



**DEPARTMENT OF CHEMISTRY**  
**ALIGARH MUSLIM UNIVERSITY**  
**ALIGARH - 202002 (INDIA)**

Phones { Ext. : (0571) 2703515  
Int. : 3350, 3351  
Email : hdchm@rediffmail.com

**CHAIRMAN**

*R. 3248/CC  
25.10.17*

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Sealed Quotations are invited for the following items from authorized dealers/manufacturer of given below item on the term and conditions as mention bellow for the financial year 2017-18 on or before 15.11.2017 by 4:00PM.

<b><u>Tender specification for X-ray diffraction spectrometer</u></b>	
<b>Powder X-Ray diffraction system consisting of</b> <ul style="list-style-type: none"><li>• Thin Film X-ray Diffraction</li><li>• In-Plane Diffraction</li><li>• Small angle Scattering</li><li>• X-ray reflectivity</li></ul>	
Following are the details sought in the quotation:	
<b>X-Ray safety Cabinet</b>	<ul style="list-style-type: none"><li>• Front door opening</li><li>• Lightening System inside the enclosure</li><li>• Emergency stop pushbutton on front panel</li><li>• External light signal</li></ul>
<b>X-ray Generator</b>	<ul style="list-style-type: none"><li>• Power 3.0 KW</li><li>• Max. Voltage: 60 KV</li><li>• Max. Current: 60 MA</li><li>• Can work with 220 V and 50 Hz.</li><li>• Connection pipe for the cooling system</li><li>• Water flow management with safety</li><li>• Window opening controlled by software</li></ul>
<b>X-ray tube</b>	<ul style="list-style-type: none"><li>• Source: Cu and Co or Cr (1 each), Please quote all possible tubes in optional items of the quote.</li><li>• Focus: Long line and point focus at source with an ability to change focus without changing any connections.</li><li>• The tubes should be fast and easily exchangeable without affecting the optical alignment.</li><li>• Size 0.4x12 mm (Focus)</li></ul>
<b>Goniometric System</b>	<ul style="list-style-type: none"><li>• Goniometer with 2theta range -3 to 162°</li><li>• The sample stage should be able to handle solid polycrystalline sample as well as thin film samples.</li><li>• Additional sample stage for supporting bulk and heavy components for residual stress analysis. Mention the sample dimensions and weight that can be supported.</li><li>• Radius: 285 mm</li><li>• Step width: 0.0001°</li><li>• Scanning mode: <math>\theta</math>s &amp; <math>\theta</math>d coupled and independent.</li><li>• Software for rocking curve, reciprocal space mapping and X-ray reflectivity</li></ul>
<b>Calibration</b>	<ul style="list-style-type: none"><li>• Specify extent of calibration required and traceability and validity of calibration at the time of installation</li><li>• Specify calibration requirements after the initial validity</li><li>• Si {111} or equivalent for HRXRD and poly-silicon or equivalent sample for texture (peak position)</li></ul>

