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**Enquiry No. TIET/CS/AA/21-22/21281**  
**Date : July 19, 2021**

**Sub:** Request for Quotation(s) for the Supply of Fluorescent Microscope

Dear Sir

We shall be grateful if you kindly let us have your lowest **quotations** for the following materials. THE QUOTATIONS SHOULD REACH THE UNDERSIGNED **LATEST BY July 29, 2021** through **courier or e-mail** accompanied by appropriate illustrative literature/catalogues/pamphlets/technical details, samples and specifications as the case may be. **On the quotation envelope/ subject the Enquiry Number & Date should be mentioned on the top of the Envelope/mail subject.**

Sr. No.	Item Name	Qty.
1.	Microscope for Tissue Imaging For specifications and qty See attached sheet	1 set

**The offer sent by you must furnish the following details:**

1. Name, Make & specifications of each item.
2. Price Breakup itemwise with MRP. (Treat it mandatory)
3. Educational discount.
4. Validity of quotation should be at least 60 Days.
5. GST %
6. Delivery FOR Central Stores TIET, Patiala For imported product CIP New Delhi Airport
7. Insurance, Freight & other charges if any.
8. Minimum Delivery Period.
9. Payment terms. Net 30 days against delivery & satisfactory installation at Thapar Institute, Patiala
10. Guarantee / Warranty Information.
11. Also please share your Companies Turnover and Market Share along with the offer.

Regards,

Head Commercial

# Microscope for the Tissue Imaging

## Technical Specification

### Microscope

- a. **Body:** Rigid, single dye cast, touch point treated ergonomic design
- b. **Optical System:** Infinity corrected optical system, preferable tube length of 200mm, UV to near infrared optical performance, color corrected, system anti-fungal, anti-mold, anti-bacterial coated (multi-layered hard coated), color coded objectives, fly eye lens, vacuum coated prism parfocal (preferably 45mm), and maximum S/N ratio
- c. **Illumination System:** Kohler illumination, Light source power more than 2W LED (lifetime more than 60000 hrs.) pre-focused, pre-centered, aspheric collector, and micro prism filter for uniform illumination in entire FOV
- d. **Objectives:** Plan Achromatic 4X, 10X, 20X, 40X (spring loaded), 100X (oil immersed, spring loaded)
- e. **Viewing Head:** Trinocular inclined at 25° to 30°, Siedentop head, constant focus mechanism, rotatable through 360°, IPD-from 50-76, splitting ratio 100:0, 20:80, 40:60, uniform illumination to entire FOV, suitable for FOV up to 22mm (provision to attach photomicrography in future).
- f. **Nosepiece:** Inward tilted, Precise quintuple revolving on ball bearing, smooth and accurate alignment by click stop mechanism, rotation slot for DIC
- g. **Eyepiece:** Paired, high eye-point WF 10X, multilayered coated, high quality, good contrast, aberrations free, pre-centered, aplanatic, and diopter adjustment on both eyepiece ( $\pm 2$ -5mm)
- h. **Mechanical Stage:** Two-way linear slide, 270° rotatable, rectangular right/left hand low drive control, double slide holder, stage size 160×180 mm, X-Y movement 55-80mm on wire, precision 0.1mm, by low position co-axial control, tension adjustable.
- i. **Condenser: Abbe condenser N.A. 1.0-1.25**, 2X - 100X magnification with guide marking, for brightfield, separate movement from focusing (rack & pinion), aperture iris diaphragm with center adjustable.
- j. **Focusing:** Low position coarse & fine Co-axial, built-in tension control, upper limit stopper, coarse adjustable distance 20-25mm, full stroke 30-35 mm, high sensitivity with 0.10 mm per revolution, fine adjustment 1.0 $\mu$ m/Div
- k. **Power Supply:** Integrated SMPS based, 90V-240V, 50/60Hz.

### Epi-Fluorescence Attachment RFM (100W Mercury) with Blue, Green and Red Filters

- a. **Filter Turret:** Six position Turret, with capacity to accommodate 4 Fluorescence Filter Block and capability of instant Switching Between Bright Field & Fluorescent mode.
- b. **Diaphragm:** Aperture & Field Diaphragm.
- c. **Filters:** Slot's for ND Filters.
- d. **Illumination:** 100W Hg Mercury Epi-Illumination in a lamp housing attached to the fluorescent filter block. Wide spectrum of light 430nm-670nm. Digitally controlled Illumination. Higher Life span of Lamp. UV protection screen

## **Thermo Electric Cooled 20 MP Color CMOS Camera**

- a. **Pixels:** 20MP
- b. **Sensor & Size:** CMOS Color & 1" nearly (13.06 x 8.76mm)
- c. **Pixel Size:** Square pixels (2.4 $\mu$ m x 2.4 $\mu$ m)
- d. **G Sensitivity:** 450mv with 1/30s
- e. **Dark Signal:** 0.20mv with 1/30s
- f. **Resolution Frame Rate:** Different frame rates for different resolution capability of choosing the ROI.
- g. **Exposure:** 0.1ms~3600s
- h. **Image Data Format:** 8/12 bit RAW Format
- i. **Data Interface:** USB 3.0
- j. **ADC:** 16 bit
- k. **Dynamic Range:** 2000:1
- l. **Full Well Capacity:** 15,000 electrons
- m. **Dark Noise:** <0.1e-/Px/Sec
- n. **Read Out Noise:** ~6 electrons (10 MHz)
- o. **Binning:** Required 1X1 - 4X4
- p. **Quantum Efficiency:** greater than 75%
- q. **Spectral Range:** High spectral range 390-710 nm (with IR-filter),
- r. **White Balance:** ROI White Balance/ Manual Temp-Tint Adjustment
- s. **Capture/Control API:** Native C/C++, Directshow, Twain, Labview
- t. **Recording System:** Images & Movies
- u. **Cooling System:** Two-stage Thermo electric-cooling System
- v. **Operating Temperature:** -10°C~ 50°C
- w. **Lens Mount:** C/CS Mount
- x. **Storage Humidity:** 10~60%RH
- y. **Power Supply:** DC 5V over PC USB Port, External Power Adapter for Cooling System, DC12V,3A
- z. **Operating System:** Support Microsoft Windows XP / Vista / 7 / 8 / 10(32 & 64 bit) OS X (Mac OS X), Linux

**Measurement Software and Calibration Slide: Measurement software and calibration slides are required**