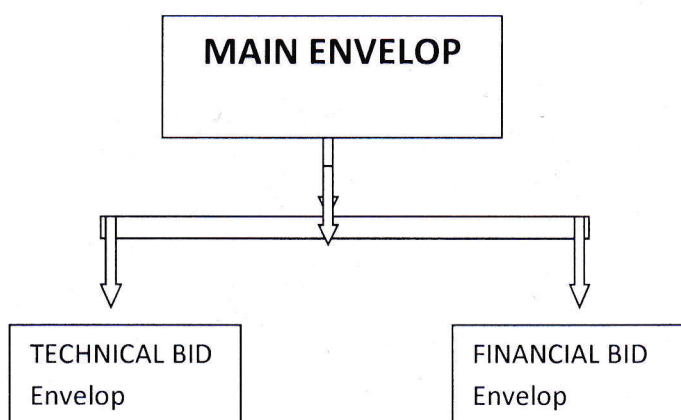


**Department of Environmental Science**  
**Savitribai Phule Pune University**  
**Pune-411007**

Quotation are invited for the supply for following goods/Instrument/Material in a sealed envelope which consist Technical and Financial bid separately.

Name of Equipment:- **Stereozoom Trinocular Microscope with Zoom –Nos.2**

**Submit your Quotation as fallows**



(Vendor should write their contact number and email on Main Envelope)

**Address to**

**The Head**  
**Department of Environmental Sciences**  
**Savitribai Phule Pune University**  
**Ganeshkhind**  
**Pune-411007**  
**Contact No. 020-25601195**

# Savitribai Phule Pune University

Contact Details :

020 - 25601367  
25601368



**Department of Environmental Science**  
Dr. Nanasaheb Parulekar Paryavaran Bhavan  
Savitribai Phule Pune University, Pune 411 007  
Website : <http://www.unipune.ac.in/dept/env>  
Email : [hodenvsci@unipune.ac.in](mailto:hodenvsci@unipune.ac.in)

Ref. N. /Quot./ **2020/76**  
To,

Date : **29-02-2020**

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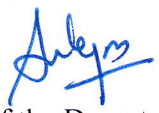
Quotation are invited for the supply for following goods/carrying out the work, so as to reach this office on or before

**07-03-2020**

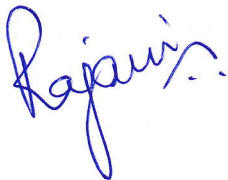
Sr. No.	Description of Material/ Item/Work	Approximate Quantity	Rate Per unit	Amount (Rs.)	Remark
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1. **Stereozoom Trinocular Microscope with Zoom - 2 (nos) -**  
As per enclosed Technical Specification –**Annexure-A**

1. Octroi Exemption Certificate will be issue for the goods supplied from the places outside Pune Municipal Corporation Limits.( if applicable.)
  2. Excise duty/Exemption Certificate/Sale Tax form will be issued if applicable.
- Note : For other terms and conditions see overleaf.

  
Head of the Department/  
Administrative Branch  
SPPU, Pune  
**Department of Environmental Sciences**  
Savitribai Phule Pune University  
Pune - 411 007  
**Pune-411 007.**

Signature \_\_\_\_\_  
(Supplier)  
(with Stamp)



## Annexure-A

### Savitribai Phule Pune University

#### Technical Specifications for Trinocular Stereoscopic Zoom Microscope with High Speed and High Resolution Colour Camera (2 Units)

The main application of these microscopes will be taxonomical identification of different microfossil and phytoplankton groups (Foraminifera, radiolarian, diatoms, pteropods, etc.) of a general size more than 50 microns and observation /evaluation of morphological features measuring in nanometers. The fluorescence bearing system will be used for microbiological studies.

1. Optical System: Stereozoom Gallelian Optics
2. Zoom Body: Stereo Zoom Body. The microscope should have stereo-zoom variable magnification system with a zoom ratio of at least 1:16 or more with built-in aperture-iris diaphragm. Stereo observation and bright observation as well as imaging should be possible with the system.
3. It should have a Trinocular tube inclined at 30° or better with two way light path selection along with interpupillary distance adjustment facility. Beam splitter mode of light distribution should be avoided.
4. The Trinocular head should have paired 10X and 15X eyepieces with field of view 22 and 12.5 mm or higher and diopter adjustment in both eyepieces.
5. Focusing should be with both coarse and fine focusing knobs with counter balancer mechanism to stop the counter movement.
6. Magnification: 230x or more.
7. Resolution: The objective should provide a superior resolution of at least 900 lp per mm.
8. Nosepiece to hold atleast 2 objectives or more.
9. Distortion Free Plan Apochromat Parfocal Objective two nos. 1x and 2x capable of giving 230x magnification or more. **The 2x objective should be equipped with a correction collar allowing aberration correction.**
10. The system should be equipped with a stable and large microscope stand base. Clips should be mountable, with stage adapter fixing screw holes.
11. The system should be equipped with reflected LED Cold-light Dual inter-lock Fiber light Guide. Interlocking light guide offers free adjustment of position and angle, with enhanced rigidity where needed to keep it precisely in the desired place. Cold-light fiber-optic illumination to minimize damage to samples. Long-life with Low Running Costs 50,000-hour lifetime (approx.) with maximum 6-watt power consumption conserves energy and minimizes maintenance.

*Signature*

*Signature*

12. **ONE OF THE UNITS (Unit A) MUST HAVE** 5MP or more non-cooled color digital camera for microscope, Camera I/F USB3.0 CCD/CMOS camera, RGB primary color on-chip filters, Sensitivity Equivalent to ISO 400, Exposure control Auto/ Manual AE lock (enabled when Auto Exposure is selected). The camera should have a speed of 22fps or more at full HD mode.
13. Image Analysis System: Image capture and processing software for advanced imaging applications. Easily capture and process images with excellent reproducibility and accuracy. Must support Z-stacking. Basic Controls, Real time preview, manual/auto exposure, white balance, gain, brightness, gamma, saturation, user friendly archive, intensity, hue, image orientation, averaging, subsampling, light source selection, clockwise/counter clockwise, flip vertical, flip horizontal, flip diagonal, zoom preview, cascade, tile horizontal, tile vertical, Single capture, auto increment filename and single key capture, the software should be capable of doing measurement of Point-to-point, polyline, circle from 3 points, light, density, micrometer, grid/circle overlay, manual calibration, and drag and drop data to excel. It should have capability of annotation, advanced image processing.
14. **THE OTHER UNIT (Unit B) MUST HAVE A FLUORESCENCE ATTACHMENT** with 5 filter cube arrangement and should come with U, V and G filters and 100 Watt mercury light source.
15. Optional quote be provided for 1.4 MP monochrome camera or better, for imaging in fluorescence along with latest compatible image analysis software. This should be an attachment compatible to Unit B.
16. Bidders must provide the respective web links and brochures (of the manufacturer's website) for the quoted microscope, camera and software for confirmation of compliance to the specifications.
17. The Microscope, Light Source, Camera and Software should be strictly from same manufacturer for better integration and future upgradation and no issues with software updates in future.
18. Both units must be accompanied with Suitable Branded Laptop/Desktop with i7 processor, Intel original mother board, fire wire slot, PCI Express card slot, 8GB RAM, 1TB HDD, Onboard Graphics card, with display optical mouse, latest windows 64 bit OS. A suitable 2KVA online UPS with minimum 15 minutes backup.
19. Vendor should provide stage micrometer (1 unit) and Graduated Crosswire on eyepieces of both (A & B) units
20. List of other Indian users
21. Authorization letter from manufacturer
22. 3 years warranty
23. The vendor should demonstrate magnification and focus at higher resolutions at the time of technical discussion.

*Shy*

*Rajani*