

# UNIVERSITY OF NORTH BENGAL

## Office of the Registrar



ENLIGHTENMENT TO PERFECTION

### Notice inviting e-Tender

e-Tender is invited from reputed Vendors for setting up of 25 nos (approx) Virtual Class room in the University of North Bengal, Rajammohunpur Campus. For details please visit <https://wbtenders.gov.in> (Tender ID-2017\_DHE\_100234\_1).

Advt. No. 170/R-2017 Dated: 02.02.2017

Registrar (Officiating)

# University of North Bengal



P.O. Raja Rammohunpur  
Dist Darjeeling  
Pin 734013

## Notice Inviting e-Tender- 170/R-2017

e-Tender is invited from reputed Vendors for setting up of 25 nos (approx) Virtual Class room in the University of North Bengal, Rajarammohunpur Campus as per specification given under **Annexure - I**. For details please visit <https://wbtenders.gov.in>

<i>Sl. No</i>	<i>Item</i>	<i>Earnest Money</i>	<i>Completion Time</i>
1.	<b>As per Annexure - I</b>	<b>1,25,000/-</b>	<b>15 days</b>

### TERMS AND CONDITIONS:

- (1) The quoted rate shall be inclusive of all taxes.
- (2) Taxes will be deducted at source as per prevailing rules of Central and State Government.
- (3) The terms and conditions of payment shall be declared clearly.
- (4) Copy of current year PT challan, Trade License, PAN card, VAT / CST registration certificate along with the last challan, Service tax registration certificate shall be accompanied with the technical bid documents. [NonStatutory Documents]
- (5) The vendor shall submit authorization certificate from OEM along with the technical bid.(Non Statutory documents).
- (6) The vendor shall have credential of supply of similar equipments in any University / institution / Govt. Organizations Copy of credential certificate shall be submitted along with technical bid (Non Statutory documents).
- (7) The vendor shall provide three years comprehensive warranty of all products & maintenance.
- (8) The Service Engineers are to be made available within 24 hrs for trouble shooting which is to be done on no wait basis.

- (9) The successful tenderer shall complete the installation of the equipment within 10 (ten) days from the date of issuance of the supply order.
- (10) A sum of Rs. 1,25,000/- shall be deposited to the under noted account of the University through RTGS as earnest money and the copy of receipt challan of RTGS with UTR number shall be accompanied with the technical bid document (Statutory Documents) failing which the tender paper will be treated as cancelled. The earnest money of the unsuccessful quotationer(s) will be refunded without interest after one month of the opening of tender paper and the same of the successful candidate will be refunded without interest after three months of the satisfactory installation of the equipment subject to redressal of complaint, if any.

Name of the A/c : N.B.U (S/B).  
Account Number : 10195736768  
IFSC Code : SBIN0002096

- (11) Tender paper shall be downloaded from <http://wbetenders.gov.in> Portal. A sum of Rs. 5,000/- shall be deposited to the above account mentioned under sl.no. 10 of the University towards the cost of tender paper failing which tender paper will be treated as cancelled.
- (12) The University authority reserves the right to accept or reject any/all quotations.
- (13) The quotation should be valid for at least 90 (ninety) days.
- (14) Technical literature of the product shall be submitted along with the quotation papers with bid documents (Non-Statutory documents).
- (15) Selection of the vendor will be made on the basis of both technical and financial bids. Technical bids and financial bids shall be submitted by online only. Offline submission of tender paper will not be accepted.
- (16) 92% of the bill value will be paid after satisfactory installation of the equipments. The remaining 8% of the bill value shall be deducted and kept aside as Security Deposit, which will be paid after three months from the date of satisfactory installation report, subject to redress of complaints, if any.
- (17) The last date of submission of tender form is on 21.02.2017 by 11.00 a.m and to be opened on 21.02.2017 at 3.00 p.m.
- (18) The tenderers may remain present at the opening of tender.
- (19) For any clarification regarding tender please contact with Dr. Ardhendu Mandal, Department of Computer Science & Application University of North Bengal( Tel. no : +91 94743 90844 ) e-mail id - [am.csa.nbu@gmail.com](mailto:am.csa.nbu@gmail.com)

(20) All cases of disputes not covered under the terms & conditions of Tender will be referred to the Vice-Chancellor for a decision which shall be final and binding on both the parties.

(21) The actual number of Virtual Class Room may vary as per the budget.

(22) Date & Time Schedule

<b>SI NO</b>	<b>Particulars</b>	<b>Date &amp; Time</b>
1	Publishing of Tender	<b>02.02.2017</b>
2	Documents download/sell start date (Online)	<b>02.02.2017 at 6.55 p.m.</b>
3	Bid submission Start Date	<b>02.02.2017 at 6.55 p.m.</b>
4	Bid Submission End Date	<b>21.02.2017 at 11.00 a.m.</b>
5	Technical Bid Opening	<b>21.02.2017 at 3.00 p.m.</b>
6	Offline Submission	<b>NO OFFLINE SUBMISSION ACCEPTED</b>
7	Financial Bid Opening	<b>To be notified</b>

Registrar (officiating)

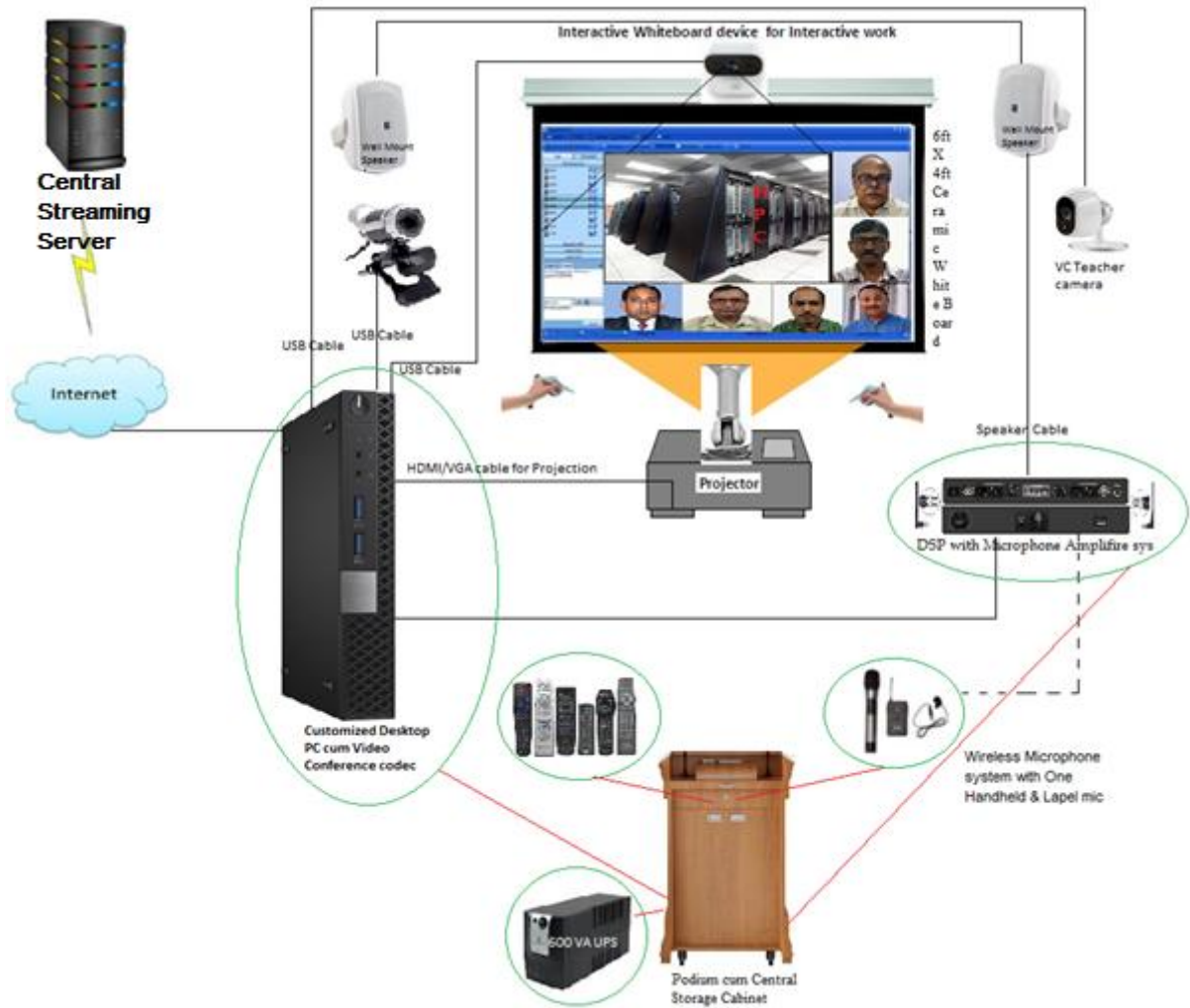
# Technical Specification for Virtual Class Rooms along with Videoconferencing Solution

<b>Project Description</b>		Conceptualization, installation and commissioning of 25 nos. (approx.) non-cloud and non-subscription/license based integrated virtual class rooms with audio visual lecture recording, storage and videoconferencing facility at various academic departments of University of North Bengal main campus at Raja Rammohunpur, P.O.-NBU, Dist-Darjeeling, W.B, Pin-734013	
<b>Centrally usable device/system for entire project</b>			
Sl. No.	Items/Particulars	Specification	Qty.
1	<b>Central Streaming Server Virtual Classroom Software</b>  with	<p>Central Streaming Server with Intel i5 or AMD equivalent processor; 1 TB HDD; 8 GB DDR3; Gigabit Ethernet LAN along with the following additional minimal support/specification:</p> <p>Storage of up to 100 Hours of recording with concurrent streaming; all videos can be access and play from server; FLV, MP4(QuickTime container –.mp4, .f4v, .mov, .m4v, .mp4a, .3gp, and .3g2), MP3, PIFF (.ism, .ismc, .ismv, .isma) etc. audio and video file format with compatible live audio and video encoding i.e. H.264, VP6, Sorenson Spark®, Screen Videov1 &amp; v2 &amp; AAC, AAC-LC, HE-AAC, MP3, Speex, Nellymoser Asao and MPEG-TS, H.264 &amp; AAC, AAC-LC, HE-AAC, MP3, AC-3;</p> <p>Seamless Multi-platform Interoperability to join video meetings from classroom or a mobile device; connect seamlessly with the existing hardware based legacy video conferencing equipment’s (H.323) coming to a common platform over a highly secure, reliable connection to achieve high quality video &amp; content (H.239); inbuilt central streaming server scalability to connect 2 to 100+ locations into the same meeting &amp; add locations in the multiple of one; with a continuous presence of 24 participants at one time; features digital white board for real time annotations.</p> <p>Document, desktop/application sharing; recording; voice activated switching; file transfer; video and desktop sync; lock conference; Android / iOS; remote camera control; video mixer (upto 6 active camera / video input); video layouts (automatic); roll call; media file sharing; banner / title; conference grouping; video rotation; next generation stream server splitting &amp; combining; guest gser; H.323 interconnected and H.239; public &amp; private chat; multiple room creations; e-mail; video codec: H.264, H.264 VBR/CBR; video support up to 1080p30; 5 party user in same time; video per location: 10 nos of videos can be up per location; support live streaming; concurrent user;</p> <p>Along with the following upgradability and support: Software central stream server/appliance based/server based MCU with 5 port HD 720p30 frame and min 5 simultaneous multiparty calls with minimum 16 videos in continuous presence; upgradeable to 25 simultaneous 2 way video conference in the same chasis and the licenses should be upgradeable in multiples of 1; firewall</p>	1 for entire project

		traversal; capability to connect H.323 standard based HW video conference devices at HD resolution with share data presentations using H.239 with H.323 user; mobile user gateway client for Windows desktop, Android, IOS Mobile devices, offers 10000 registered users and unlimited client download and easy connectivity with central streaming server to be a part of video call, capable of either inbuilt or external server based local and central video recording with the capacity to record minimum 5 concurrent sessions with minimum 100Hrs of recording storage at central location with both centralized and at endpoint level recording facility; capability to share data in multipoint to multipoint conference through central streaming server /MCU; G.711, G.722 , G.723 , GIPS, OR equivalent Audio Codec; H.264 SVC/ H.264VBR/H.264HP/H.264AVC /H.265 or better Video Codec with smooth interoperability between different systems; 128-bit fully encrypted video conference meetings to ensure encrypted data flows between endpoint & central streaming server right from day 1.	
<b>Devices required Per Classroom</b>			
Sl. No.	Items/Particulars	Specification	Qty
1	<b>White Board</b>	Good quality 6ft X 4ft Ceramic White Board	
2	<b>Interactive White Board Sensor device/ System (to convert any white board to Digital Interactive board)</b>	Infrared based movement detection and multi touch recognition interactive white board sensor device with two interactive pens along with the following additional minimal support/specification:  90 inch diagonal active area with +/-30 degrees horizontal and 0-120 degrees vertical angles; infrared positioning calibration technology; LED based movement detection tech ; 0.8-2m active projection distance; 1x USB cable connectivity; <1.5 W power consumption to be supplied through USB and 400 mAh electric quantity ;	
3	<b>Class Room Projector with suitable mounting Kit</b>	Sony, Hitachi, Epson, BenQ or equivalent brand DLP 3D interactive projector along with the following additional minimal support/specification:  1024X768 native resolution; 4:3 native aspect ratio; 20000:1 contrast ratio; 1.95 to 2.15:1 (1270 mm@2000mm) throw ratio; 3000 lm brightness; 2x digital and 1.1x optical zoom; 5000 hr. normal mode lamp life; USB/VGA in.  Mounting System: Adjustable wall/Ceiling Mounting Brackets	
4	<b>Video Conferencing Codec HW with virtual classroom software</b>	Desktop cum Video Codec with Intel Q85 or equivalent chipset and Intel i3 or AMD equivalent Processor with minimum 3 GHz base frequency; 32 GB Solid State Drive and 2 GB DDR3 along with the following additional minimal support/specification:  H.263, H.264, H.264 HP/AVC/SVC/VBR or H.265 video standard and G.711, G.722, G.722.1, G.728, G.729 /GIPS / SPEEX codec or MPEG4 - AAC (LC) audio standard; H.323 and SIP protocol; Full HD Resolution upto1080p @30fps; 4:3 and 16:9 aspect ratio and minimum 30 frames per second from 512 kbps frame rate; H.239	

		for content sharing; minimum four input camera port; 3.5mm line out or headphone output & external audio mixer integration with external audio mixer; microphones or more in array; minimum 1 RJ-45 port; upto 4 Mbps bandwidth in a P-2-P call and multipoint call; HDMI /DVI ports or equivalent and O/P and dual display; audio and video packet loss correction; inbuilt video recording capability or offer external video recording solution at end point with minimum 8 hr of local recording storage and capacity to add storage in future; choice to record locally or at central recording server provided along with central streaming server/MCU.	
5	<b>Video Conferencing Supported Microphone System with one pair external speakers</b>	Video conferencing supported DSP with Microphone Amplifier system along with the following additional minimal support/specification:  USB voice interface for PC audio connectivity ; UHF 1 Wireless hand held Mic, 1 Collar Mic with UHF 610MHz - 680MHz Frequency with 80Hz~18KHz Frequency Response; two separate microphone control; optical microphone antenna; XLR Microphone and Phono Out; Aux input port; >40 dB High-end performance acoustic echo cancellation; 8 ohm dual (per channel): 60W amplifier power with minimum 100W O/P; Full duplex performance; min 10dB noise cancellation; 20 – 7500 kHz for speech processing maintains the soundcard bandwidth; De-reverb Filtering; Automatic gain control; 16KHz sampling rate maintains audio performance at video conferencing.	
6	<b>Camera for Teacher</b>	Branded good quality Full HD Camera along with the following additional minimal support/specification:  USB 2.0 connectivity; 50 degrees viewing angle; built in MIC; auto white balance; 50Hz, 60Hz flicker; 720P @ 30fps up to 1080P resolution, auto face tracking and auto digital zoom, 16:9 aspect ratio, motion sensitivity, zoom and face trace work in VC	
7	<b>Camera for Students</b>	Focus Free Camera along with the following additional minimal support/specification:  58.5 degrees viewing angle, Built in MIC, True Color HD Sensor, Auto White Balance, 50Hz, 60Hz Flicker, 720P @ 30fps up to 1080P resolution, auto face tracking and auto digital zoom, 16:9 Aspect Ratio Support, Motion sensitivity, Zoom and Face trace work in VC	
8	<b>Wooden/Steel or suitable Cabinet cum Podium</b>	Wooden/Steel/etc Cabinet to keep/store all the accessories/equipments together with locking facility that also to be used as classroom podium.	
9	<b>Desktop UPS (Optional)</b>	Good quality or standard 600 VA Desktop UPS to provide backup upto 20 min.	
10	<b>Installation</b>		1 Job
<b>N.B.</b>	<ul style="list-style-type: none"> <li>• Only the necessary electrical points to be provided by the University. No other accessories will be provided by the University.</li> <li>• OEM/Bidder should have at least 5 completed Implementations of same kind of projects in state/ Central Govt. in last 5 financial years.</li> <li>• All equipments must have at least 1 year warranty with direct support without AMC from the date of project completion.</li> <li>• Post warranty AMC need to be mentioned.</li> </ul>		

# Proposed Schematic Diagram for Economical Virtual Interactive Classroom with Video Conferencing Solution Per Class





# Proposed Schematic Diagram for Economical Virtual Interactive Classroom with Video Conferencing Solution Entire Project (Approx. 25 Class Rooms)

