



**Govt. of West Bengal**  
**Office of the Principal**  
**Government General Degree College**  
**Manbazar – II, Susunia, PO – Kumari**  
**Dist: Purulia (West Bengal, INDIA), Pin – 723131**

Memo no- 57/GGDC/Man/Lab/21

Date- 27-07-2021

**E-TENDER NOTICE INVITING QUOTATIONS FOR ENGAGEMENT OF  
LABORATORY EQUIPMENT PURCHASE AT GOVT. GENERAL DEGREE  
COLLEGE, MANBAZAR-II.**

Quotations are hereby invited by the *Principal/Officer-in-Charge of Govt. General Degree College, Manbazar-II* from reputed firms/suppliers for supply of the following categories of services through [www.wbtenders.gov.in](http://www.wbtenders.gov.in) adhering to the guidelines of E-tendering:

<i>Sl. no.</i>	<i>Name of work:</i>	<i>Date &amp; Time</i>
1	Publish Date	28-Jul-2021 09:00 AM
2	Bid Opening Date	20-Aug-2021 09:00 AM
3	Document Download / Sale Start Date	28-Jul-2021 09:00 AM
4	Document Download / Sale End Date	17-Aug-2021 12:00 PM
5	Clarification Start Date	28-Jul-2021 09:00 AM
6	Clarification End Date	17-Aug-2021 12:00 PM
7	Bid Submission Start Date	28-Jul-2021 09:00 AM
8	Bid Submission End Date	17-Aug-2021 12:00 PM
9	Date of uploading list of Technical Qualified Bidder	To be Notified Later
10	Date of Opening of Financial Proposal	To be Notified Later

**Technical Specifications for Laboratory equipment**

1. Research model Polarizing Petrological microscope with Digital camera and Image processing tool- **ANNEXURE I**
2. Student model Polarizing Petrological microscope with Digital camera and Image processing tool- **ANNEXURE II**



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**ANNEXURE –I Technical specification for RESEARCH MODEL POLARIZING PETROLOGICAL MICROSCOPE with CAMERA and IMAGE PROCESSING TOOL**

Sr. No.	Item	Description
1	<b>Microscope Body/Frame</b>	<ul style="list-style-type: none"> <li>• Polarisng Upright Microscope for reflected light (RL) and Transmitted light (TL) illumination</li> <li>• Centerable &amp; Focusable Bertrand lens module should be provided for Conoscopy &amp; orthoscopic observation.</li> </ul>
2	<b>Stand &amp; Nosepiece</b>	<ul style="list-style-type: none"> <li>• Stand with 5 position or more with Centerable nosepiece for all the objectives with slot for nosepiece compensator</li> </ul>
3	<b>Phototube</b>	<ul style="list-style-type: none"> <li>• Trinocular observation tube should have inclination 30 degree &amp; interpupillary range 52mm – 75mm or better</li> <li>• 50:50 Beam splitting</li> </ul>
4	<b>Focus</b>	<ul style="list-style-type: none"> <li>• 3-gear focus drive (coarse / medium / fine) with 1 and 4 microns, torque adjustment, and adjustable upper focus stop</li> <li>• Self-adjusting focus mechanism</li> </ul>
5	<b>Eye Piece</b>	<ul style="list-style-type: none"> <li>• Eye piece wide field 10X/22 mm FOV with locking screw on left eye tube, One eyepiece with reticule</li> <li>• Eye pieces should be suitable for observation with and without eyeglasses</li> </ul>
6	<b>Illumination</b>	<ul style="list-style-type: none"> <li>• Reflected light illuminator with built in adjustable aperture diaphragm produce bright, crisp and maintenance free lighting for all samples</li> <li>• Oblique UC-3D illumination at incident light observation</li> <li>• Hi Power Constant colour LED 4500 K or better with intensity control facility</li> <li>• Reflected light illuminator incorporates 4-fold turret, color-coded diaphragm assistant (CDA)</li> <li>• Built-in quartz plate to avoid pseudo-pleochroism</li> </ul>
7	<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Low strain POL Engraved PLAN Achromatic Objective 2.5x/0.07, 4x/0.10, 10x/0.25, 20x/0.40 and 40x/0.65, Objectives suitable for both transmitted and reflected light</li> <li>• Semi Apochromatic Objective 1.6x/0.05</li> </ul>
8.	<b>Condenser</b>	<ul style="list-style-type: none"> <li>• Pol condenser with Switchable Condenser Head with colour coding</li> <li>• Fast Adjustment of Aperture diaphragm</li> </ul>
9.	<b>Analyzer and Polarizer</b>	<ul style="list-style-type: none"> <li>• Analyser rotatable with 180°</li> <li>• Polarizer should be for quantitative Polarization and Reflected - rotatable with 3 orientations 0°, 45° and 90°</li> </ul>



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10.	<b>Compensators</b>	<ul style="list-style-type: none"><li>• Wave plate for Compensator slot</li></ul>
11.	<b>Conoscopy</b>	<ul style="list-style-type: none"><li>• Centerable Bertrand Lens for Conoscopy applications</li></ul>
12.	<b>Stage</b>	<ul style="list-style-type: none"><li>• 360° Pol rotating stage, with ball bearing, rotation clampable, diameter 170 mm, with 2 verniers 0.1°, with stage bracket and condenser holder.</li><li>• Object Guide without point counting</li></ul>
13.	<b>Camera &amp; Software</b>	<ul style="list-style-type: none"><li>• <b>12 MP CMOS</b> Camera</li><li>• Up to 60 fps Frame Rate</li><li>• USB 3.1 Connection</li><li>• 0.50 X or better Camera Mount</li><li>• Microscope, Camera and software shall be from the same / single manufacturer for better synchronization.</li></ul>
14.	<b>Computer System</b>	<ul style="list-style-type: none"><li>• Latest brand computer system with i7 processor, 8 GB RAM, 1 TB HDD, 2 GB graphics, 24" LED screen, MS Office Professional. Window 10 OS.</li></ul>
15.	<b>Accessories</b>	<ul style="list-style-type: none"><li>• Vinyl Dust Cover</li></ul>



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**ANNEXURE –II** Technical specification for **STUDENT MODEL POLARIZING PETROLOGICAL MICROSCOPE with CAMERA and IMAGE PROCESSING TOOL**

1.	Universal Polarization Microscope LED illumination having working life of 25,000 working hours or more, Koehler Illumination, Oblique Illumination, Rotatable/switchable Polarizer, Universal Power Supply. Auto shut off function after 2 hours of no use.
2.	Transmitted LED illumination and upgradable for Reflected Light LED Illuminator with Built-in adjustable aperture diaphragm, produces bright, crisp and maintenance-free lighting for all of your samples.
3.	Focusable Bertrand Lens for advance Conoscopy.
4.	Pol. Centerable& focusable Condenser with magnification labelling and colour marking/ similar outfits.
5.	360° rotating stage ( <u>178 mm or better dia.</u> ) with graduations and adjustable brake and Vernier along with object guide.
6.	Transmitted light 360° rotating polarizer with analyser.
7.	Infinity optics with stain free Pol colour correction system.
8.	Eyepiece wide field 10x/20mm or more FOV, one with cross hair reticule and key for orientation
9.	Trinocular Observation pol tube should have inclination 30 degree & Interpupillary range 52mm to 75 mm. Image shall be simultaneously observe on eyepieces and camera.
10.	4 or better position built in Centerable objective nosepiece for all objectives simultaneously suitable for transmitted and reflected light and Strain free Pol objective <b>1.6x, 2.5x, 4x, 10x, 20x, 40x or better</b> . All Objectives should be engraved the information and features, indicating Polarizing Mark.
11.	Objective centering tools, 2 Object Clamps, Dust Cover must be provided.
12.	<b>Focus drive:</b> Coarse & Fine Focus drive with focus rotation of 300 micron per fine focus and calibrated in 3µm increment with weighted focus knobs. <b>Built-in and adjustable</b> Aperture & Field Diaphragms.
13.	Lambda and Lambda/4 Plates in nosepiece Compensator slot. Storage position for compensators & objective centering tools. Self-adjusting focus mechanism.
14.	Camera: <b>12 MP stand-alone CMOS / CCD microscope camera or better Live image displays</b> through PC monitor with connection via USB 3.0 and HDMI 2.0 a-



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	The HDMI mode should be capable to use the camera in stand-alone mode without the need for a PC, HDMI 4K resolution up to 60 fps, appropriate c-mount.
15.	Imaging Software – Imaging software with image acquisition, Imaging parameter recall, HDR acquisition, image processing tools, visual comparison view, Basic measurements, and annotations.
16.	Microscope shall be upgradable for Reflected light with Built-in adjustable aperture diaphragm, rotatable pol and analyser for reflected light pol applications.
17.	Microscope, Camera, and software shall be from the same / single manufacturer for better synchronization.
18.	Ease of use: The microscope should have handle and under cut in the front so that it can be carried from one place to other. It should have a cord wrap, so that the power cards are wrapped and kept when not in use. The Microscope design should enable storing of Microscope side by side without any damage.
19.	Technical catalogue and details of the microscope shall be available on manufacturer's website.
20.	All components should be fully integrated System and other components should be compatible to it.

**ANNEXURE –III Specification for Double Beam UV-Visible Spectrophotometer**

System	UV-Visible Spectrophotometer with Blazed holographic grating with 1200 lines per mm, Czerny- Turner with 0.2m focal length.
Wavelength Range	190-1100 nm or better
Lamp Source	Tungsten / Deuterium Lamp
Spectral Bandwidth	0.5, 1, 2, 5, 20 nm variable or better
Wavelength Accuracy	±0.1 nm for the entire wavelength range or better
Photometric Absorbance	+/- 4A or better
Wavelength Reproducibility	±0.1nm or better
Detector	Silicon Photodiode
Photometric Reproducibility	+/-0.001 Abs or better



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Photometric accuracy	$\pm 0.004$ A or better
Stray light	$<0.02\%$ (220 nm NaI) or better
Photometric Noise	$< 0.00005$ Abs or better
Photometric drift	$< 0.0003$ Abs/h or better
Baseline flatness	$\pm 0.0005$ A or better
Software	Licensed Windows 10 or advanced version based user friendly software
Cell	One Pair 3.5ml Quartz Cell with 10mm pathlength
Stabilizer	2 KVA stabilizer to be quoted
Warranty	One Year



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ANNEXURE –III Imported Trinocular Microscope for transmitted-light bright field with objectives A-Plan 5x,10x Ph1,40x Ph2 and 100x

Each	<p><b>Trinocular Microscope for transmitted-light bright field with objectives A-Plan 5x,10x Ph1,40x Ph2 and 100x</b></p> <p>Stand equipment for transmitted light Microscope stand Axiolab 5, TL, 5x H encoded, mechanical stage 75x50 R - Z-drive with fine drive knob left and fine drive disk right, flat with scale - 15 mm focus lift - nosepiece 5x brightfield, M27 coded- stage and condenser carrier - mechanical stage 75x50 R, rackless with hardcoat anodized surface, 220 x 150 mm stage plate, right drive 135 mm (extendable by 15 mm) with friction setting- dual specimen holder for one-hand operation, spring lever left - transmitted-light illumination with white LED 10W, optional for halogen reflector lamp 12V 35W - integrated 24V DC 60W power unit, stabilized 100...240V AC/ 50...60Hz - country-specific power cable - ECO mode and light management control button - Snap button supports ZEISS Axiocam - USB 2.0 to PC - dust cover- filter holder in TL. Optical equipment Binocular phototube 30°/23 (50:50), reversed image Eyepiece PL 10x/22 Br. foc. Eyepiece eyecup Condenser 0.9/1.25 H Modulator disk H, D 0.65, Ph 1,2,3 PlasDIC for condenser 0.9/1.25 Pinhole diaphragm, d=30mm Objective A-Plan 5x/0.12 M27 (FWD=10.1mm) Objective A-Plan 10x/0.25 Ph1 M27 (FWD=4.3mm) Objective A-Plan 40x/0.65 Ph2 M27 (FWD=0.45mm) Objective A-Plan 100x/1.25 Oil M27 (FWD=0.22mm) incl. Immersol 518 N, oiler 20ml</p> <p><b>BSILab MCATT-HDMI5WF</b></p> <p><b>Mobile apps is also available</b>  <b>UI Operation:</b> With USB Mouse to Operate on the embedded .  <b>Image Capture:</b> JPEG Format with 5M Resolution (2592*1944) in SD Card(8GB)  <b>WiFi Facility :</b> YES <span style="float: right;"><b>Picture:</b> HD</span>  <b>Video Record:</b> ASF Format 1080P 30fps in SD Card(8GB)  <b>Camera Control Panel :</b> Including Exposure, Gain, White Balance, Color Adjustment, Sharpness and De-noising Control  <b>Recording System:</b> Still Picture and Movie  <b>Cooling System :</b> Natural  <b>Toolbar :</b> Including Zoom, Mirror, Comparison, Freeze, Cross, Browser Function, Multi language and Cam View Version  Information  <b>UI Operation:</b> Windows/Linux/OSX/Android Platform  <b>WIFI Performance:</b> 802.11n 150Mbps; RF Power, 20dBm(Maximum)  <b>Maximum Connected Devices:</b> 3~6(According to the Environment and Connection Distance)  <b>White Balance :</b> Auto White Balance Color Technique Ultra-Fine TMC Color Engine(WIFI)  <b>Storage:</b> SD Card Slot .  <b>Operating Temperature(in Centidegree):</b> -10~ 50  <b>Storage Temperature(in Centidegree):</b> -20~ 60  <b>Operating Humidity :</b> 30~80%RH</p>
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<p><b>Storage Humidity :</b> 10~60%RH <b>Power Supply :</b> DC 5V over PC USB Port <b>Operating System:</b> Microsoft® Windows® XP / Vista / 7/ 8 /10 (32 &amp; 64 bit) OSx(Mac OS X) Linux <b>PC Requirements/Mobile :</b> CPU: Equal to Intel Core2 2.8GHz or Higher Memory:2GB or More , USB Port:USB2.0 High-speed Port, Display:17" or Larger, CD-ROM, WIFI Adapter with DHCP, Enabled/ IPhone or Smart Phone with, Android System <b>Binning:</b> 1x1 <b>Exposure:</b> 0.03ms~918ms <b>Pixel(μm):</b> 2.4*2.4 <b>Sensor &amp; Size(mm):</b> Sony IMX178(C), 1/1.8"(6.22x4.67) <b>FPS/Resolution:</b> 60/1920*1080(HDMI), 25/1920x1028(WIFI)</p> <p style="text-align: center;"><b>*****With Suitable HDMI TV (SCREEN)</b></p>
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**Eligibility for participating in the Tender: Participation in the tender will be dependent on fulfilling the following eligibility criteria:**

- a) Sealed bids are invited from eligible and reputed bidders those are being authorized by OEM (Original Equipment Manufacturer) for this Specific Tender for sales & service of the Equipment at GGDC, Manbazar-II.
- b) Company should have at least 02 nos. of the installation same make and model, as being offered in this tender, at any Government Department / Semi- Government Institutes / State or Central University with capable service team based in the Asansol/Durgapur/Kolkata.
- c) Work order copies along with job completion certificate from the customer duly self-attested are to be submitted. The bidder will have to produce original documents for verification, without which the bid will be treated as non-responsive and summarily rejected.
- d) The bidder must be in operation in business for at least 05 (five) years.



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**Terms and Conditions**

- Payment terms:** 90% payment will be made after delivery and inspection of the condition of the equipment and remaining 10% will be made after installation of the equipment and training by certified person.
- Duties and Taxes:** The rate must be inclusive of packing and freight and delivery charges
- Delivery period:** The Equipment should be delivered and installed within the period as specified in the work/purchase order and be ready for use within 15 days from the date of delivery of the consignment.
- Penalty in Delivery Schedule:** If the bidder fails to deliver and install the Equipment or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum of 10% of total order value will be deducted.
- Consignee:** All stores are required to be consigned to the **Principal/Officer-in-Charge of GGDC Manbazar-II, Susunia, District- Purulia, 723131.**
- Delivery documents:** No goods will be accepted by the College unless Original copy of supply order, Bill/Invoice, Delivery Challan, Originality Certificate, Warranty Certificate and a Certificate for after Sales Services are submitted during delivery of the equipment.

Sd/-

Officer In Charge  
Govt. General Degree College, Manbazar II