

Technical specification for Upright research microscope with Digital camera and Imaging software.

- 1) **Stand:** Upright Microscope Stand for transmitted light brightfield, darkfield, polarization and DIC with inbuilt LED illumination for constant color temperature.
- 2) **Nosepiece:** Objective nosepiece for 7 objectives.
- 3) **Focus:** 3-step focus drive with height-adjustable focus knobs.
- 4) **Contrast methods:** Transmitted light Brightfield, darkfield, polarization, Phase contrast and DIC.
- 5) **Phototube:** Trinocular Phototube with beam splitter positions: 50/50% and field of view up to 22, port for one camera attachment.
- 6) **Eye piece set:** 10x with 22 mm or more field of view.
- 7) **Objective set:** Plan Achromatic objective set 10x/0.25, 20x/0.40, 40x/0.65, 63x/0.80, 100x oil/1.25, Immersion oil 20 ml, all objectives except 10x should work with DIC. Objective for phase contrast– 20x, 40x and 100x.
- 8) **Condenser:** Colour coded Universal condenser for adaptation of BF, DF, PH, Pol& DIC.
- 9) **Filters:** Day-light and Panchromatic green filter.
- 10) **Stage:** X-Y stage with ceramic surface with slide holder
- 11) **Digital Camera:** Full HD digital color camera 10 Mpixels (3648×2736), speed 30fps, C-Mount adapter 0.55x along with data acquisition device.
- 12) **Imaging software:** Software for extended depth of focus so that a single in-focus can be created and software should be capable in Measurement of area, lines, distances, angles, rectangles, count points. Automatic thresholding should gives binary images that may be processed by amendment, segmentation and manual editing operations. Graphic generation of grids and spokes extends the capability. A rich set of measurements should include- measurement of multiple particle parameters, Colour, Grey level and Densitometry measurements, Field and Feature measurements, User defined feature expressions with results given in histogram, scatter gram and statistical formats
- 13) **Computer and Color Printer:** Branded computer system with i5 or better processor, Windows 7 or later operating system (Licensed –professional version only), 4 GB RAM, 500GB HDD, 1 GB Graphics, 21" Screen, optical mouse, keyboard, and Color Laser jet printer should be supplied along with system.

Complete hardware, software, dust cover and Digital Camera should be from single manufacturer only and no hybrid system components are allowed in order to achieve maximum efficiency.