



**MEMBEKAL, MENGHANTAR, MEMASANG DAN KOMISYEN “ENERGY DISPERSIVE X-RAY (EDX) SPECTROSCOPY” KE P.P.KEJ. BAHAN & SUMBER MINERAL,  
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**TECHNICAL SPECIFICATION SCHEDULE**

Quotation No. : SH2/18/RU/PBAHAN/U/00052

ITEM NO.	UNIVERSITY'S DESCRIPTION	QUANTITY	BIDDER'S SPECIFICATION (Please Write Your Specification In This Column)	TECHNICAL EVALUATION (For Official Use Only)
1	<p><b>A. ITEM</b> Energy Dispersive X-Ray (EDX) Spectroscopy</p> <p><b>B. DESCRIPTION</b></p> <ul style="list-style-type: none"> <li>• To supply, replacement and installation the new Energy Dispersive X-Ray compatible to existing Field Emission Scanning Electron Microscope (Zeiss Supra 35VP)</li> <li>• One (1) energy dispersive X-Ray unit that is capable to perform elemental analysis.</li> <li>• The system shall generate high quality image and accurate quantitative elemental analysis.</li> </ul> <p><b>C. ESSENTIAL FEATURES</b></p> <ul style="list-style-type: none"> <li>• One (1) energy dispersive X-Ray spectroscopy unit.</li> <li>• Must compatible with Field Emission Scanning Electron Microscope ZEISS SUPRA 35 VP.</li> <li>• Must <b>ACCEPT</b> trade in of the existing EDX system (EDAX).</li> <li>• One (1) workstation with compatible specification for the above EDX unit with LED monitor.</li> <li>• Two (2) workstations for offline analysis.</li> </ul> <p><b>D. TECHNICAL SPECIFICATION</b></p> <p><b>1. Hardware</b></p> <ul style="list-style-type: none"> <li>• Silicon Drift Detector (SDD) type SEM Detecting Unit.</li> <li>• Can detect elements from at least Beryllium (4) to Americium (95).</li> <li>• Incorporates at least beryllium/polymer/silicon nitride window for low energy performance.</li> <li>• Active area at least 30 mm<sup>2</sup> or bigger.</li> <li>• No liquid nitrogen or other cooling agents needed. No detector warm-up necessary during venting or sample changing.</li> <li>• At least Field-Effect Transistor for excellent energy resolution at high stability.</li> <li>• Energy Resolution :                         <ul style="list-style-type: none"> <li>a. &lt; 129 eV at Mn K<math>\alpha</math> at least 100,000 cps</li> <li>b. &lt; 67 eV at F K<math>\alpha</math> at at least 100,000 cps</li> <li>c. &lt; 57 eV at C K<math>\alpha</math> at least 100,000 cps</li> </ul> </li> <li>• Better stability ; Not more than 1 eV between 1000 cps and at 100,000 cps.</li> <li>• Allows collection of high quality data at all count rates.</li> <li>• Maintain peak resolution and separation even at fast condition.</li> </ul> <p><b>2. Software</b></p> <ul style="list-style-type: none"> <li>• Software for spectra acquisition and qualitative analysis with real-time automation.</li> <li>• Any number of multiple points / area object/ shape analysis where spectra can be collected from various sites over the collected SEM image area.</li> <li>• Accurate element quantification during acquisition. Display of quantitative results as atomic, weight or oxide percentage.</li> </ul> <p><b>3. Imaging and Mapping</b></p> <ul style="list-style-type: none"> <li>• X-ray mapping utility enabling the investigation of the spatial distribution of elements within a sample.</li> <li>• Point analysis, line scan and element mapping must be included.</li> <li>• Color-coded labeling of <b>each element</b>.</li> </ul>	1 unit		

<p><b>4. Data Recall and Review</b></p> <ul style="list-style-type: none"> <li>• Spectral data can be reviewed for a pixel, selected area or grey level phase of interest.</li> <li>• All spectra built from maps can be saved and processed as desired at any time after the collection Spectral Mapping View for offline data processing.</li> <li>• 2 additional software license and 2 workstations for offline analysis.</li> </ul> <p><b>5. Work station</b></p> <p>The computer system should be a reputable brand.</p> <ul style="list-style-type: none"> <li>• Operation should be in either Windows 10 compatible with Intel Quad Core i7-7700 Processor, 8 Gb DDR4 Memory, 1 Tb SATA Hard Drive and DVD-rewritable drive.</li> <li>• 23" Full HD LED Monitor or better.</li> <li>• Must supply complete with keyboard, mouse and 1 unit external hard drive (1TB).</li> </ul> <p><b>E. STANDARD REQUIREMENTS AND INSTRUCTIONS</b></p> <ol style="list-style-type: none"> <li>a. The equipment supplier must be a brand new with proper serial number to prove it and must not be a used or a reconditioned instrument</li> <li>b. The equipment must be fully installed and made fully functioning.</li> <li>c. Service &amp; Operating Manual and original Catalogue in English must be provided, at least 2 copies.</li> <li>d. The Equipment supplied must be warranted against manufacturing defects for at least 12 months from the date of commissioning.</li> <li>e. Free preventive maintenance service 1 x 6 monthly during the warranty period.</li> <li>f. The supplier has to give information regarding their servicing capabilities / after sales service for the equipment quoted.</li> <li>g. On-Site training must be provided for operation, maintenance and troubleshooting.</li> <li>h. Quotation that does not quote prices exclusive of tax will not be considered.</li> <li>i. Service contract and software upgrading must be quote separately</li> <li>j. Bidder should attach their proof of sole distributor agent for their services/maintenance capability.</li> </ol> <p>NOTE: FOR ALL SUPPLIES, PLEASE OFFER THE MINIMUM REQUIRED SPECIFICATIONS OR BETTER VERSIONS.</p>			
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Signature And Chop Of Supplier