**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 C Microscope 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) |
| **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 |

**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 |