



**OFFICE OF THE PRINCIPAL**  
College of Medicine & J.N.M. Hospital  
West Bengal University of Health Sciences  
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**Memo No. COMJNMH/PR/2025/ 4788**

**Date:- 08.12.2025**

**CORRIGENDUM OF SPECIFICATIONS**

**(Tender Ref. NO. COMJNMH/PR/2025/4698 dated: 01.12.2025)**

Modification in the specifications of **following Microscopes** are hereby done, as per the decision taken in the Pre-Bid Meeting held on 04.12.2025 in the Conference Room of the Administrative Building. The modified/revised specification of the Equipments will be uploaded as corrigendum for the said Tender in the e-tender portal and submission of bid will be done based on that revised specification.

**Revised specification for the following Equipment as given with separate attachment:**

Sl. No	ITEM	Department	Tender ID	Remarks
1	Phase Contrast/Dark Ground Microscope.	Microbiology	2025_HFW_965109_1	Attachment with new specification
2	Fluorescent Microscope with Camera (Three Fluorescent filter).	Microbiology	2025_HFW_965109_2	Attachment with new specification
3	Trinocular Microscope with Microphotography Apparatus along with desktop and required software.	Pathology	2025_HFW_965109_3	Attachment with new specification

*for. [Signature]*  
Principal,  
College of Medicine & JNM Hospital,  
Kalyani, Nadia.  
WBHS, Kalyani, Nadia

**Attachment:-**

1. New specification of Phase Contrast/Dark Ground Microscope, Fluorescent Microscope with Camera (Three Fluorescent filter) and Trinocular Microscope with Microphotography Apparatus along with desktop and required software.

**Memo No. COMJNMH/PR/2025/4788/1(10)**

**Date: 08.12.2025**

Copy forwarded for information: -

1. Registrar, the West Bengal University of Health Sciences, Salt Lake, Kolkata.
2. Finance Officer, the West Bengal University of Health Sciences, Salt Lake, Kolkata.
3. Medical Superintendent, College of Medicine & J.N.M. Hospital, Kalyani, Nadia.
4. HODs Dept. of Microbiology & Pathology, College of Medicine & JNM Hospital, Kalyani, Nadia.
5. Accounts Officer, College of Medicine & JNM Hospital, Kalyani, Nadia. (Hospital Side)
6. Accounts Officer, College of Medicine & JNM Hospital, Kalyani, Nadia. (College Side)
7. Bio-Medical Engineers, College of Medicine & JNM Hospital, Kalyani, Nadia. (College Side)
8. Programme Officer, the West Bengal University of Health Sciences, Kolkata – to upload the matter at the Official Website of the West Bengal University of Health Sciences.
9. Sri Mayukh Jyoti Sen/Sri Nipul Mondal (DEO), College of Medicine & JNM Hospital- to upload the matter at the Official Website of the College of Medicine & JNM Hospital.
10. Office Copy.



*for. [Signature]*  
Principal  
College of Medicine & J.N.M. Hospital  
WBHS, Kalyani, Nadia  
WBHS, Kalyani, Nadia





Attachment -

Office of the Head  
Department of Microbiology  
College of Medicine & J.N.M Hospital  
West Bengal University Of Health Sciences  
Kalyani, Nadia, West Bengal. Pin- 741235  
Tele Fax(033)- 25828562,(033) -25828386

Memo No. COMJNM/MICRO/2025/369

Dated- 08/12/2025

To  
The Principal  
College of Medicine & JNM Hospital, Kalyani

Subject: Specification for phase contrast and fluorescence microscope

Sl. No.	Name of the items	Specification	Quantity
1	Phase-contrast microscope with camera and power backup UPS	<ul style="list-style-type: none"> <li><b>Optical system:</b> Equipped with CFI60 infinity or comparable optical system</li> <li><b>Illumination:</b> <ol style="list-style-type: none"> <li>High luminescent white LED illuminator (Eco-illumination) with 60,000 hours life or more</li> <li>Built-in fly-eye lens</li> <li>Capable of installation of up to two 45 mm diameter filters</li> <li>Light Intensity Management or comparable feature included</li> </ol> </li> <li><b>Focusing:</b> <ol style="list-style-type: none"> <li>Coaxial coarse/fine focusing (located on both sides), cross roller guide,</li> <li>Focusing stroke: Up 2 mm/Down 13 mm, coarse: 37.7 mm per rotation, fine: 0.2 mm per rotation, minimum reading: 2 <math>\mu</math>m</li> <li>Coarse focus knob with torque adjustment ring and stage vertical movement stopper</li> </ol> </li> <li><b>Eyepieces:</b> 10X FOV 20 mm With diopter adjustment with one eye piece pointer</li> <li><b>Tubes:</b> With camera attachment adapter for live imaging through PC</li> <li><b>Nosepiece:</b> Reversed-type quintuple nosepiece (within main body)</li> <li><b>Stage:</b> Rectangular mechanical stage (within main body), with specimen holder 2L and vernier calibrations, cross travel: 76 (X) <math>\times</math> 52 (Y) mm</li> <li><b>Objectives:</b> Objectives for phase contrast observation-               <ol style="list-style-type: none"> <li>Achromat DL 10X, NA. 0.25</li> <li>Achromat LWD DL 20X, NA. 0.40</li> <li>Achromat DL 40X, NA. 0.65</li> <li>Achromat DL 100X Oil, NA. 1.25</li> </ol> </li> <li><b>Condenser:</b> Abbe Condenser, NA 1.25, vertically movable and centerable</li> <li><b>Observation methods:</b> Brightfield, Phase contrast, dark field, Ph1, Ph2 with suitable filter slider</li> <li><b>Fungus-proof treatment:</b> Antifungal paint is applied around optical system</li> <li><b>Imaging system:</b> With minimum 5 megapixel CMOS sensor equipped Colour camera               <ol style="list-style-type: none"> <li>Capable to produce High definition (HD) live image and capture in JPEG, TIFF format image file along with videography (preferably)</li> <li>Connected through USB to computer system</li> <li>Bundled with suitable imaging software compatible to use with Windows 10/11 operating system</li> </ol> </li> </ul>	01





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		<ul style="list-style-type: none"> <li>• Power backup: Suitable UPS system for the instrument</li> <li>• At least 2 years of warranty for the microscope and camera system</li> <li>• All the part number should be mention in the technical bid and should be available on OEM's website before the tender is published</li> <li>• The firm should have a registered GST enabled service centre in West Bengal which should be attached</li> </ul>	
2	Fluorescent microscope with PC and UPS for power backup	<ul style="list-style-type: none"> <li>• Binocular microscope with UIS2 of comparable optical system, adapter with camera must be supplied along with</li> <li>• Eyepieces: 10X With diopter adjustment <ul style="list-style-type: none"> <li>• High colour productivity suitable LED light sources for bright-field as well as fluorophore excitation</li> </ul> </li> <li>• Revolving 5 place nosepiece with 10X, 20X, 40X and 100X (for use with oil emulsion) fluorescence microscope compatible objective lenses</li> <li>• Universal condenser with 6 place</li> <li>• Fluorescent filters (5 places): Suitable filters for FITC, TRITC, DAPI and 2 more place customizable filter attachment</li> <li>• <b>Focusing:</b> <ol style="list-style-type: none"> <li>1. Coaxial coarse/fine focusing (located on both sides), cross roller guide,</li> <li>2. Coarse focus knob with torque adjustment ring and stage vertical movement stopper</li> </ol> </li> <li>• <b>Camera specification:</b> <ol style="list-style-type: none"> <li>1. Monochromatic camera with minimum of 5 megapixel CMOS sensor, USB connected with PC for live high resolution imaging and capture.</li> <li>2. Capable of generating 2448*1920 pixel resolution TIFF format image</li> <li>3. Supplied with compatible software must be compatible with Windows 10/11 operating system</li> </ol> </li> <li>• Must be supplied with suitable UPS and PC for operating with the microscope</li> </ul>	01

Thanking you,

Yours faithfully,

*Retina Paul* 08.12.25

For Head of the Department  
Department of Microbiology  
College of Medicine & JNM Hospital, WBUHS  
Kalyani, Nadia

for *S. Kumar* 8/12/25  
Principal  
COLLEGE OF MEDICINE & J.N.M. HOSPITAL  
WBUHS, Kalyani, Nadia

H.O.D. Microbiology  
College of Medicine & J.N.M. Hospital  
WBUHS, Kalyani Nadia



Sl. No	Item	Specifications	Quantity
1.	Trinocular Microscope with Microphotography Apparatus along with desktop and required software For Department of Pathology	<p>1. Upright Trinocular microscope with bright field, Fluorescent, Phase contrast, and Dark field, techniques upgradable with tablet-integrated digital head and research-grade optics</p> <p>2. Siedentop Trinocular Viewing Head, Eyepiece/Port: 100/0, 20/80, 0/100 inclined at 30°, Interpapillary Distance 47-78mm.</p> <p>3. <b>Eyepiece:</b> SW10x/25 mm, High Eye point, Diopter Adjustable, Dia.30mm</p> <p>4. <b>Infinity Plan objectives:</b></p> <ul style="list-style-type: none"> <li>a. 2X, NA=0.06, WD= 9</li> <li>b. 4x, NA=0.1, WD=30</li> <li>c. 10x, NA=0.25, WD=10.2</li> <li>d. 100x(oil), NA=1.25, WD=0.22, Cover glass=0.17</li> </ul> <p>5. <b>Plan Semi Apochromatic objective lens / Plan Fluor:</b></p> <ul style="list-style-type: none"> <li>a. 20x, NA=0.5, WD=2.7, Cover glass=0.17</li> <li>b. 40x, NA=0.75, WD=1.35, Cover glass=0.17</li> </ul> <p>6. <b>Working Stage:</b> Double Layer Gorilla Glass Mechanical Stage. Full Size 302x152mm, Stage Table Size 190x152mm, Moving Range 78x32mm, Double Slide Holder, left/right handle.</p> <p>7. <b>Condenser:</b> Swing Condenser NA0.9/0.25</p> <p>8. <b>Illumination:</b> Transmit Kohler Illumination, Brightness Adjustable, halogen light source, Built-in Main Body. ECO Function Support Auto Power Off After 30 Mins from Operator Leave to Save Energy.</p> <p>9. An electronic digital pointer should be provided free of cost with the microscope</p> <p>10. <b>Nosepiece:</b> Coded Sextuple Nosepiece, Dovetail interface</p> <p>11. <b>Focusing:</b> Coaxial Coarse &amp; Fine Focusing, Fine Division 0.001mm, Focusing Range 35mm, Coarse Stroke 7.7mm, Fine Stroke 0.1mm, Can Exchange Hand Wheel Between Left/Right.</p> <p>12. <b>Fluorescent attachments:</b> Reflect Mercury Epi-Fluorescent illuminator, LED turret disc with 5 or more excitation positions, Eye protector screen. The life span of Mercury is 2500-3000 hours.</p> <ul style="list-style-type: none"> <li>a. <b>Fluorescent filter:</b> <ul style="list-style-type: none"> <li>i. FL-FITC BP460-495, DM505, BA510-550</li> <li>ii. FL-DAPI BP360-390, DM415, BA435-485</li> <li>iii. FL-TRITC BP528-553, DM565, BA578-633</li> </ul> </li> <li>a. Excitation Filter: HPX 560/40 -560/40x At Bandpass,</li> <li>b. Dichroic Filter: HPD 922- Beamsplitter At 600 DC</li> <li>c. Emission Filter: HPM 640/60 - 640/60m At Bandpass</li> </ul> <p>13. <b>Camera:</b> Monochrome</p> <ul style="list-style-type: none"> <li>a. 6.0 MP or more, IMX264 USB3.0, Pixel size: 2.4 <math>\mu</math>m × 2.4 <math>\mu</math>m Sensor size: 2/3" Frame rate: 35.6fps@2448 × 2048, 87.5fps@1224 × 1024 Global shutter,</li> </ul> <p>14. <b>Key features of camera Software:</b></p> <p>15. <b>Video and image Capture</b></p> <ul style="list-style-type: none"> <li>a. Real-time video with adjustable frame rate, resolution, and formats (MP4, WMV, AVI).</li> <li>b. Snap and record with multiple resolutions and bit depths (up to 14-bit).</li> <li>c. Network broadcasting for remote</li> </ul> <p>16. <b>Image Adjustment and Enhancement viewing</b></p> <ul style="list-style-type: none"> <li>a. Brightness, contrast, hue, saturation, gamma, and color</li> </ul>	



temperature controls.

- b. High Dynamic Range (HDR) and Extended Depth of Field (EDF) for detail enhancement.
- c. Fluorescence Image Color Compositing: Overlay multi-wavelength images to highlight specific sample features.
- d. Live image stitching for large field-of-view creation.

**17. Advanced Processing and Corrections**

- a. Histogram adjustments, dark/flat field correction for noise and background improvements.
- b. Digital binning and subsampling for enhanced image quality or frame rate.

**18. Measurement and Annotation Tools**

- a. Comprehensive tools for angles, distances, shapes, and scale bars.
- b. Export to Excel and Word with customizable templates for measurements and images.

**19. File Management and Export**

- a. Quick and batch save options in multiple formats (JPEG, PNG, TIFF, WebP, DICOM).
- b. Batch processing for stitching, HDR, and batch report generation.

**20. User Interface and Navigation**

- a. Customizable toolbar and hotkeys for quick access.
- b. Thumbnail/file browser for easy file access and sorting.
- c. Full-screen and zoom controls for in-depth image review.

**21. Camera Control and Sampling**

- a. Auto and manual exposure, gain, power frequency, flip, and rotation options.
- b. Region of Interest (ROI) selection and digital Sampling (binning/skipping) for High-efficiency captures.
- c. 0.5x C-mount included.

**22.Desktop/PC**

- a. Processor -17
- b. Ram -8GB
- c. Storage- 1TB SSD
- d. Monitor -22" Display

**23. Accessories:**

**24. Digital Options: -**

- a. Digital Head with internal magnification 10X.

i. Camera resolution: 12MP Pre-installed application with following features: Report printing with images, Local syncing of images at the desktop, Data management, Image capturing, Video recording, Exposure, brightness, saturation, temperature and contrast control, Micrometry - linear and circular measurements in microns, Annotations, and text addition, Freehand marking and pointer for demonstration.

**25. Warranty:** Comprehensive warranty on all items for 2 years, except the apple tablet head, where standard global warranty will apply by the manufacturer. Additionally, a CAMC for another years should also be quoted. Any software upgrade license required during this period will be upgraded free of cost to the user. Components that are not covered under warranty should be listed along with their list price (the price to remain valid till the



whole CAMC period).

26. Each component of the item should be factory calibrated. Additionally, for calibration of measurement software, a micrometre glass slide should be provided free of cost to the user.

27. **Demonstration:** All post supply demonstrations required in a group or individually as required by the user Department, as and when asked, would be the supplier's sole responsibility. All demonstrations should be given on-site up to a maximum of 4 times/ annually.

28. The company must have a direct presence in India with strong after-sales technical and service support.

29. The microscope should be provided with the following accessories at no additional cost to the user: premium microscope export quality immersion oil- 2 bottles; microscope cleaning kit-1, lens cleaning paper- 100 Nos

30. **Penalty Clause:** As per rules, during the warranty/CMC period the desired uptimes of 95% of 365/366 leap year days (24 hours), if downtime is >5%, the warranty/CMC period will be extended by double the downtime period. In addition, a penalty equal to 0.25% of the total cost of the equipment/ per day will be liable for the excess downtime period subject to a max of 10% of the cost of the equipment.

Approved

Anindita Sinha Babu  
5/12/25

Professor & Head  
Dept of Pathology  
College of Medicine  
JNM Hospital Kalyani

Seen  
for principal  
8/12/25  
Principal  
College of Medicine & JNM Hospital  
WBUHS, Kalyani, Nadia