

# NOTIS PEMBELIAN PERALATAN 4/09(RMK9)

(Website : [http:// www.medic.usm.my/sebutharga.php](http://www.medic.usm.my/sebutharga.php))



UNIVERSITI SAINS MALAYSIA  
PUSAT PENGAJIAN SAINS PERUBATAN

**Tarikh Buka : 14 April 2009**

**Tarikh Tutup : 28 April 2009**

Bil.	Nama Alatan	Kuantiti
1.	<p><b>A. Item</b></p> <p><b>pH METER</b></p> <p><b>B. Description</b></p> <p>A microprocessor-based pH meter with advanced easy-to-use features and developed for laboratory use.</p> <p><b>C. Essential Features Of Each Component</b></p> <ol style="list-style-type: none"> <li>1. The pH meter must have multi-parameter measurement; pH, mV (ORP) and temperature</li> <li>2. The pH meter must have a system to ensures reliable reading under fluctuating temperature conditions</li> <li>3. The pH meter must utilize self-diagnostic test program to help user to check the hardware and software using an interactive dialogue with instrument</li> <li>4. The pH meter must have automatic temperature compensation feature that allows the electrode signal to be correct the effect of temperature</li> <li>5. The pH meter must have automatic buffer recognition system which is user can perform a quick calibration test</li> </ol> <p><b>D. Technical Specifications Of Each Component</b></p> <ol style="list-style-type: none"> <li>1. pH Range : at least 0.00 to 14.00 with resolution 0.01 and relative accuracy <math>\pm 0.01</math></li> <li>2. mV Range : at least -1999 to 1999 with resolution 1 and relative accuracy <math>\pm 1</math></li> <li>3. Temperature range (<math>^{\circ}\text{C}</math>) : at least 0.0 to 100.0 with resolution 0.1 and relative accuracy <math>\pm 0.5</math></li> <li>4. The pH meter must utilize 3 calibration points with 2 calibration slope for alkaline range and acidic range</li> <li>5. The pH meter must utilize flexible electrode holder</li> </ol>	7

	<p>6. The pH meter must utilize LCD display with large display screen that able to show complete multi-parameters measurement and others information like calibration slope value, electrode condition bar, ATC mode, etc.</p> <p>7. The pH meter must have electrode condition indicator that able to display the condition of the electrode in pictogram</p> <p>8. The pH meter must utilize a special 3 in 1 electrode for measurement of pH, mV and temperature with xerolyt polymer electrolyte to eliminate contamination</p> <p><b>E. Essential Components &amp; Accessories</b></p> <ol style="list-style-type: none"> <li>1. pH 4 standard solution</li> <li>2. pH 7 standard solution</li> <li>3. pH 10 standard solution</li> </ol> <p><b>F. Other Requirements and Instruction</b></p> <ol style="list-style-type: none"> <li>1. Power requirement : 220-240 Volt, 50 Hertz.</li> <li>2. The equipment supplied must be a brand new with proper serial number to prove it and must not be a used or reconditioned instrument.</li> <li>3. The equipment should be fully installed and made fully functioning.</li> <li>4. Service and operating manual and <u>original</u> catalogue in English should be provided, at least 2 copies.</li> <li>5. The equipment supplied should be warranted against manufacturing defects for at least 12 months from date of commissioning.</li> <li>6. Free preventive maintenance service 1 x 6 monthly during the warranty period.</li> <li>7. The supplier has to give information regarding their servicing capabilities for the equipment quoted.</li> <li>8. On-site training must be provided for operation, maintenance and troubleshooting.</li> <li>9. If training cost is to be incurred, this should be indicated separately.</li> <li>10. Price quoted should be FOB/CIF Kubang Kerian, Kelantan</li> <li>11. Quotation that does not quote prices exclusive of tax will not be considered.</li> <li>12. All installation costs inclusive of electrical and builders' works must be borne by the supplier.</li> <li>13. Supplier shall deliver the equipment from door to door</li> </ol>	
<p>2.</p>	<p><b>STEREOSCOPIC ZOOM MICROSCOPE</b></p> <p><b><u>Description</u></b></p> <p>Microscope attached to digital CCD camera of at least 1.4 megapixels, supplied together with workstation and software.</p> <p><b><u>Essential Features</u></b></p> <ol style="list-style-type: none"> <li>1. The CCD camera should be colour camera and full field of view up to 30 frames per second.</li> <li>2. The CCD camera can support all standard light microscopy methods in Histology, Pathology and Cytology field.</li> </ol>	<p>1</p>

3. The CCD camera should have features such as :
  - a. High resolution
  - b. High frame rates
  - c. High sensitivity
  - d. Signal to noise ratio
  - e. Broad dynamic range
4. The camera must capture colour information accurately and provide faithful reproduction on the display and must be flat, sharp, clear and free from colour shift.
5. Microscope supplied should be with 4 objectives 4X, 10X, 40X and 100X with trinocular tube.
6. The lens of the microscope must have anti-fungus features to protect internal housing of the microscopes unit and the camera.
7. The microscope must come together with copy of the Standards International certification such as **ISO9001**, **ISO14001** or any equivalent certification.
8. The software supplied should have at least five main features which includes Graphical User Interface, Hardware Control, Live Optimisation, Multi-dimensional Image Handling and Manual Time Lapse.
9. The system should be supplied with workstation.

### **Technical Specifications**

1. Camera resolution of at least 1376 x 1032 pixels.
2. Effective area of at least 6.7 x 5.0 mm<sup>2</sup>.
3. Read-out Noise <10 e<sup>-</sup>
4. Connected using the FireWire™ (IEEE 1394) PC Interface or equivalent with **twain** driver.
5. Pixel size of at least 3.4 x 3.4 μm<sup>2</sup>.
6. Trinocular Observation Tube with C-mount 1X.
7. Quintuple nosepiece inward tilt with 4 UIS2 Plan Achromat objectives ;
  - a) PLN 4X
  - b) PLN 10X
  - c) PLN 40X, spring loaded
  - d) PLN100X, spring loaded, oil immersion.
8. Illumination of 6V 30W halogen with Built-in Koehler illuminator..
9. Wide Field Eyepiece 10X with at least 20mm Field Number.
10. Abbe condenser swing out with at least 0.9 Numerical Aperture
11. Ceramic surface Mechanical Stage with rotating mechanism and torque adjustment mechanism.
12. Double slide specimen holder.
13. Stage stroke at least 25 mm with coarse adjustment limit stopper.
14. Software should include features such as;

- Direct control of digital camera
- Intuitive User Interface
- Automated exposure control
- Basic measurement functions
- Automatic image calibration
- Multiple viewport
- Direct printing facility
- Digital live processing during image acquisition
- Manual acquisition of time lapse series
- Upgradeability

15. Workstation should at least come with the Intel Pentium Processor with the following features or better :

- 1GB NECC Dual Channel DDR2 SDRAM Memory
- 120GB SATA II Hard Disk Drive
- 19" Flat Panel LCD Display Monitor
- 16X DVD+/-RW with Dual Layer write capabilities
- Genuine Windows XP Home Edition or higher
- Genuine Anti virus software
- USB Quietkey keyboard
- USB Optical Mouse
- Intergrated Intel Graphics Display Accelerator
- Intergrated Fast Ethernet
- Microsoft Office with licence

#### **ESSENTIAL COMPONENTS & ACCESSORIES**

1. CCD Digital Colour Camera : 1 unit
2. Power cord : 3 unit
3. Microscope frame : 1 unit
4. C-mount adapter 1X : 1 unit
5. Immersion oil, 8 cc : 1 bottle
6. Dust cover : 1 unit
7. Halogen lamp, 6 V,30 watt : 1 unit
8. Workstation : 1 unit
9. FireWire cable : 1 unit
10. Imaging software complete with installation CD and manual : 1 set

#### **STANDARD REQUIREMENTS & INSTRUCTIONS**

1. Power requirement : 220-240 Volt, 50 Hertz.
2. The equipment supplied must be a brand new with proper serial number to prove it and must not be a used or reconditioned instrument.
3. The equipment should be fully installed and made fully functioning.
4. Service and operating manual and original catalogue in English should be provided, at least 2 copies.
5. The equipment supplied should be warranted against manufacturing defects for at least 12 months from date of commissioning.

	6. Free preventive maintenance service 1 x 6 monthly during the warranty period. 7. The supplier has to give information regarding their servicing capabilities for the equipment quoted. 8. On-site training must be provided for operation, maintenance and troubleshooting. 9. If training cost is to be incurred, this should be indicated separately. 10. Price quoted should be FOB/CIF Kubang Kerian, Kelantan 11. Quotation that does not quote prices exclusive of tax will not be considered. 12. All installation costs inclusive of electrical and builders' works must be borne by the supplier. 13 Supplier shall deliver the equipment from door to	
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1) Pembekal yang berminat diminta menghantar sebutharga bersama butir-butir berikut kepada :

**Ketua Penolong Pendaftar  
Bahagian Pentadbiran, Pusat Pengajian Sains Perubatan  
Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan**

2) Tempoh sah laku sebutharga : 90 Hari

3) Tempoh penyerahan :

4) Jenis/Buatan :

5) Salinan Sijil Pendaftaran dengan Kementerian Kewangan Malaysia

6) Pihak Universiti berhak menerima kesemua atau sebahagian dari sebutharga-sebutharga tersebut dan tidak terikat untuk menerima sebutharga yang termurah atau mana-mana sebutharga pun

Untuk sebarang pertanyaan sila hubungi : Pejabat Pentadbiran PPSP 09-7664007 / 09-7664124

**\* Ralat : Bagi item 'Stereoscopic Zoom Microscope' dibawah 'Essential Components & Accessories' , Microscope frame yang sebenarnya ialah 1 unit bukan 3 unit. Pihak kami ingin memohon ribuan maaf di atas kesulitan yang timbul**