Birbal Sahni Institute of Palaeosciences
53, University Road, Lucknow-226007 (INDIA)
Phone, EPBAX-2740008, 2740011, 2740399, 2740413

No. III/S&P/BSIP/ Dr. A.K.S. C-753 **Date: 25.10.2019**

Convener, Website Committee
BSIP, Lucknow

Dear Sir,

This Institute being recognized Research & Development Unit under Department of Science & Technology, Govt. of India, proposes to import the following items for the research work, kindly send the proforma invoice in triplicates for the same immediately:- Import-Export Items code number may be mentioned in the Proforma Invoice, which is required by our bankers in case of advance payment, Freight., Insurance etc will be paid in India in Indian rupees:-

Description	Quantity
Advance research polarizing microscope with digital camera and digital image analyses system. (Details at back)	One

Proprietary Certificate of above may be attached.

Terms & Conditions

PRICE : F.O.R. Lucknow covering Insurance from warehouse to warehouse by AIR / SEA FREIGHT / REGISTERED AIR MAIL PARCEL POST having validity not less than 120 days.

DELIVERY : Delivery date must be specifically mentioned in the Proforma Invoice.

PROFORMA INVOICE : It should please be sent in triplicate so as to reach the undersigned on or before **29.11.2019**

STATUTORY: Indian Foreign Exchange control Rules and Regulations do not permit inclusion in **OBLIGATION** the F.O.R. value, the commission, discount, or like rebate allowed by Foreign Suppliers / Manufacturers payable to their Indian Agents. Such Commission / Discount etc., if any, should please be specified separately in your proforma invoice to enable us to remit the same in Indian Rupees to your Indian Agents, whose complete name and address must be mentioned.

Yours sincerely,

25/10/19

(Sandeep Kumar Shivhare)
Registrar

SPECIFICAION FOR ADVANCE RESEARCH POLARISING MICROSCOPE WITH DIGITAL CAMERA AND DIGITAL IMAGE ANALYSES SYSTEM:

1. Transmitted light (TL) microscope for orthoscopic and conoscopic observations with reflected light (RL) option for ore microscopy.
2. Infinity corrected and harmonic compensated optic system.
3. Trinocular Polarizing eyepiece tube with field of View 25 mm or more, 3 switching positions: 100% eyepiece, 100% camera port and 50%:50%.
4. Eyepiece pair-focusable and adjustable.
5. Analyzer position above eyepiece with 360°rotatable for RL and TL.
6. U-Plan strain-free swing-out type/motorized condenser for all objective magnifications.
7. U-Plan strain-free 10X eyepiece pair: one eyepiece with 90° cross hair with micrometer scale of 10mm = 100 divisions and one normal 10X eyepiece.
8. The E-W and N-S orientations of cross-hairs in the eyepiece should remain unchanged while the interpupillary distance between the eyepieces adjusted by the viewer.
9. Best focus adjustment facility or focus drives for coarse and fine focusing. Heat compensation for prevention of focus drift.
10. Height adjustable focus stop.
11. Usable field of view should be between 25 mm or more.
12. Centerable and focusable Bertrand lens for conoscopic view.
13. Rotatable polarizer and analyzer with graduation (360°) readable up to at least 1°.
14. Objective lens turret with at least 5 nosepieces. Each objective nosepiece should be independently centerable.
15. Plan-achromatic strain free objectives of magnifications 2/2.5X, 4/5X, 10X, 20X and 40/50X.
16. Top-grade dedicated circular graduated stage of 175 mm diameter or more rotatable 360° horizontally, centerable to the optical axis, graduated 360° (in 1° increments) with attachable mechanical stage and can be fixed at specification position, click stop at each 45° and adjustable z-stop.
17. Light filters for transmitted and reflected light, blue filter, green filter and colour coded diaphragm assistant.
18. Illumination with intensity control (gradual increase and decrease the light intensity).
19. Exchangeable lamp housing with constant colour temperature at 4500 K or LED equivalent to 100 W halogen lamp with lens collector for diascopic and episcopic illumination, illumination changeover switch, and heat protection filter for transmitted and reflected light illumination.
20. Configuration with daylight filters for both transmitted and reflected lights for best image.
21. Reflected illuminators with iris diaphragm.
22. Lambda plate, Quartz wedge, Quarter-lambda plate and dust cover.
23. Motorized stepping stage for point counting and modal analysis.
24. Photomicrography unit: Scientific grade, high definition digital colour CMOS/CCD camera with high sensitive sensor for dedicated microscopy use.
25. Micrometric Slide (26mm X 76 mm, range 1 mm, div. 0,01mm) as accessory

Resolution of 20 megapixels or more along with High Density CCD chip, capable of handling very low light imaging, capable of taking original images even in high temperature generated by heat source of the instrument, capable of taking original

colour image as view under microscope, DIC and fluorescence images with high clarity, high speed real time image display and video capturing, camera should be with adequate full well capacity for high-performance CCD imaging, higher colour depth – preferably 30 bits or better, exposure control about 1/1000-60 sec, frame rate should be 25 fps or more, imaging maximum rectangular area within the circular field of view, with required lens mount F Mount/C mount, PC / Laptop interface USB, the camera should be compatible with the microscope, and the supplier will ensure high quality imaging onto the screen.

Software for device control, acquisition and capturing image/video, and for scaling onto the image. Features like annotation, Z-Stack, 2D / 3D View, zooming, image morphometery (includes size, shape, ratios, area, sum etc.) with point counting (automated feature counting & measuring over 60 area, size shape position, densitometry and colour parameters, modal analysis and report generator (Ms Excel, Word or pdf format) facility along with data tables, histograms, pie charts and images in the software will be considered as advantage.

A branded computer system compatible with pol microscope system having latest configurations and stand-alone control unit (OEM components) for imaging and processing. Configuration should be equal to or better than: i7 processor or more, 8 GB RAM or more, 1 TB HDD or more and 21"-32" TFT Monitor, 2 GB Graphics. Multimedia Kit. Image processing software should be compatible with OS in the computer system. USB port for the direct printout facility, PC –camera interface USB, with all adapters and power cables.