as well as teaching end) or any other activity room as and when demand comes. The proposed room should also be easily adjustable to have software based video conferencing systems integration like *Aview*, *Skype*, *Vidyo*, *Google Hangout*, *etc*.

The part of the MFVC Facility work includes following sub-categories of work (Specification in Annexure-C) :

- Interior & Acoustic
- Electrical & Lighting Subsystem
- Heating Ventilation & Air-Conditioning
- Furnishing
- Audio-Video

Bidder should have to quote all of the above parts as turkey solution. There may be instances where some items of this project may have been missed in the specification sheet, therefore, it is the sole responsibility of the bidders to highlight those items and quote accordingly as optional items. There cannot be any last moment alteration in the Bill of Material (BoM) once the work order has been issued. Therefore, selected bidders must survey the exact requirement and forward the signed copy of BoM to the University officials for approval and issue of work order. One more point to be noted that the University may opt for phase wise issue of work orders as per implementation time line.

Pre-Qualification Criteria

Intending firms/ bidders who are specialized in Interior such as wall panelling in veneer finish/ fabric finish, Acoustic Ceiling, HVAC, Audio-Video, Carpet Flooring and Electrical Lighting since last 10 years may submit the bid after satisfying that they fulfil the following eligibility criteria:

(1) Should have satisfactorily completed similar works of Central/ State Govt. or PSU or IIT/NIT/IISER or Institute of repute as mentioned below during the last five years ending previous day of the last date of submission of bids:

- (i) Three similar works each costing more than Rs. 50 lacs
- (ii) Two similar works each costing more than Rs. 65 lacs



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(iii) One similar work costing more than Rs.125 lacs

Similar work shall mean works of "Interior such as wall panelling in veneer finish/ fabric finish, Acoustic Ceiling, HVAC, Audio-Video, carpet flooring and electrical lighting" all executed under one agreement with copy of original certificate issued by an officer not below the rank of General Manager. The Bidder must submit copies of supply orders/work completion/satisfactory letters that substantiate fulfilment of the above criteria and information.

(2) The bidder may engage agency experienced in audio-visual who satisfies the eligibility criteria of having successfully completed during last ten years ending up to previous day of last date of submission of tenders. Two similar works of audio visuals for conference rooms, auditoriums, meeting rooms, video conferencing, media broadcast, etc. of value not less than Rs. 30 lacs or one similar work of value Rs. 60 lacs. The bidder must submit tender specific OEM Authorization letter from all the major OEMs (except screen, cables, connectors & other accessories).

(3) The bidder should have had average annual **turnover** at least Rs. 3 crores during the last three consecutive years. Copy of the Audited Balance sheet and P&L statement for last 03 years should be enclosed. Year in which no turnover is shown would also be considered for working out the average. The multiplication factor of 7% per annum simple interest is not applicable on the annual turnover figures.

(4) The bidder should have **Certifications** like ISO 9001:2015, ISO 14001: 2015, ISO 13485: 2012, ISO 50001: 2011, OHSAS 18001: 2007 and BIFMA

(5) The bidder should have service set up within Assam to enable faster service as and when required. List of such **Service Centres** with address & contact details must be provided.

(6) The bidder have to provide an **undertaking** that they have never been **blacklisted** from any organisation in the last 10 years.

(7) All working drawings and design need to be submitted by the agency/ firm who will get the order.

(8) The bidder should submit copies of Certificate of Incorporation, VAT Registration Certificate, PAN, and Sales Tax Clearance Certificate

TERMS & CONDITIONS:

- 1. <u>Bidding System:</u> The technical and financial bids should be quoted separately and put in different sealed envelopes marked "Technical bid" or "Financial bid" as applicable and superscripted as "Multi-Function Video Conference (MFVC) Facility at HSS" along with Tender Reference Number and Date. These separate bids envelopes are to be put in an outer envelope which should also be sealed and superscripted as "Multi-Function Video Conference (MFVC) Facility at HSS" along with Tender Reference Number and Date is to submitted in the DROP BOX placed in the reception of the Administrative Building of the University within 21 days from the date of issue of this notice. If posted/courierred, should reach within 21 days from the date of issue of this notice addressed to "The Joint Registrar , Tezpur University". The Quotation Notice No. and date should be clearly superscribed in the the envelope/packet containing the quotation.
- All Bid Documents/Quotations should be accompanied by i) An EMD (in the form of Demand Draft/Call Deposit/TDR) of ₹. 20000/- (Rupees Twenty Thousand) only drawn/pledged in favor of Registrar, Tezpur University, payable at Tezpur. ii) A non refundable participation fee of ₹.2000.00 (Rupees Two Thousand) only have to be paid by Demand Draft only drawn in favour of Registrar, Tezpur University payable at Tezpur.
- 3. <u>Technical Literature</u>: All the bids must be supported by the printed technical leaflet/ literature (not photocopies) and the specifications mentioned in the quotation must be reflected/ supported by such printed technical leaflet/literature.



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- 4. <u>Opening of Bids:</u> All the tenders received up to the time and date of opening will only be considered for opening and tenders received late shall not be considered under any circumstances. The Technical Bid shall only be opened on the tender opening day in presence of representatives of the bidders.
- 5. <u>Unpriced Bill of Material cum Compliance Sheet</u>: An Un-priced (price masked) Bill of Material cum Compliance Sheet as per Annexure-E must be submitted along with the Technical Bid.
- 6. <u>Evaluation</u>: The Bidder must meet all the eligibility criteria mentioned in pre-qualification criteria. The Technical Bids of all the Bidders who meet the eligibility criteria shall be evaluated further for compliance of specifications and other such parameters as may be needed. The decision of the University in this matter shall be final conclusive and binding. The Commercial Bids of all the technically qualified Bidders will be evaluated for final selection.
- 7. <u>Pre-Bid Site Survey</u>: It is recommended to the interested bidders to request for Pre-Bid Site Survey of Proposed Project for which request through email to admn@tezu.ernet.in may be sent.
- 8. <u>Clarifications:</u> In case the bidders requires any clarification regarding the tender documents, they are requested to contact our official e-mail:admn@tezu.ernet.in.
- 9. <u>Pre-Order Survey</u>: The quantity shown against the item is approximate and may vary as per demand of the Institute at the time of placing order.
- 10. <u>Warranty</u>: All Audio-Video equipment and HVAC items should have a comprehensive warranty of 3 years from the date of installation. All interior & acoustic work and furniture should have a warranty of 5 years from date of installation. All electrical and lighting accessories should have warranty of 2 years. All passive and cabling items should have warranty of 10 years from the date of installation.
- 11. <u>Rates:</u> The rates should be preferably quoted in INR and FOR Tezpur University, Napaam basis and should include all essential accessories. Charges for clearing and transportation, if any should, be borne by the supplier.
- 12. <u>Payment Terms</u>: Payment will be made after supply and satisfactory completion of the job. However, part payment may be considered against materials supplied.
- 13. <u>Validity of Offers</u>: The bid should be valid for acceptance up to a period of 180 Days. The Bidders should be ready to extend the validity, if required without any additional financial implications.
- 14. <u>Excise & Customs Duty Exemptions</u>: Bidder(s) may note that the Government of India exempts Tezpur University from paying excise duty and customs duty on selected items (for research purposes). Necessary documents will be furnished if required on demand by the bidder(s). TEZPUR UNIVERSITY will not provide educational concession Central Sales Tax Form 'D'.
- 15. <u>Tender Documents</u>: Tender documents are available in the University and one should only download the details from the website of the University.
- 16. <u>Release of EMD:</u> Applications for release of EMD should be submitted to the Registrar/ Joint Registrar.
- 17. Enquiry during the course of evaluation not allowed: No enquiry from the bidder(s) shall be entertained during the course of evaluation of the tender until final decision is conveyed to the successful bidder(s). However, the Purchase Committee or its authorized representative may make enquiries/ seek clarification from the bidders. In such a case, the bidder must extend full co-operation. The bidders may also be asked to arrange demonstration of the offered items, in a short period of notice.



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18. <u>Force Majeure</u>: If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows:

- Any law, statute or ordinance, order action or regulations of the Government of India,
- Any kind of natural disaster, and
- Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage.

19. Termination for default: Default is said to have occurred -

- a. If the equipment or any of its component is found having poor workmanship, faulty designs, poor performance and bad quality of materials used.
- b. If the supplier fails to deliver any or all of the services within the time specified in the purchase order or any extension thereof granted by TEZPUR UNIVERSITY.
- c. If the supplier fails to perform any other obligation(s) under the contract.
- d. Under the above circumstances, TEZPUR UNIVERSITY may terminate the contract / purchase order in completely or in part and forfeit the EMD. In addition to above, TEZPUR UNIVERSITY may at its discretion also take the following actions: TEZPUR UNIVERSITY may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate TEZPUR UNIVERSITY for any extra expenditure involved towards goods and services obtained.

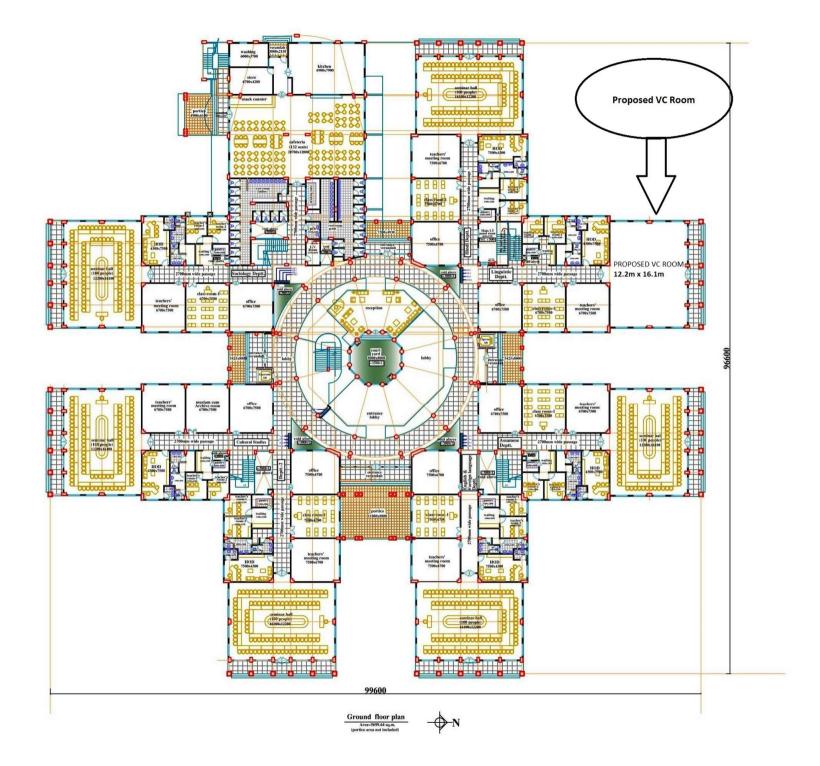
20. Applicable Law:

- The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of Competent Court and Forum in Tezpur / India only.
- Any dispute arising out of this purchase shall be referred to the Registrar Tezpur University, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Registrar of the University. The decision of such Arbitrator shall be final and binding on both the parties.

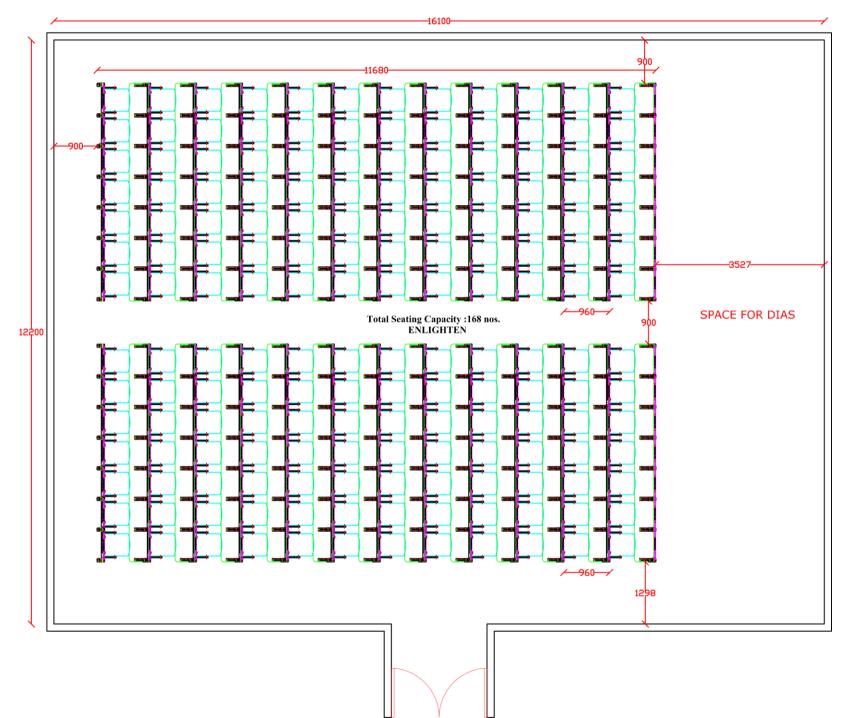
17. <u>Reservation of Rights:</u> The University reserves the right to accept or reject any or all the bids without assigning any reason thereof or cancel or withdraw the tender notice.

Enclo: Annexures A to E

Sd/- Joint Registrar Tezpur University Annexure A



Annexure B



SN	Item	Specification	UoM	Qty	Preferred Make
1	PEST CONTROL & ANTI-TERMITE TREATMENT	Providing Pest control and Anti-termite treatment by appointing a specialised agency as per the specifications mentioned by the Bureau of Indian Standards and Agencies specifications (whichever is higher) for general civil, timber / carpentry works, gypsum related work, including a 5-year guarantee under suitable undertaking on stamp paper etc., complete as directed. (Mode of measurement to be on carpet-area of floor and not the area of surface treated)	Sqm.	196.42	
2	CARPET FLOORING	Providing and laying of broadloom roll carpet of 22 oz., 100% eco solution premium branded nylon, solution dyed, pattern loop of approved shade, all complete.	Sqm.	196.42	
3	PLYWOOD PANELING WITH GLASSWOOL IN-FILL	Providing and fixing plywood paneling with 12mm thick commercial plywood fixed on plywood framework of section 19 x 50mm including all hardwares. The inside of the structure will be filled with 50mm thick glasswool of 48Kg / cum all as per direction of EIC.	Sqm.	153	
4	ACOUSTIC FABRIC PANELING WITH RECRON IN-FILL over plywood paneling	Providing and fixing of acoustic fabric paneling as per manufacturer's specification. The panel comprise of 12mm thick recron acoustical board. The top will be covered with fire rated fabric of approved shade with PVC edge gripper, all complete as per design, drawing & direction of EIC. Rate does not include the cost of base plywood paneling.	Sqm.	76	
5	ARMSTRONG G14 CHANNELED WOODWORKS WALL PANELLING OF SIZE: 128 X 2440 X 15MM	Providing and fixing Armstrong Channelled Woodworks perforated panels of width 128mm, thickness of 15mm and length 2440mm or as required by the Architect/approving engineer, made of a high density fibre board with minimum 830 Kg/M3 density substrate with a laminated facing / wood veneer as per the approved shade/species & finish and a melamine balancing layer on the reverse side. The boards shall have a special perforation pattern where the visible surface has a "Helmholtz" fluted perforation of 2mm width and 14mm of visible panel each. The panels shall provide a fire reaction of Class of 1 as per Part 7 of BS 476. The edges of the panels shall be "tongue-and-grooved" to receive special clips for installation. The back of the perforated panel shall have sound absorbing non-woven acoustical fleece having NRC of 0.55. The panels shall be mounted on special aluminium splines using clips provided by Armstrong and approved by the Architect/Engineer-in-Charge.	Sqm.	51	

		INSTALLATION : Install wooden battens (provided by others) of section 50mm x 50mm or as approved by the Architect on the solid wall horizontally using screws and plugs at spacing of 600mm centre-to-centre. Screw the aluminium extruded keel for channelled woodworks (GTPT001) provided by Armstrong over the lowest and second wooden batten at an on-centre distance of 600mm. Install the first set of wooden panels by inserting the clips for border channelled woodworks (GTPT002) and insert the groove of the panel into the projecting flange of the aluminium clip. Continue installing rows of panels by inserting the tongue into the groove of the earlier inserted panel and progressively installing clips for inside channelled woodworks (GTPT003) into the next keel till the actual height is achieved. Use clips for border channelled woodworks (GTPT002) to finish off the installation.			
6	VENEER PANELING over plywood paneling	Providing and fixing of 4mm thick approved veneer finished with matt melamine polish as per design, drawing & direction of EIC. Rate does not include the cost of base plywood paneling.	Sqm.	15	
7	LACQUERED GLASS PANELING	Providing and fixing of 6mm thick lacquered glass with 3M tape as per design, drawing & direction of EIC. Rate does not include the cost of base plywood paneling.	Sqm.	10	
8	TILES WITH ARMSTRONG 15mm	I Tegular) EDGE Providing and fixing of Armstrong Mineral Fibre Acoustical Suspended Ceiling System with Optra (Bevell NG 15mm NG 15mm Tegular) Edge Tiles With Armstrong 15mm Exposed Grid.	Sqm.	157	
		The tiles should have Humidity Resistance (RH) of 95%, NRC 0.9 - 1.0, , Colour Black, Fire Performance UK Class 0 / Class 1 (BS 476 pt - 6 &7) in module size of 600 x 600 x 20mm , suitable for Green Building application, with recycled content of 66% GW & 74% RW.			
		The tile shall be laid on Armstrong Suprafine 38 with 15 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 38mm and a load carrying capacity of 14 Kgs/M2 with a minimum pull out strength of 100 kgs. The T Sections have a Galvanizing of 90 grams per M2 and need to be installed with Suspension system of Armstrong make			
		The Tile & Grid system used together should carry a 10 year warranty.			
I		INSTALLATION: To comprise main runner spaced at 1200mm centres securely fixed to the structural soffit using Armstrong suspension system (specifications below) at 1200mm maximum centre. The First/Last Armstrong suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall.			
		Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees.			
		Perimeter trim to be Armstrong wall angles of size 3000x19x19mm, secured to walls at 450 mm maximum centres.			

		ARMSTRONG SUSPENSION SYSTEM accessories manufactured and supplied by Armstrong World Industries consisting of M6 Anchor Fasteners with Vertical Hangers made of Galvanised steel of size 26 x 26 x 25 x 1.2mm with a Galvanised Thickness of 80gsm, A pre Straightened Hanger wire of dia – 2.5 mm of 1.8 m			
		length., thickness of 80gsm and a tensile strength of 344-413 MPa, along with Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68 mm with a minimum pull strength of 110 kg. The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner.			
9	GENERAL PAINTING	Providing and applying Acrylic emulsion paint with approved shade and colour of ICI Dulux / Asian Paints or equivalent with two coats of putty, two coats of primer and three coats of approved acrylic emulsion paint, including preparation of surface, scrapping, sand papering, scaffolding, all materials, labour etc. complete.	Sqm.	60	
10	ACOUSTIC DOOR WITH VENEER FINISH	Providing and fixing of 35mm thick solid core flush door - double leaf with 4mm thick approved veneer on both sides finished with melamine polish. Door to be mounted on heavy-duty hinges and door closers all complete with fittings & hardwares. Size - 1800 x 2100mm	Nos.	2	
11	ROLLER BLINDS	Providing and fixing of Roller Blinds with black-out fabric complete with all accessories.	Sqm.	21	
ELEC	CTRICAL & LIGHTING SU	IBSYSTEM			
SN	Item	Specification	UoM	Qty	Preferred Make
1	Light Fixtures	Supply Installation and commissioning of 1X15 W LED Down Light Fixtures	NOS	60	Philips,Bajaj, Lighting Technologies
2		Supply Installation and commissioning of 32-40 watts, Light Fixtures Minimum 2800 lumens LED SQUARE in size 600X600X80 mm (Approx.) : CRI>80,PF>0.9	NOS	30	Philips, Bajaj, Lighting Technologies
3	UPS Power Circuit Wiring (Point)	Supply Installation and commissioning of UPS POWER Circuits (2X2.5+1X1.5SQMM FRLS WIRE WITH 20MM PVC CONDUIT) Primary Point	NOS	14	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast
4		Supply Installation and commissioning of UPS POWER Circuits (3X1.5sqmm wire with 20mm pvc conduit) Secondary Point	NOS	26	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast
5	Lighting Circuit Wiring (Point)	Supply Installation and commissioning of PRIMARY LIGHT POINTS(2X2.5+1X1.5SQMM FRLS WIRE WITH 20MM PVC CONDUIT)	NOS	20	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast
6		Supply Installation and commissioning of SECONDARY LIGHT POINTS (3X1.5SQMM FRLS WIRE WITH 20MM PVC CONDUIT)	NOS	65	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast

7]	Supply Installation and commissioning of UPS LIGHTING POINTT WITH 6A SWITCH (3X1.5SQMM FRLS WIRE WITH 20MM PVC CONDUIT)	NOS	5	<u>Wire</u> : Havells, Anchor, Schneider Electric
8	Raw Power Circuit Wiring (Point)	Supply Installation and commissioning of ROW POWER POINT 16A SOCKET & SWITCH (2X2.5+1X1.5SQMM FRLS WIRE WITH 20MM PVC CONDUIT)	NOS	10	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast
9	Main Circuit	Supply Installation and commissioning ofLIGHTING & POWER MAIN LINE (2X2.5+1X1.5SQMM FR WIRE WITH 20MM PVC CONDUIT WITH ALL ACC.)	MTRS	150	<u>Wire</u> : Havells, Anchor, Schneider Electric <u>Conduit</u> : Berelia, AKG, Norpack, Prestoplast
10	POP UP BOX	Supply Installation and commissioning of POP UP BOX (3nos socket + 1no swich & 1no Data point)	NOS	36	Legrand, Schneider Electric
11	Distribution Boards	Supply Installation and commissioning of 6WAY SPN DB D.D (I/C - 40A DP MCB - 1NO, 10A SP MCB - 4NOS) FOR UPS LIGHTING DB.	NOS	1	Legrand, ABB, Schneider Electric
12		Supply Installation and commissioning of 12WAY SPN DB D.D (I/C - 63A DP MCB - 1NO, 16A SP MCB - 10NOS) FOR UPS POWER DB.	NOS	1	Legrand, ABB, Schneider Electric
13		Supply Installation and commissioning of 8WAY TPN DB D.D (I/C - 63A DP MCB - 1NO, 16A SP MCB - 12NOS, 10 SP MCB 12NOS) FOR NORMAL LIGHTING DB.	NOS	1	Legrand, ABB, Schneider Electric
14		Supply Installation and commissioning of 6WAY TPN DB D.D (I/C - 63A DP MCB - 1NO, 16A SP MCB - 9NOS, 10 SP MCB 9NOS) FOR NORMAL POWER DB.	NOS	1	Legrand, ABB, Schneider Electric
15	1	Supply Installation and commissioning of 40A 4POLE MCB WITH ENCLOSER BOX SET.	NOS	2	Legrand, ABB, Schneider Electric
16	Main Distribution Board	Supply Installation and commissioning of MAIN POWER PANEL/6 WAY VTPN DB , INCOMER - 100A 4P MCCB - 1NO WITH 100A ALUMINIUM BUSBER, OUT GOING - 63A 4P MCB - 3NOS, 40A 4P MCB - 2NOS, 40A DP MCB - 2NOS WITH PROTECTED PROPER EARTHING.	NOS	1	Legrand, ABB or Equivalnet ISI Mark
17		Supply Installation and commissioning of 6way VTP DB - I/C - 63A 4P MCB 1no & O/G - 25A 4P MCB - 6nos.	NOS	1	Legrand, ABB, Schneider Electric
18		Supply Installation and commissioning of 25A 4P RCCB 300mIA with 4P PVC out door type Encloser box.	NOS	5	Legrand, ABB, Schneider Electric
19	Power Cables	Supply Installation and commissioning of 4C X 16SQMM ALUMINIUM ARM CABLE	MTRS	40	Havells, Anchor, Schneider Electric
20		Supply Installation and commissioning of 3C X 6SQMM COPPER ARM. CABLE	MTRS	12	Havells, Anchor, Schneider Electric
21		Supply Installation and commissioning of 4CX4sqmm Copper Arm. cable	MTRS	200	Havells, Anchor, Schneider Electric
22	Gland & Termination	Supply Installation and commissioning of 4C X 16SQMM ALUMINIUM ARM CABLE GLANDING AND TERMINATION SET	NOS	4	Commet or equivalent
23	1	Supply Installation and commissioning of 3C X 6SQMM COP. ARM CABLE GLANDING AND TERMINATION SET	NOS	4	Commet or equivalent
24	1	Supply Installation and commissioning of 4C X 4SQMM COP. ARM CABLE GLANDING AND TERMINATION	NOS	10	Commet or equivalent

25	Miscllaneous and LV	Supply Installation and commissioning of 8SWG GI EARTHING WIRE	MTRS	50	ISI Grade
26		Supply Installation and commissioning of Cat - 6 4PAIR UTP CABLE	MTRS	610	D-Link, Digilink, Molex
27		Supply Installation and commissioning of 20mm PVC conduit	MTRS	600	Berelia, AKG, Norpack, Prestoplast
28	-	Supply Installation and commissioning of 12U SERVER RACK	NOS	1	D-link, Valrack, President
29		Supply Installation and commissioning of 30 PORT PATCH PANEL	NOS	1	D-Link, Digilink, Molex
ΗFΔ	 TING VENTILLATION AN	D AIR CONDITIONING			
SN	Item	Specification	UoM	Qty	Preferred Make
1	Supply of Air-Conditioners :	Supply of 4.0 TR Cassette type AC	NOS	5	
2	Installation of Air-Conditioning	Standard Installation and Commissioning of Cassette AC	NOS	5	
_	System :	Providing and fixing of Copper piping including elastomeric Nitrile tubular insulation For 3.0Tr	MTRS	105	
	-	Providing & fixing of internal electric cable between IDU & ODU	MTRS	110	
	1	Providing & fixing of drain piping with Insulation UPVC Hard Pipe	MTRS	120	
		Providing & fixing of ODU Stand	NOS	5	
FUR					
S. No.	Item	Specification	UoM	Qty	
1	Desk cum Bench	Desk cum Bench N Seater	Seat	168	Godrej/Enlighten
2	Chemical Bolts	Chemical Bolts Packets for Enlighten	Pack	21	Godrej
AUF	DIO-VIDEO SYSTEMS				
		Display and Video System			
SN	Item	Specification	UoM	Qty	Preferred Make
1	Multi Media Projector	5000 Lumens, WXGA, LCD Projector	Piece	1	Panasonic, Barco, NEC
2	Projector Mounting	Standard Duty Ceiling Mount Bracket (Upto 5 Kg Projector)	Piece	1	
3	Motorized Screen	Size: 123" (Diag,), Flame Retardant Material NFPA-701, Surface Matt White, Composition: Fiberglass base laminated with PVC, Thickness (mm): 0.30, Weight : 515g/sm, Black borders on all four sides, 220 V with Low Voltage Controller	Set	1	Draper , Da-Lite , Stewart
4	LED Display (For Remote video)	84" Full HD LED Display	Piece	1	Panasonic, Sony, Samsung

6 Aspect Ratio 16:9 • Aspect Ratio 16:9 • Effective Display Area 73.3" x 41.2" • Resolution 1920 x 1080 • Contrast Ratio 1400:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • LED Display (For Remote video) 75" Full HD LED Display 75 LED Display (For Remote video) 76" Full HD LED Display • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 63.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 63.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • BS Type A USB connector x 1 • Wall mount bracket for above Displays • Wall mount bracket for above Displays • VW-D IN 24 Pin x 1 • Wall Plate	1	Panasonic, Sony, Samsung
* Resolution 1920 x 1080 • Contrast Ratio 1400:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • USB Toyne A USB connector x 1 5 LED Display (For Remote video) 75" Full HD LED Display • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Piece • Aspect Ratio 16:9 • Effective Display Area 73.3" x 41.2" • Ports: Video • Ontrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Piece • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • USB Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • OBASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • Wall Plate Active Wall Plate - 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio	1	Panasonic, Sony, Samsung
6 • Contrast Ratio 1400:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • DOBASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 Piece 5 LED Display (For Remote video) 75" Full HD LED Display Piece 6 • DVI-D IN 24 Pin x 1 • USB Type A USB connector x 1 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece	1	Panasonic, Sony, Samsung
6 • Effective Display Area 73.3" x 41.2" • Ports: Video • DVI-D IN 24 Pin x 1 • D01-D IN 24 Pin x 1 • D01-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Tome A USB connector x 1 5 LED Display (For Remote video) 75" Full HD LED Display • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • DOISDASE-TX LAN RJ45 x 1 • USB Type A USB connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • Wall mount bracket for above Displays 6 Xall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio	1	Panasonic, Sony, Samsung
• Ports: Video • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • 100BASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • Piece 5 LED Display (For Remote video) 75" Full HD LED Display • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 • Vall Plate	1	Panasonic, Sony, Samsung
6 • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 5 LED Display (For Remote video) 75" Full HD LED Display Piece 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece	1	Panasonic, Sony, Samsung
• DVI-D IN 24 Pin x 1 • D0BASE-TX LAN RI45 x 1 • USB connector x 1 5 LED Display (For Remote video) 75" Full HD LED Display Piece • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 Piece • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RI45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 • Effective Display Area 73.3" x 41.2" 6 • Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece	1	Panasonic, Sony, Samsung
• 100BASE-TX LAN RJ45 x 1 • USB Tone A USB connector x 1 5 LED Display (For Remote video) 75" Full HD LED Display • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 6 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio	1	Panasonic, Sony, Samsung
• USB Type A USB connector x 1 5 LED Display (For Remote video) 75" Full HD LED Display • Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 6 Wall Plate 7 Wall Plate	1	Panasonic, Sony, Samsung
5 LED Display (For Remote video) 75" Full HD LED Display Piece - Aspect Ratio 16:9 • Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece	1	Panasonic, Sony, Samsung
 Aspect Ratio 16:9 Effective Display Area 64.9" x 36.4"" Resolution 1920 x 1080 Contrast Ratio 1200:1 Effective Display Area 73.3" x 41.2" Ports: Video HDMI IN Type A Connector x 2 DVI-D IN 24 Pin x 1 100BASE-TX LAN RJ45 x 1 USB Type A USB connector x 1 Wall mount bracket for above Displays Set 7 Wall Plate 	1	Panasonic, Sony, Samsung
• Effective Display Area 64.9" x 36.4"" • Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 6 Wall Mount bracket for above Displays 7 Wall Plate		
• Resolution 1920 x 1080 • Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 6 Wall mount bracket for above Displays 7 Wall Plate		
• Contrast Ratio 1200:1 • Effective Display Area 73.3" x 41.2" • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 Wall mount bracket for above Displays 7 Wall Plate		
• Effective Display Area 73.3" x 41.2" • Ports: Video • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
• Ports: Video • Ports: Video • HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 Ø Wall mount bracket for above Displays 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio		
• HDMI IN Type A Connector x 2 • DVI-D IN 24 Pin x 1 • DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 6 Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
• DVI-D IN 24 Pin x 1 • 100BASE-TX LAN RJ45 x 1 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 • USB Type A USB connector x 1 • Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
6 • 100BASE-TX LAN RJ45 x 1 • USB Type A USB connector x 1 6 Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
• USB Type A USB connector x 1 • USB Type A USB connector x 1 6 Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
6 Wall mount bracket for above Displays Set 7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
7 Wall Plate Active Wall Plate – 4K UHD HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio Piece		
	2	Good Quality Wall Mount Bracket
	1	Extron/AMX/Crestron/Kramer
Inputs:		
1 HDMI on an HDMI connector		
1 VGA on a 15-pin HD (F) connector		
1 unbalanced stereo audio on a 3.5mm mini jack		
OUTPUTS:		
1 HDBaseT on an RJ-45 connector		
1 unbalanced stereo audio on a 3.5mm mini jack		
 Supports Remote input switching and volume control 		
 HDCP—works with sources that support HDCP repeater mode 		
CE Compliance standards		
8 Switcher 4 x 4 HDMI matrix switcher with 4 Input HDMI and 4 Output HDMI connectors, Up to 6.75Gbps data rate, NA	1	Kramer/Extron/Crestron
Control Options through RS-232, Ethernet RJ45 & IR, Resolution 1080p, Remote Control	1	
	1	

9	Twisted pair HDMI extender-	Twisted Pair HDMI Transmitter over CAT cable	Piece	3	Kramer/Extron/Crestron
	Transmitter	 Max. Data Rate - 10.2Gbps (3.4Gbps per graphic channel) or better 			
		Should be HDTV Compatible			
		Should be HDCP Compliant			
		 Should be HDBaseT[™] Compatible 			
		• HDMI Support - Deep Color, Lip Sync, HDMI Uncompressed Audio Channels, Dolby • TrueHD, DTS-HD,			
		CEC. Or better			
		Should allow for EDID PassThru			
		• 2K & 4K Support or better			
		Should have Bidirectional RS-232 & IR Interface			
		• System Range - Up to 70m (230ft) or better			
		Indicators - Status LEDs for input, output, link and power or better			
10	Twisted pair HDMI extender-	Twisted Pair HDMI Reciever over CAT cable	Piece	3	Kramer/Extron/Crestron
-	Receiver	• Max. Data Rate - 10.2Gbps (3.4Gbps per graphic channel) or better		_	,,
		Should be HDTV Compatible			
		Should be HDCP Compliant			
		 Should be HDBaseT[™] Compatible 			
		• HDMI Support - Deep Color, Lip Sync, HDMI Uncompressed Audio Channels, Dolby • TrueHD, DTS-HD,			
		CEC or better			
		Should allow for EDID PassThru			
		• 2K & 4K Support or better			
		Bidirectional RS-232 & IR Interface or better			
		System Range - Up to 70m (230ft) or better			
		Indicators - Status LEDs for input, output, link and power or better			
11	VGA+Stereo Audio Patch Cable	6 Feet Micro sized high-performance cables for computer graphics and audio with slim molded 15-pin	Piece	1	Kramer/Extron/Crestron
		HD and 3.5mm connectors at both ends			
		 All Pins Connected for DDC2 and EDID Support. 			
12	HDMI Cable	Flexible high speed HDMI cable- 6 feet	Piece	11	Kramer/Extron/Crestron
		 6 feet , Flexible high-speed HDMI cable with Ethernet 			
		 High-performance cable with molded HDMI connectors at both ends 			
		• Supports signals up to 1920x1200 @60Hz and HDMI Ethernet Channel, 12-bit Deep • Color, Lip Sync,			
		HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC			
		Video Conference System			
SN	Item	Specification	UoM	Qty	Preferred Make
-	HD Video Conference CODEC	720p HD CODEC, PTZ 12x Camera, Microphone array, Universal Remote, Cable Bundle, 19" Rack Mountings	Set	1	Polycom/Cisco

Video standards and protocols	
• H.261, H.263, H.264 AVC, H.264 High Profile, H.264 SVC, RTV	
• H.239	
H.263 & H.264 Video error concealment	
Video input	
• 2 x HDCI	
• 3 x HDMI 1.4	
• 1 x YPbPr component	
• 1 x dual RCA composite	
• 1 x VGA	
Video out	
• 3 x HDMI 1.3	
• 3 x VGA	
Video resolution	
• 1080p, 60 fps from 1740 Kbps	
• 1080p, 30 fps from 1024 Kbps	
• 720p, 60 fps from 832 Kbps	
• 720p, 30 fps from 512 Kbps	
• 4SIF/4CIF, 60 fps from 512 Kbps	
• 4SIF/4CIF, 30 fps from 128 Kbps	
• SIF (352 x 240), CIF (352 x 288) from 64 Kbps	
• QSIF (176 x 120), QCIF (176 x 144) from 64 Kbps	
• w288p from 128 Kbps	
• w448p from 384 Kbps	
• w576n from 512 Kbns	
Content video resolution	
• Input	
- HD (1920 x 1080i)	
- HD (1920 x 1080p)	
- WSXGA+ (1680 x 1050)	
- UXGA (1600 x 1200)	
- SXGA (1280 x 1024)	
- WXGA (1280 x 768) (1024 x 768)	
- SVGA (800 x 600	

• Output	
- WUXGA (1920 x 1200)	
- HD (1920 x 1080)	
- WSXGA+ (1680 x 1050)	
- SXGA+ (1400 x 1050)	
- SXGA (1280 × 1024)	
- HD (1280 x 720)	
- XGA (1024 x 768)	
- VGA (640 x 480)	
Content Frame Rate	
- 5–60 fps (up to 1080p resolution at 60 fps)	
Audio input	
 2 x microphone array input ports (supporting a total of 4 	
microphone arrays)	
USB headset support	
• 2 x HDCI (camera)	
• 3 x HDMI	
• 2 x RCA line-in	
Audio output	
 1 x HDMI (to in-room audio system) 	
 1 x HDMI (to conference recording device) 	
USB headset support	
• 1 x RCA pair stereo line-out	
Other interfaces	
• 2 x USB 3.0 (back)	
• 1 x USB 2.0 (front)	
• 1 x RS-232 DB9	
Audio standards and protocols	
 22 kHz bandwidth with Siren 22 technology, AAC-LD, G.719 	
 14 kHz bandwidth with Siren 14 technology, G.722.1 Annex C 	
• 7 kHz bandwidth with G.722, G.722.1	
• 3.4 kHz bandwidth with G.711, G.728, G.729A	

I .		Course of the second		1	1
1		Camera			
1		• Type 1/2.33" CMOS			
		• 12X Zoom with Wide Angle			
		Horizontal View 85°			
		Vertical View 39°			
1		• Pan Range +/-100°			
1		• Tilt Range +20/-30°			
1		• Exposure Auto-iris, AGC			
		• H/V Resolution 1920 x 1080			
1		Focus Auto			
1		It should include extender for catering unto a length of 60 feet			
		Network			
1		IPv4 and IPv6 support			
		• 2 x 10/100/1G Ethernet Switch			
		Auto-MDIX			
		• H.323 and/or SIP up to 6 Mbps			
		Reconfigurable MTU size			
		RS232 with API support			
		 Microsoft Office Communications Server integration 			
<u> </u>		Microsoft Lync and Skype Support			
14	Additional 12X PTZ Camera	• Type 1/2.33" CMOS		1	Polycom/Cisco
		• 12X Zoom with Wide Angle			
		Horizontal View 85°			
		Vertical View 39°			
		• Pan Range +/-100°			
1		• Tilt Range +20/-30°			
		• Exposure Auto-iris, AGC			
		• H/V Resolution 1920 x 1080			
		Focus Auto			
15	Extender for Additional Camera	High gain Digital extender Cable for Camera (as per room size approx. 100 feet or more)	Set	2	Polycom/Cisco
17	Camera Mountings	Ceiling mountings for 2nd Camera	Piece	1	Polycom/Cisco
18		Shelf for Front Camera	Piece	1	Polycom/Cisco
16	Licenses	Multipoint Licenses 8 Way on Group, either supports 4 way HD Continuous for day one	Service	1	Polycom/Cisco
_					, , ,
Audio	System				
SN	Item	Specification	UoM	Qty	

10					
19	Cardioid Capsule for Gooseneck Stem		Piece	1	AKG/Sennheiser/Beyerdynamic
		Audio frequency bandwidth 50 to 20000 Hz			
		• Equivalent noise level 21 dB-A			
		• Sensitivity 20 mV/Pa			
		Signal to Noise 73 dB-A			
		Electrical impedance 600 Ohms			
		Recommended load impedance			
		Polar Patterns			
		• Cardioid			
		Powering Interface			
		Voltage 9 to 52 V			
		• Current 3 mA			
		Audio Output			
		Type Modular Series Standard			
		Design			
		• Finish matte dark gray/black			
20	Goosenet Microphone with Shock	Gooseneck Microphone , Cardioid , Black	Piece	1	AKG/Sennheiser/Beyerdynamic
	Mount	General			
		 Audio frequency bandwidth 20 to 20000 Hz 			
		Recommended load impedance 2000 Ohms			
		Powering Interface			
		Voltage 9 to 52 V			
		• Current 3.5 mA			
		Audio Output			
		• Type Balanced XLR			
		Gender Male			
		Contacts 3-pin			
		Design			
		Finish matte dark gray/black			
		Shock Mount			
		With integrated XLR connector			
22	Antenna Power Splitter	 Wide Band UHF Active antenna and Power Splitter 	Piece	1	AKG/Shure/ Sennheiser
		4/1 Antenna Power splitter or better			
		Carrier Range : 470 to 952 Mhz or better			
		 Attenuation : 0, 2, 4, 6, 8, 10, 12, 14 dB switchable or better 			
		 RF Inputs : 2 x BNC sockets, 50 Ohm or better 			
		RF outputs: 10x BNC Sockets , 50 Ohm or better			
		 Should have Cable Length Adjustment Switch for optimizing antenna signal levels 			
23	Antenna Cable	Superipor Quality Antenna Cable	Piece	3	AKG/Belden/Kramer
		• Length 20m			
		 Shall be an RG58 cable or better 			

24	Active omnidirectional Antenna	Active omnidirectional wideband antenna	Piece	3	AKG/Shure/ Sennheiser
		Active Omnidirectinal Wide Band UHF Receiving Antenna			
		Operating Frwquency Range : 500MHz to 865MHz or better			
		• Integrated High Performance Antenna Booster with minimum 17dB total gain or better for cable lengths			
		upto 300m or better			
		 Should allow for remote powering via antenna cable 			
		Should have water resistant construction			
		Antenna Output : BNC			
		Gender : Female			
		Recommended Load Impedance : 50 Ohms or better			
25	Wireless Handheld Microphone	Receiver :	Set	3	AKG/ Sennheiser/ Beyerdynamic
		Tuning Range : Up to 30 Mhz or Better			
		Diversity System : Antenna switching or better			
		RF Output : 20 mW or Better			
		 Audio Bandwidth : 40 – 20 000 Hz (+/- 3dB) or better 			
		Frequency Selection : Fixed frequency			
		 8 compatible channels within one frequency band or better 			
		Modulation : FM or better			
		Working Range : 30m or better			
		Transmitter :			
		Audio Frequency bandwidth : 70 to 20,000 Hz or better			
		Signal to Noise : 105 dB-A dB-A or better			
		• THD at 1 kHz : 0.8% or better			
		Cardiod polar pattern or better			
		Should have noiseless ON/Off Mute Switch			
		Should have Gain Control on transmitter for immediate volume control			

26	Wireless Lapel Microphone	Reciever :	Set	1	AKG/ Sennheiser/ Beyerdynamic
		• Tuning Range : Up to 30 Mhz or Better			
		Diversity System : Antenna switching			
		• RF Output : 20 mW or Better			
		• Audio Bandwidth : 40 – 20 000 Hz (+/- 3dB)			
		• Frequency Selection : Fixed frequency			
		 8 compatible channels within one frequency band or better 			
		Modulation : FM			
		Working Range : 30m or better			
		Bodypack Transmitter :			
		 Audio Frequency bandwidth : 40 to 20,000 Hz or better 			
		 Signal to Noise : 105 dB-A dB-A or better 			
		• THD at 1 kHz : 0.8% or better			
		Audio Input : Mini XLR , Female			
		Maximum audio level 12dB dB or better			
		Rated Impedance 1 Ohms or better			
		Should have noiselessON/Off Mute Switch			
		 Should have Gain Control on transmitter for immediate volume control 			
		Lavellier Microphone :			
		 Audio Frequency bandwidth : 20 to 20000 Hz or better 			
		• Sensitivity: 7 mV/Pa or better			
		• Equivalent Noise Level : 34 dB-A or better			
		Signal to Noise : 60 dB-A or better			
		Electrical Impedance : 200 Ohms or better			
		Polar Pattern : Cardioid or Better			

27 Multichannel Audio DSP	 12 Analog Inputs (with 48v Phantom wer per Channel) or better 	Piece	1	BSS/Polycom/Clearone
	8 Analog Outputs or better			
	 Should allow for configurable Signal Processing 			
	 48 Channel, Low Latency, Fault Tolerant Digital or better 			
	 12 Channels of AEC Processing with Auto Gain Control and Noise Cancellation or better 			
	Should have Bi-Directional Locate Functionality			
	 12 Control Inputs and 6 Logic Outputs for GPIO integration or better 			
	 Input Impedance: 3.5kΩ or better 			
	 Maximum Input Level: +20dBu with 0dB input gain,+8dBu with 12dB gain or better 			
	• CMRR: >75dB at 1KHz or better			
	 Phantom Power: 48V nominal, selectable per input or better 			
	Maximum Output Level: +19dBu or better			
	• Frequency Response: 20Hz-20KHz (+0.5dB/-1dB) or better			
	• THD: <0.01% 20Hz to 20KHz, +10dBu output or better			
	• Crosstalk: <-75dB or better			
	• Output Impedance: 40Ω balanced and 20Ω unbalanced or better			
28 Dual Channel Amplifier	 525W @ 4Ω 	Piece	1	Crown/ Harman/BOSE
	Max Power 1500 Watt at 4 Ohm Bridged			
	Channels = 2			
	Sensitivity 1.4Vrms			
	 Frequency Response +0dB, -1dB 			
	 Signal to Noise >103dB (at .775Vrms, 6dB lower) 			
	 Intermodulation Distortion < 0.3% 			
	 Damping Factor > 200 			
	• THD < 0.5%			
	Crosstalk At 1kHz: > 85dB. At 20kHz: > 55dB			

29	Column Speakers	a Francisco (10 dD) + 20 Hz - 20 Hz as better	Piece	6	JBL /Bose/ Tannoy
29	Column speakers	 Frequency Range (-10 dB) : 80 Hz – 20 kHz or better Coverage Pattern : Vertical 20° or better 	Piece	0	JBL / BOSE/ Talliloy
		Horizontal 150° or better			
		• Sensitivity :			
		• 93 dB (speech mode, 2 kHz - 14 kHz) or better			
		• 89 dB (music mode, 300 Hz - 18 kHz) or better			
		Nominal Impedance : 8 Ohms or better			
		Power Capacity :			
		• 150W (600W peak), 2 hrs or better			
		• 100 W (400W peak), 100 hrs or better			
		• Max SPL :			
		 Speech mode: 115 dB cont ave (121 peak) or better 			
		Music mode: 111 dB cont ave (117 peak) or better			
		 70V/100V Transformer Taps : 60W, 30W, 15W or better 			
		 Enclosure : Fiberglass reinforced ABS cabinet, painted aluminum grille or better 			
		Outdoor Capability : IP-54 rated, per IEC529. UV, moisture and salt-spray resistant or better			
Bulk C	ables and Connectors				
SN	Item	Specification	UoM	Qty	
34	Microphone Cable	 24 AWG stranded (27x38) Microphone cable or better 	Meter	150	Extron , Crestron , Kramer , Belden
		 High-conductivity bare copper conductors or better 			
		Should have PVC insulation			
		 Bare copper spiral shield (90% coverage) or btter 			
		Should have PVC jacket			
		 Operating Temperature Range: -30°C To +60°C oe better 			
		Non Plenum			
35	Shielded Cat6 cable	• 4 Pairs Shielded Twisted Pair screened with tinned copper braiding (S/FTP) Cable	Meter	305	Extron , Crestron , D-Link
		Conductor Metal: 23 AWG Solid Bare Copper or better			
		Shield Individual Pair: Aluminum/Polyester Foil or better			
		Screened: Tinned Copper Braiding or better			
		• Color Code: Grey or better			
		Jacket Material: PVC or better			
		Cable Diameter : 8.0mm Nominal or better			
		Verified compliant with TIA/EIA-568C.2 standards by ETL or better			
		CUL listed or better			
		RoHs compliant or better			

36 Stereo Audio/Con	trol Cable	 Quality Construction - Rugged and flexible jacket with sequential markings every meter or better Easy Stripping - Exceptionally easy to strip because the foil shield is bonded to the inside of the jacket. Impedance : 40 to 100Ω. Or better DC Resistance : 34.6Ω/km (10.5Ω/1000ft). Or better Temperature: -20° to 75°C (-4° to 167°F). Or better High-quality dual shielded pair style cable designed for routing balanced stereo mic or line level audio signals or better 	Per meter	100	Extron , Crestron , Kramer
37 24U Standard AV Width, 800 mm O		 * 24U Height Multi Hollow Extruded Aluminum Frames Structure across the X, Y & Z axis to give an • Uninstruct bolting mechanism (UL) and Further reinforced with 8 Nos. of corner bracket which ensure better stability and strength Configured to hold 19-inch equipment with the help of two pairs of mounting angle provided with square slots to accommodate M6 Cage nuts at universal pitch Pattern as per DIN 41494 Top cover ventilated on all sides along the width and depth thereby enhancing exhaust of hot air Cable entry provision is both at the top and bottom covers with 35mm round cable entry point, the cable entry provision comprising of a gland plate with cable entry points in round cut outs edge protected with rubber grommets Monitor Tray – Ventilation – Tray Specially designed with multiple bend and additional stiffeners for better load carrying capacity Metal Steel Ventilation Panel – Blank Ventilation Panels to help to fill the open space in the rack along with ventilation to facilitate air circulations Castor – 4 Nos. of heavy duty castors to take care of heavy load bearing capacities are provided, 2 Nos. in the front with Break & 2 Nos. on the rear without break. Rack mount channels with Hardware sets Earthing Strip – Copper strip to take care of the grounding 	Piece	1	Valrack/ Middle Atlantic/ President

38	36U Standard AV rack with 600mm	* 36U Height	Piece	1	Valrack/ Middle Atlantic/
	36U Standard AV rack with 600mm Width, 800 mm Outer Depth (Optional)	 * 36U Height Multi Hollow Extruded Aluminum Frames Structure across the X, Y & Z axis to give an • Uninstruct bolting mechanism (UL) and Further reinforced with 8 Nos. of corner bracket which ensure better stability and strength Configured to hold 19-inch equipment with the help of two pairs of mounting angle provided with square slots to accommodate M6 Cage nuts at universal pitch Pattern as per DIN 41494 Top cover ventilated on all sides along the width and depth thereby enhancing exhaust of hot air Cable entry provision is both at the top and bottom covers with 35mm round cable entry point, the cable entry provision comprising of a gland plate with cable entry points in round cut outs edge protected with rubber grommets Monitor Tray – Ventilation – Tray Specially designed with multiple bend and additional stiffeners for better load carrying capacity Metal Steel Ventilation Panel – Blank Ventilation Panels to help to fill the open space in the rack along with ventilation to facilitate air circulations Castor – 4 Nos. of heavy duty castors to take care of heavy load bearing capacities are provided, 2 Nos. in the front with Break & 2 Nos. on the rear without break. Rack mount channels with Hardware sets Earthing Strip – Copper strip to take care of the grounding 			Valrack/ Middle Atlantic/ President
39	16 AWG speaker bulk cable	2-16 AWG stranded bare copper conductors with polyolefin insulation, PVC jacket with ripcord	Per Meter	150	Extron , Crestron , Kramer , Belden
40	Other connectors and cables if any			0	

Annexure – D

Notice Inviting Tender (NIT) for Multi-Function Video Conference (MFVC) Facility at Humanities and Social Sciences (HSS) Academic Complex, Tezpur University

Pre-Bid Qualifying Criteria Check List

SN	Requirement	Enclosed YES/NO
1	EMD & Tender Fee	
2	The bidder must submit tender specific OEM Authorization letter from all the major OEMs (except screen, cables, connectors & other accessories).	
3	Audited copies of Balance Sheets & PL statement for Last 3 financial Years 2013-14, 2014-15& 2015-16	
4	 (i) Three similar works each costing more than Rs. 50 lacs or (ii) Two similar works each costing more than Rs. 65 lacs or (iii) One similar work costing more than Rs.125 lacs 	
5	Two similar works of audio visuals of value not less than Rs. 30 lacs or one similar work of value Rs. 60 lacs.	
6	The bidder should have Certifications like ISO 9001:2015, ISO 14001: 2015, ISO 13485: 2012, ISO 50001: 2011, OHSAS 18001: 2007 and BIFMA	
7	Copy of Certificate of Incorporation	
8	Copy of VAT Registration Certificate	
9	After Sales & Service Support Centre in Assam (Documentary Proof)	
10	Copy of PAN	
11	Copy of Sales Tax Clearance Certificate	

(Signatures) Date: Place: Name: Designation: Seal

Annexure – E

Notice Inviting Tender (NIT) for Multi-Function Video Conference (MFVC) Facility at Humanities and Social Sciences (HSS) Academic Complex, Tezpur University

Unpriced Bill of Material cum Compliance Sheet

Following is the exhaustive bill of material with makes and part numbers. Further we abide ourselves by the compliances indicated as per the desired specifications.

SN	Item	Specification	UoM	Qty	Preferred Make	Compliance (Y/N)

(Signatures) Date: Place: Name: Designation: Seal

Annexure – E

Notice Inviting Tender (NIT) for Multi-Function Video Conference (MFVC) Facility at Humanities and Social Sciences (HSS) Academic Complex, Tezpur University

Unpriced Bill of Material cum Compliance Sheet

Following is the exhaustive bill of material with makes and part numbers. Further we abide ourselves by the compliances indicated as per the desired specifications.

SN	Item	Specification	UoM	Qty	Preferred Make	Compliance (Y/N)

(Signatures) Date: Place: Name: Designation: Seal