**Sterio Microscope with 5MP HD Camera**

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|  | **Name of the equipment:** Sterio Microscope with 5 MP HD Microscope Camera**Make & Model:**High Performance Sterio Microscope: Leica M165 CMicroscope Camera: MC170 HD 5MP**I-Stem Registration ID-** **……………………..** **Category of Instrument**Optical Imaging/Microscopy/Characterisation & Testing**Types of Analysis / Testing*** High-resolution stereo imaging
* Sample observation & documentation

**Application:** * Environmental sample inspection (microplastics, sediments, biofilms)
* Material surface analysis
* Morphological Analysis
* Biological specimen observation (insects, plant structures, etc.)
* Quality control in industrial and research applications

**Description of Instrument**A stereo microscope, also known as a dissecting microscope or stereomicroscope, is a type of optical microscope designed for low magnification observation of three-dimensional objects. Unlike compound microscopes which are typically used for high magnification viewing of thin, two-dimensional specimens such as cells or microorganisms, stereo microscopes are optimized for observing larger, solid objects like rocks, insects, plants, circuit boards, and other macroscopic specimens. |

**Booking Details**

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| **Book through I-STEM:** <https://www.istem.gov.in/>**Slot Booking Link**I-STEM Slot Booking link for External User | **Booking available for**Internal and External Both**Requisition form for** [Internals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf)[Externals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf) |

**Contact Details**

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**Features, Working Principle and Specifications**

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| **Features of the equipment*** Motorized zoom & focus for precise adjustments
* Apochromatic optics for superior colour correction
* Integrated LED illumination (transmitted & reflected)
* Ergonomic design for long-duration use
* HD camera with real-time imaging
 | **Unique features/Measurement capabilities, if any*** **8:1** **Zoom Range** (0.78x–12.5x magnification)
* **High-resolution imaging** (5MP MC170 HD camera)
* **Software compatibility** (Leica Application Suite for image capture & analysis)
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| **Instrument Technical Description and Major Specifications***(This Specifications Limited to Major 5)** **Optical System:**
* Magnification Range: 7.8x – 125x(with 10x eyepiece)
* Working Distance: 60mm (standard)
* Field of View: 30.5mm (at 1x)
* Resolution: 864 lp/mm (with 2x objective)
* **Illumination**:
* LED transmitted & incident light (adjustable intensity)
* **Camera Specifications** (MC170 HD):
* Resolution: 5MP (2592 x 1944 pixels)
* Frame Rate: 15fps @ full resolution
* Sensor Type: CMOS (color)
* **Software Compatibility**:
* Leica Application Suite (LAS) for image capture & measurements
* **Supported File Formats**:
* .JPG, .PNG, .TIFF
 | **Measurement/Sample specifications:** * **Sample Size**
* Max height: 60mm (working distance)
* Recommended: <50mm thick for optimal focus
* **Sample** **Type**:
* Solid or semi-solid (no liquids)
* Reflective & non-reflective surfaces
* **Sample** **Preparation**:
* Should be dry & stable for imaging
* No hazardous/corrosive materials
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**Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.)**

* Quantity: Single specimen (must fit within the 60mm working distance)
* State: Dry or fixed (no wet/unsealed samples)
* Sample Type: Solid or semi-solid (e.g., microplastics, insects, plant parts, engineered materials)
* Size Limitations: Max height: 60mm (recommended <50mm for optimal focus)
* Material Restrictions:
	+ No liquids, gels, or volatile substances
	+ No corrosive/hazardous materials

**Guidelines for Sample Submission – User Instructions**

* Pre-Preparation:
	+ Ensure samples are clean and dust-free
	+ Reflective surfaces should be matte-coated if glare interferes with imaging
* Documentation: Provide sample details (material, expected features, areas of interest)
* Submission Protocol:
	+ Max samples per session: 1 (sequential imaging for multiple specimens)
	+ Advance booking required for time-sensitive samples
* Turnaround Time:
	+ 30 minutes to 2 hours (depends on complexity and required magnification)
* Output Delivery:
	+ Images provided in .JPG, .PNG, or .TIFF format
	+ Optional measurements/data via Leica Application Suite (LAS)

**User Charges Rs. (GST Extra)**

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
| 300/- per sample | 600/- per sample | 600/- per sample | 1200/- per sample |