

## Tender Corrigendum

### “Tender for Supply, Installation, Testing and Commissioning (SITC) of Smart Classroom Solution and Integration with Existing Smart Classrooms at Banaras Hindu University”

Central Purchase Organization, BHU, Varanasi

Advt. No: BHU/CPO/Smart Classroom /2020-21/01

Dated: 14-08-2020

The following table consists of the amendments incorporated in the Tender Document. Rest of the Tender Document may kindly be read as it is.

S. No.	Page No.	Original	Amended as
1.	13	The bidder needs to bid the equipments and software <b>of the same</b> OEMs as demonstrated in PoC. If any discrepancy is found in the same the Bid is liable to be rejected.	The bidder needs to bid the equipments and software <b>among the</b> OEMs as demonstrated in PoC. If any discrepancy is found in the same the Bid is liable to be rejected.
2.	21	The commercial bid comprises of : (i) Scanned copy of Tender Form (ii) Price bid in the form of BoQ_XXXX.xls. (iii) Scanned copy of item wise breakup of price bid.	The commercial bid comprises of : (i) Scanned copy of Tender Form (ii) Price bid in the form of BoQ_XXXX.xls. (iii) Scanned copy of item wise breakup of price bid. (iv) Price list of Optional Items as per <b>Technical Specifications</b> of this Tender.
3.	35	4. The Bidder/OEM from a country which shares a land borders with India will be eligible only if the bidder and OEM is registered with the competent Authority, specified in annex I as per Ministry of Finance, Department of Expenditure OM dated 23/07/2020. The bidder will have to give an undertaking as per annex III of the OM dated 23/07/2020 issued by the Ministry of Finance, Department of Expenditure.	4. The Bidder/OEM from a country which shares a land borders with India will be eligible only if the bidder and OEM is registered with the competent Authority, specified in annex I as per Ministry of Finance, Department of Expenditure OM dated 23/07/2020. The bidder will have to give an undertaking as per annex III of the OM dated 23/07/2020 issued by the Ministry of Finance, Department of Expenditure. This clause has to be justified and requires proof to verify for all components to be supplied for this project.
5.	43-47	3. <b>Technical Specifications</b> <b>“Summary of Indicative Technical Specifications”</b>  Refer Annexure –I	3. <b>Technical Specifications</b> <b>“Summary of Technical Specifications”</b>  <b>For amendment details in this section Refer Annexure –II</b>
6.	55	<b>On delivery &amp; Acceptance:</b> Seventy Five (75%) percent of the Contract Price	<b>On supply &amp; Acceptance as per BoQ:</b> Seventy Five (75%) percent of the Contract

*Handwritten signatures and initials in blue ink.*

<p>and 67- 68</p>	<p>shall be paid on receipt of goods as per tender document in good conditions and acceptance certificate and also furnishing of performance bank guarantee.</p> <p><b>After Successful Completion of 1<sup>st</sup> Year from the date of acceptance:</b> Five (5%) percent of the Contract Price shall be paid on successful completion of 1<sup>st</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 2<sup>nd</sup> Year from the date of acceptance:</b> Five (5%) percent of the Contract Price shall be paid on successful completion of 2<sup>nd</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 3<sup>rd</sup> Year from the date of acceptance:</b> Five (5%) percent of the Contract Price shall be paid on successful completion of 3<sup>rd</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 4<sup>th</sup> Year from the date of acceptance:</b> Five (5%) percent of the Contract Price shall be paid on successful completion of 4<sup>th</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 5<sup>th</sup> Year from the date of acceptance:</b> Five (5%) percent of the Contract Price shall be paid on successful completion of 5<sup>th</sup> Year service and maintenance from the date of acceptance as per tender document.</p>	<p>Price shall be paid on receipt of goods as per tender document in good conditions and acceptance certificate and also furnishing of performance bank guarantee.</p> <p><b>On Successful installation, testing, commissioning and training to the Users:</b> Fifteen (15%) percent payment will be released on Successful installation, testing, commissioning of the system and training to the Users.</p> <p><b>After Successful Completion of 1<sup>st</sup> Year from the date of acceptance:</b> Two (2%) percent of the Contract Price shall be paid on successful completion of 1<sup>st</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 2<sup>nd</sup> Year from the date of acceptance:</b> Two (2%) percent of the Contract Price shall be paid on successful completion of 2<sup>nd</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 3<sup>rd</sup> Year from the date of acceptance:</b> Two (2%) percent of the Contract Price shall be paid on successful completion of 3<sup>rd</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 4<sup>th</sup> Year from the date of acceptance:</b> Two (2%) percent of the Contract Price shall be paid on successful completion of 4<sup>th</sup> Year service and maintenance from the date of acceptance as per tender document.</p> <p><b>After Successful Completion of 5<sup>th</sup> Year from the date of acceptance:</b> Two (2%) percent of the Contract Price shall be paid on successful completion of 5<sup>th</sup> Year service and maintenance from the date of acceptance as per tender document.</p>
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### 3. Technical Specifications

#### “Summary of Indicative Technical Specifications\*”

Item No.	Name of Goods or Related Service	Technical Specifications and Standards												
1.	Digital Podium / Lectern	<p>Polycarbonate Metallic Body with 1.6mm or more CRCA Steel Frame, Secure Lockable Console, Moving on caster wheels with locking for fixed position. Cooling Fan for exhaust operational heat, drawer &amp; space for additional devices. Front and back door service access. The podium should be populated with following components-</p> <table border="1"> <thead> <tr> <th data-bbox="427 875 491 972">S. No.</th> <th data-bbox="491 875 707 972">Components/ Features</th> <th data-bbox="707 875 1401 972">Specifications</th> </tr> </thead> <tbody> <tr> <td data-bbox="427 972 491 1429">1.</td> <td data-bbox="491 972 707 1429">Interactive Touch Monitor</td> <td data-bbox="707 972 1401 1429"> <ul style="list-style-type: none"> <li>• 21.5” or higher Interactive Touch Monitor</li> <li>• Color LED; Scratch resistant, antiglare and tempered glass</li> <li>• Full High Definition (HD)</li> <li>• Wide angle display</li> <li>• 1000:1 Contrast Ratio or higher</li> <li>• 250 cd/m<sup>2</sup> Brightness or higher</li> <li>• 1xUSB 2.0, 1xVGA-in, 1xDVI-in, 1xHDMI-in</li> <li>• Finger and Stylus touch/ Pen</li> <li>• 8ms Response Time or better.</li> <li>• Highly sensitive interactive capacitive touch monitor.</li> <li>• Motorized tilt facility with mechanism for panel stability while operating.</li> <li>• Interoperable with the Computer as per the mentioned specification of component 4 in this table.</li> </ul> </td> </tr> <tr> <td data-bbox="427 1429 491 1774">2.</td> <td data-bbox="491 1429 707 1774">Multimedia Controller</td> <td data-bbox="707 1429 1401 1774"> <ul style="list-style-type: none"> <li>• Push buttons for volume high/low, mute control.</li> <li>• Push button for power On/Off.</li> <li>• Push button for Projector Screen Up/Down control/</li> <li>• Push buttons for switching between multi video sources like; Visual Presenter HDMI/VGA, Laptop HDMI/VGA, PC HDMI/VGA, to display over projector, LED screen of the classroom and simultaneously share it to the Virtual Classroom Environment as an when required.</li> <li>• Projector/Display On/Off</li> <li>• 2x USB 3.0, 2x2 VGA In and Out, 2x2 HDMI In and Out, 1x RCA Audio in, 2x RCA Audio out</li> </ul> </td> </tr> <tr> <td data-bbox="427 1774 491 1935">3.</td> <td data-bbox="491 1774 707 1935">Computer</td> <td data-bbox="707 1774 1401 1935"> <ul style="list-style-type: none"> <li>• Small form factor, 2L Volume</li> <li>• 10<sup>th</sup> gen Intel i5 processor 2.6 GHz or higher</li> <li>• 8GB RAM</li> <li>• 1TB</li> <li>• Windows 10 preloaded</li> </ul> </td> </tr> </tbody> </table>	S. No.	Components/ Features	Specifications	1.	Interactive Touch Monitor	<ul style="list-style-type: none"> <li>• 21.5” or higher Interactive Touch Monitor</li> <li>• Color LED; Scratch resistant, antiglare and tempered glass</li> <li>• Full High Definition (HD)</li> <li>• Wide angle display</li> <li>• 1000:1 Contrast Ratio or higher</li> <li>• 250 cd/m<sup>2</sup> Brightness or higher</li> <li>• 1xUSB 2.0, 1xVGA-in, 1xDVI-in, 1xHDMI-in</li> <li>• Finger and Stylus touch/ Pen</li> <li>• 8ms Response Time or better.</li> <li>• Highly sensitive interactive capacitive touch monitor.</li> <li>• Motorized tilt facility with mechanism for panel stability while operating.</li> <li>• Interoperable with the Computer as per the mentioned specification of component 4 in this table.</li> </ul>	2.	Multimedia Controller	<ul style="list-style-type: none"> <li>• Push buttons for volume high/low, mute control.</li> <li>• Push button for power On/Off.</li> <li>• Push button for Projector Screen Up/Down control/</li> <li>• Push buttons for switching between multi video sources like; Visual Presenter HDMI/VGA, Laptop HDMI/VGA, PC HDMI/VGA, to display over projector, LED screen of the classroom and simultaneously share it to the Virtual Classroom Environment as an when required.</li> <li>• Projector/Display On/Off</li> <li>• 2x USB 3.0, 2x2 VGA In and Out, 2x2 HDMI In and Out, 1x RCA Audio in, 2x RCA Audio out</li> </ul>	3.	Computer	<ul style="list-style-type: none"> <li>• Small form factor, 2L Volume</li> <li>• 10<sup>th</sup> gen Intel i5 processor 2.6 GHz or higher</li> <li>• 8GB RAM</li> <li>• 1TB</li> <li>• Windows 10 preloaded</li> </ul>
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		<ul style="list-style-type: none"> <li>• WiFi and Bluetooth inbuilt onboard</li> <li>• MS Office (Word, Excel, Powerpoint)</li> <li>• Antivirus with 5 yrs valid subscription</li> <li>• The OEM should be among the 5 brands of desktops computer in any two of the last four quarter report of IDC India in the desktop computer category</li> </ul>																												
	4.	<b>Digital Audio Amplifier</b> <ul style="list-style-type: none"> <li>• 280 W Stereo</li> <li>• 3x Mic Input (8-20mV)</li> <li>• 2 x Laptop Input (70mV)</li> <li>• 2x Audio Inputs (70mV)</li> <li>• 3x Audio Output (250 mV)</li> <li>• 25Hz – 20 KHz frequency response</li> <li>• Class – D amplifier.</li> <li>• 2 x 30 W speakers with selectable 8 Ω, 70 and 100 Volts. Performance as per IEC 60268-5.</li> </ul>																												
	6.	<b>Gooseneck Microphone</b> <ul style="list-style-type: none"> <li>• Cardioid polar pattern</li> <li>• 21.5 phantom powered</li> <li>• 150Hz – 17 KHz frequency response</li> <li>• Sensitivity -46dB or better</li> <li>• Total Harmonic distortion &lt;1 % (at 1KHz +/- 20%).</li> </ul>																												
	11.	<b>Document Visualizer</b> <ul style="list-style-type: none"> <li>• SXGA (1280 × 1024) High Quality Resolution, 30 frame rate per second or Better</li> <li>• Image Sensor 1/2” 1.3M Pixels CMOS or Better</li> <li>• Manual Focus Function</li> <li>• Digital 7X Zoom or more</li> <li>• HDMI, VGA, USB Cable PC Interface</li> <li>• Large capture area (A3 size or better)</li> </ul>																												
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2.	Interactive Flat Screen	<table border="1"> <tr> <td>Size</td> <td>65/75/85” or above Interactive Flat Panel</td> </tr> <tr> <td>Technology</td> <td>LED backlight with IPS</td> </tr> <tr> <td>Aspect Ratio</td> <td>16:9</td> </tr> <tr> <td>Resolution</td> <td>3840 x 2160 (4K-UHD resolution)</td> </tr> <tr> <td>Colors</td> <td>1.07B (10bit)</td> </tr> <tr> <td>Contrast Ratio</td> <td>4000:1 or higher</td> </tr> <tr> <td>Brightness</td> <td>350 cd/m<sup>2</sup> or higher</td> </tr> <tr> <td>Response time</td> <td>8ms or better</td> </tr> <tr> <td>Viewing Angles</td> <td>178° : 178° (Horizontal/Vertical)</td> </tr> <tr> <td>Backlight Life</td> <td>30,000 Hours or more</td> </tr> <tr> <td>Touch Technology</td> <td>Infrared Touch (Ag Metal Mesh or superior tech)</td> </tr> <tr> <td>Touch Point</td> <td>10 points or higher</td> </tr> <tr> <td>Pressure Sensitivity</td> <td>8192 or higher</td> </tr> <tr> <td>Input Output Interface or more</td> <td>3xHDMI Input (3840x2160) 1xHDMI Output (3840x2160)</td> </tr> </table>	Size	65/75/85” or above Interactive Flat Panel	Technology	LED backlight with IPS	Aspect Ratio	16:9	Resolution	3840 x 2160 (4K-UHD resolution)	Colors	1.07B (10bit)	Contrast Ratio	4000:1 or higher	Brightness	350 cd/m <sup>2</sup> or higher	Response time	8ms or better	Viewing Angles	178° : 178° (Horizontal/Vertical)	Backlight Life	30,000 Hours or more	Touch Technology	Infrared Touch (Ag Metal Mesh or superior tech)	Touch Point	10 points or higher	Pressure Sensitivity	8192 or higher	Input Output Interface or more	3xHDMI Input (3840x2160) 1xHDMI Output (3840x2160)
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		<p>1xRGB/VGA Input  1xDisplay Port Input (3840x2160)  1xAudio In  1xAudio Out  1xCVBS (AV) Input (480i)  1xRS232 Serial interface  2x PC Slot  1xSPDIF  1xRJ45 LAN Port  3x USB 2.0 Type A  3x USB 3.0 Type A  2x USB 2.0 Type B (for touch)</p>										
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3.	Camera	<ul style="list-style-type: none"> <li>• Full HD PTZ camera.</li> <li>• Output: 1x HDMI,</li> <li>• Control: 1x RS232/Ethernet,</li> <li>• Should be provided with mounting accessories:</li> <li>• Sensor- 1/2.8" 2 MP CMOS,</li> <li>• Video Output- 1080p @ 60fps,</li> <li>• Optical Zoom- 20x or higher,</li> <li>• Panning Angle- -170° ~ +170°,</li> <li>• Tilting Angle- -30° ~ +90°,</li> <li>• Video Output Interface- DVI-D/HDMI,</li> <li>• Resolution- 1920*1080 (Full HD),</li> <li>• Motion Sensor Camera,</li> <li>• Auto focus</li> <li>• Auto tracking the presenter in the class.</li> <li>• Multi preset zone selection.</li> </ul>										
4.	Projector	<ul style="list-style-type: none"> <li>• 4000 ANSI Lumens or more,</li> <li>• Laser Projector,</li> <li>• 1 Chip DLP,</li> <li>• WUXGA (1920x1200) or better resolution,</li> <li>• Illumination Life: 20,000 Hrs or more,</li> <li>• Dynamic Contrast: 5000:1 or more,</li> <li>• 1x HDMI 1.4, 1x DVI, 1x HD baseT, 1xVGA.</li> </ul>										

		<ul style="list-style-type: none"> <li>• Controls: RS232, Ethernet (RJ45), IR remote, wired remote control (3.5mm stereo).</li> <li>• Lens: Should be supplied with standard lens supporting screen size from a distance of 24 to 28 feet.</li> <li>• With all standard accessories.</li> <li>• Separate wired connectivity through VGA and HDMI to the podium.</li> <li>• In-Built Wi-Fi connectivity or through OEM WiFi dongle.</li> </ul>
5.	Projector Screen	<ul style="list-style-type: none"> <li>• Wall Mount Motorized Projector Screen complete with cables &amp; Connectors Size : 6' x 8' or higher as per need.</li> <li>• With remote control.</li> </ul>
7.	Virtual Classroom Software	<ul style="list-style-type: none"> <li>• Software should be able to create virtual classroom environment and should be compatible with Google Meet, zoom, WebEx, Microsoft Team/Azure, Polycom, and of similar Open Source platform.</li> <li>• User friendly solution packaged with several value added features such as, high quality audio-video interaction, private/public chat, poll, quiz, collaborative editor, online document sharing, high quality screen sharing, Share HTML5 presentation, Add private/public notes, session recording, Whiteboard, attendance cyber security etc.</li> <li>• No limitation on runtime, No limitation on simultaneous sessions.</li> <li>• Seamless Integration with existing Moodle-LMS of the BHU and similar Open Source LMS.</li> </ul>
9.	Installation & Warranty	<ul style="list-style-type: none"> <li>• Smart Classroom Setup should be installed at various sites of BHU.</li> <li>• 5 Years of onsite (Part+Labor support) Comprehensive Annual Maintenance Contract (CAMC) by Supplier.</li> <li>• Supplier ink signed MAF and warranty certificate to be submitted along with the bid.</li> </ul>
11.	Resident Engineer	<ul style="list-style-type: none"> <li>• Supplier to depute at least one resident engineer at University campus during 5 years of warranty period. Ink signed confirmation letter for deputation of resident engineer during the warranty period at BHU campus to be submitted along with the bid.</li> </ul>

**\*subject to modification after Pre-Bid meeting.**

### 3. Technical Specifications (Revised)

“Summary of Technical Specifications\*”

Item No.	Name of Goods or Related Service	Technical Specifications and Standards		
1	Digital Podium / Lectern	Polycarbonate Metallic Body with 1.6mm or more CRCA Steel Frame, Secure Lockable Console, Moving on caster wheels with locking for fixed position. Cooling mechanism for exhaust operational heat, drawer & space for additional devices. Front and back door service access. The podium should be integrated with the same make as and where possible with following components-		
		S. No.	Components/ Features	Specifications
		1.	Interactive Touch Monitor	<ul style="list-style-type: none"> <li>• 21.5” or higher Interactive Touch Monitor.</li> <li>• Color LED; Scratch resistant, antiglare and tempered glass</li> <li>• Full High Definition (HD)</li> <li>• Wide angle display</li> <li>• 1000:1 Contrast Ratio or higher</li> <li>• 210 cd/m<sup>2</sup> Brightness or higher</li> <li>• 1xUSB 2.0, 1xVGA-in/ 1xDVI-in/ 1xHDMI-in</li> <li>• Sub-monitor 21.5” or higher non-touch monitor mounted on the sliding tray which acts as an extended monitor for the presenter to view his/her notes.</li> <li>• Finger touch with stylus or pen</li> <li>• 16ms Response Time or better.</li> <li>• Highly sensitive interactive Electromagnetic Resonance and capacitive touch monitor.</li> <li>• Motorized tilt facility with mechanism for panel stability while operating.</li> <li>• Interoperable with the Computer as per the mentioned specification of component 4 in this table.</li> </ul>
		2.	Multimedia Controller	<ul style="list-style-type: none"> <li>• Control for volume high/low, mute on podium top</li> <li>• Control for power On/Off on podium.</li> <li>• Control for Projector Screen Up/Down on podium top</li> <li>• Control for switching between multi video sources like; Visual Presenter HDMI/VGA, Laptop HDMI/VGA, PC HDMI/VGA, to display over projector, LED screen of the classroom and simultaneously share it to the Virtual Classroom Environment by soft switching as an when required</li> <li>• Control for Projector On/Off.</li> <li>• 2x USB 3.0, 2x1 VGA In and Out, 3x3 HDMI In and Out, 1x RCA Audio in, 2x RCA Audio out</li> <li>• Any additional requirement of HDMI Matrix Switcher and Audio De-embedder to support upto 4K resolution needs to included.</li> </ul>

		3.	Computer	<ul style="list-style-type: none"> <li>• Small form factor, 2L Volume or normal CPU in Thin frame with internal CD-DVD Drive</li> <li>• 10<sup>th</sup> gen Intel i5 processor 2.6 GHz or higher</li> <li>• 8GB RAM , 1 TB</li> <li>• With dual graphics output.</li> <li>• Windows 10, MS Office (Word, Excel, PowerPoint) preloaded</li> <li>• Antivirus with 5 yrs valid subscription</li> <li>• The OEM should be among the 5 brands of desktops computer in any two of the last four quarter report of IDC India in the desktop computer category</li> </ul>
		4.	Digital Audio Amplifier	<ul style="list-style-type: none"> <li>• 280 W Stereo</li> <li>• 3x Mic Input (8-20mV)</li> <li>• 2 x Laptop Input (70mV)</li> <li>• 2x Audio Inputs (70mV)</li> <li>• 3x Audio Output (250 mV)</li> <li>• 25Hz – 20 KHz frequency response</li> <li>• Class – D amplifier.</li> <li>• 2 x 30 W speakers with selectable 8 Ω, 70 and 100 Volts. Performance as per IEC 60268-5.</li> <li>• Any additional Hardware or Software for Auto Echo Cancellation ( AEC) for virtual class sessions.</li> <li>• Approved makes (based on the sound quality performed in PoC): AHA/ JBL/ Bose/Sony/Crestron.</li> </ul>
		6.	Gooseneck Microphone	<ul style="list-style-type: none"> <li>• Cardioid polar pattern</li> <li>• 21.5 phantom powered</li> <li>• 150Hz – 17 KHz frequency response</li> <li>• Sensitivity -46dB or better</li> <li>• Total Harmonic distortion &lt;1 % (at 1KHz +/- 20%).</li> <li>• with LED light indication and ON/OFF switch</li> </ul>
		11	Document Visualizer	<ul style="list-style-type: none"> <li>• SXGA (1280 × 1024) High Quality Resolution, 30 frame rate per second or Better</li> <li>• Image Sensor 1/2" 1.3M Pixels CMOS or Better</li> <li>• Manual Focus Function</li> <li>• With Gooseneck LED light.</li> <li>• 2x Optical and 12x Digital or more</li> <li>• HDMI out, VGA out, USB Cable PC Interface</li> <li>• Large capture area (A3 size or better)</li> <li>• In-built storage of min 200 images memory and further extendable using SD Card slot.</li> <li>• CE/BIS, FCC, UL / RoHS Certificates</li> </ul>
		Integrated solution of one or more mentioned above components may also be quoted.		
2.	Interactive Flat Screen	Size	86" Interactive Flat Panel On the basis of below specification the price for 65" and 75" sizes may also be quoted separately alongwith commercial bid.	
		Technology	LED backlight with IPS	
		Aspect Ratio	16:09	
		Resolution	3840 x 2160 (4K-UHD resolution)	
		Colors	1.07B (10bit)	
		Contrast Ratio	1100:1 or higher	

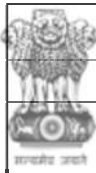


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Brightness	330 cd/m <sup>2</sup> or higher with Protection Glass with anti-glare 4 mm thickness
Response time	8ms or better
Viewing Angles	178° : 178° (Horizontal/Vertical)
Backlight Life	30,000 Hours or more
Touch Technology	Infrared Touch (Ag Metal Mesh or superior tech)
Touch Point	10 points or higher
Input Output Interface or more	3xHDMI Input (3840x2160)
	1xHDMI Output (3840x2160)
	1xRGB/VGA Input
	1xAudio In
	1xAudio Out
	1xRS232 Serial interface
	1x PC Slot
	1xSPDIF
	1xRJ45 LAN Port
	3x USB 2.0 Type A
	2x USB 3.0 Type A
2x USB 2.0 Type B (for touch)	
Connectivity	WiFi and RJ 45 wired
Speakers	2x10W or better
Installation Type	Wall Mounting
Touching Pen	2x Touching Pen Price of spare touching pen needs to be quoted separately in bid.
Interactive Software	<ul style="list-style-type: none"> <li>• Multicolor, multisize- Pen, Brush, Highlighter, redo-undo, Palm Eraser, Dual Pen</li> <li>• Shapes, Text, Auto Handwriting and Shapes recognising.</li> <li>• Compatible to crop image/picture from any browser</li> <li>• General education tools required for teaching with Geometry tools, Calculators, Soft keyboard, etc.</li> <li>• Screen lock, screen recording, save, share through email, printer, network etc.</li> <li>• Screen sharing with various devices supporting Android, windows, Mac-iOS, etc.</li> <li>• Video playing features directly from YouTube etc., PDF and PPT</li> </ul>

		<p>viewer, Multi-media player.</p> <ul style="list-style-type: none"> <li>The above list of features is indicative only i.e., not limited. Any latest feature important for teaching-learning may be proposed.</li> <li>Best Quality Ionized Aluminum Enclosed Protection Cover for the panel with Whiteboard embossed on it for marker writing and locking.</li> </ul>
		<p>Certifications</p> <ul style="list-style-type: none"> <li>CE/BIS, FCC, UL / RoHS Certificates</li> </ul>
		<ul style="list-style-type: none"> <li>The OEM must have an average annual turnover of Rs. 5,00,00,00,000/- (Rs. Five Hundred Crore only) and above for the financial year 2016-17, 2017-18, 2018-19.</li> </ul>
3.	Camera	<ul style="list-style-type: none"> <li>Full HD PTZ camera.</li> <li>Output: 1x HDMI, 1xUSB Ethernet with PoE+ support</li> <li>Control: 1x RS232/Ethernet,</li> <li>Should be provided with mounting accessories: Wall/Ceiling mounting.</li> <li>Sensor- 1/2.8" 2 MP CMOS,</li> <li>Video Output- 1080p @ 60fps,</li> <li>Optical Zoom- 20x or higher,</li> <li>Panning Angle- -170° ~ +170°,</li> <li>Tilting Angle- -30° ~ +90°,</li> <li>Video Output Interface- DVI-D/HDMI, USB</li> <li>Resolution- 1920*1080 (Full HD),</li> <li>Auto focus</li> <li>Multi preset zone selection.</li> <li>Camera should be capable of streaming, recording and Video Conferencing.</li> <li>CE/BIS, FCC, UL / RoHS Certificates.</li> </ul>
4.	Projector	<ul style="list-style-type: none"> <li>5000 ANSI Lumens or more,</li> <li>Laser Projector,</li> <li>3 CHIP LCD</li> <li>Native XGA (1024x768) and supports upto WUXGA (1920x1200)</li> <li>Illumination Life: 20,000 Hrs or more,</li> <li>Dynamic Contrast: 1,00,000:1 or more,</li> <li>1x HDMI 1.4, 1x HD baseT, 1xVGA.</li> <li>Controls: RS232, Ethernet (RJ45), IR remote, wired remote control (3.5mm stereo).</li> <li>With all standard accessories.</li> <li>Separate wired connectivity through VGA and HDMI to the podium.</li> <li>In-Built Wi-Fi connectivity or through OEM WiFi dongle.</li> <li>CE/BIS, FCC, UL / RoHS Certificates</li> <li>The OEM must have an average annual turnover of Rs. 5,00,00,00,000/- (Rs. Five Hundred Crore only) and above for the financial year 2016-17, 2017-18, 2018-19.</li> </ul>
5.	Projector Screen	<ul style="list-style-type: none"> <li>Wall Mount Motorized Projector Screen complete with cables &amp; Connectors.</li> <li>Size : 6' x 8' or higher as per need. If Recommended Screen Aspect Ratio is 16:10 for the Native Aspect Ratio of WUXGA Resolution of the Projector, the screen size needs to be adapted accordingly and propose the size best fits for the proposed projector as per the item no. 4.</li> <li>With remote control.</li> </ul>
7.	Virtual Classroom Software	<ul style="list-style-type: none"> <li>User friendly solution packaged with several value added features such as, high quality audio-video interaction, private/public chat, poll, quiz, collaborative editor, online document sharing, high quality screen sharing, Share HTML5 presentation, Add private/public notes, session recording, Whiteboard, attendance, cyber security etc.</li> <li>Open platform hardware/Software to be used so that existing or any hardware VC system of Polycom , Sony, Panasonic , Cisco etc. can be connected with classroom. Open platform software should be able bridge any call from desktop , Hardware VC , Mobile app or audio call in a single meeting to meet desired functionality of teaching from anywhere, Class can be scheduled by sending the invitation link to the participants. 5 years subscription &amp; free support, Min. 300 external participants.</li> <li>No limitation on runtime, No limitation on simultaneous sessions.</li> </ul>

		<ul style="list-style-type: none"> <li>Seamless Integration with existing Moodle-LMS of the BHU and similar Open Source LMS.</li> <li>Attentiveness of students and detailed attentiveness report</li> <li>During a training sessions students should have an option to turn on their video. So that interactive session could happen. Faculty should have an option switch off video feed from students</li> <li>The users connected in to the web meeting from desktop should be able to connect on audio using any of the following methods: <ul style="list-style-type: none"> <li>Computer audio</li> <li>Unlimited Toll Dial-In with Telephone Service Provider (PSTN) audio.</li> </ul> </li> <li>Users should be able to join into a collaboration meeting from any of the following devices: Laptop, Computers-supporting Mac , Windows and Linux; Mobile Phones: Android, iOS; PSTN: users must be able to join-in from their PSTN phones, HD Video Conferencing devices: SIP/H.323.</li> <li>The single meeting should have capability to incorporate 750 users or more joining from desktop/laptop/ Mobile</li> <li>The solution should allow faculty and students to be connected on a instant messaging, which should be supported by always available content on cloud. There should be an option to create rooms with faculty and students, to enable 24X7 learning. Students/faculty should be able to upload the assignments or doubts for mutual discussion.</li> <li>The space created with students should have the ability to detect malware infections. The true end-to-end encryption should be there for content, messages and calls</li> <li>The space created should have an automated policy to delete restricted/unwanted/derogatory words</li> <li>Any session should have a capability to allow minimum 200 video devices</li> <li>Should support browsers like Chrome, IE, Mozilla, Safari etc.</li> </ul>
9.	Installation and warranty	<ul style="list-style-type: none"> <li>Smart Classroom Setup should be installed with best quality outfit at every sites of BHU.</li> <li>5 Years of onsite (Part+Labor support) Comprehensive Annual Maintenance Contract (CAMC) by Supplier.</li> <li>Supplier ink signed MAF and warranty certificate to be submitted along with the bid.</li> </ul>
11.	Resident Engineer	<ul style="list-style-type: none"> <li>Supplier to depute at least one resident engineer at University campus during 5 years of warranty period. Ink signed confirmation letter for deputation of resident engineer during the warranty period at BHU campus to be submitted along with the bid.</li> <li>The Engineer(s) in addition to maintenance also required to conduct frequent trainings to the system users.</li> </ul>
<b>Optional Items :</b> These Items are required to be quoted separately alongwith commercial bid.		
	Document Visualizer with 20x Zoom	<ul style="list-style-type: none"> <li>Desktop Visualizers with backlight and high 20 x Optical Zoom.</li> <li>Full HD Desktop Document Camera with HDMI/VGA In, HDMI/VGA Out</li> <li>Inbuilt storage of 100 images,</li> <li>2 Top LED Lights ,</li> <li>Backlight for X-rays, negatives etc.</li> </ul>
	Interactive Flat Panel 65" & 75"	<ul style="list-style-type: none"> <li>On the basis of specification of item no.2, the price for 65" and 75" sizes may also be quoted separately alongwith commercial bid.</li> </ul>
	Replaceable Spares	<ul style="list-style-type: none"> <li>The price list for all replaceable spares such as Remotes, Power Adapters, Stylus, Pen etc. quoted separately alongwith commercial bid.</li> </ul>
	Additional Speakers	<ul style="list-style-type: none"> <li>As per the item no. 1 and component no. 4, the audio system is scalable. This is for meeting the requirements of additional speakers in the bigger classrooms.</li> <li>The price of additional speakers i.e., 2x 30 W speakers with selectable 8 Ω, 70 and 100 Volts. Performance as per IEC 60268-5 needs to be quoted separately alongwith commercial bid.</li> <li>Including extension accessories and installation.</li> </ul>
	Additional License of Virtual Classroom Software	<ul style="list-style-type: none"> <li>Additional price of the per user license for five years in addition to 125 numbers needs to be quoted separately alongwith commercial bid. This is view of providing license to all the teachers of the Banaras Hindu University.</li> </ul>

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