JIWAJI UNIVERSITY,GWALIOR

TENDER NOTICE

Sealed tenders are invited for the purchase of a lyophilizer (Freeze dryer), Research microscope with photographic attachment, Ultrasonic homogenizer, Microprocessor industrial CCTV camera and image analysis software, Fish activity recorder, Manual DNA Sequencer with power supply, ERDAS imagine GIS software microprocessor controlled incubator, Tabletop high speed microcentrifuge.

Tender form along with specifications may be obtained from the office of the Dy Registrar (Development) by paying Rs 500/-for each item.

Tender opening date is August 31, 2009 at 3:00 PM at the office of the Finance Officer, Jiwaji University, Gwalior.

TECHNICAL SPECIFICATIONS OF LYOPHILIZER (FREEZE DRYER)

Freeze drying system should include following features and technical specifications:

- Compact and bench top unit
- Microprocessor control system with LCD digital data display for parameters such as condenser temperature and vacuum
- PC interface
- Minimum ice condenser capacity of 2 litre in 24 Hours
- Overall ice condenser capacity of 3 litre
- Condenser temperature -55°C
- In built condenser shelf pre freezing facility
- Provision for defrosting
- Provision for a manifold with 8 ports for attachment of flasks, vials and ampoules
- Provision for condenser chamber with 3 shelves
- High performance (at least 65 LPM) vacuum pump
- Oil change signal for system maintenance
- High performance refrigeration system with eco-friendly refrigerants with minimum of 2 year refrigeration warranty
- Auto restart and power safe function.

Technical Specification for Trinocular Phase contrast and Bright Field Research Microscope with Digital camera attachment

Should be Up-gradable to a Fluorescence Microscope

Microscope with AG treat – Touch-points/ anti-fungal treated to inhibit the growth of bacteria

Trinocular tube - 45º / 25º viewing angle, IPD adjustment 50mm - 75 mm , 360º rotation

Eye-piece 10x with eye guard

Objectives - Tampe proof Plan (Hi PLAN or PLAN ACHROMAT) spring-loaded Phase contrast objectives

Obj. HI PLAN 4x/0.10 -/ ,18/30

Objective PLAN 10x/0.25 PH1 -/, 12.1/10.5

Obj. PLAN 40x/0.65 PH2 0.17/, 0.36/0.56

Obj. PLAN 100x/1.25 Oil PH3 -/, 0.1/0.2

Mechanical stage - Mechanical stage with double plate flat top / alumite coated surface with stainless steel slide holder. Capacity to hold two slides at a time. Stage may be refocusing type.

Condenser -condenser with sex positions (0.90/1.25 Oil for BF , PH and DF with phase rings PH1/2/3, a closed position dia illumination)

Illumination – LED Illumination provides cool white light with a life time of over 20years of average use. 6000K temp, 25,000h life at full intensity. (6V, 30W halogen bulb or similar).

Facility of auto switch-off. An inbuilt neutral density (ND) filter.

Focussing – with coarse and fine focusing tension free

Day light filter, Immersion Oil , Dust cover , Bulb

Video viewing tube c-mount to connect digital camera

Digital Imaging System

Digital Camera

High resolution digital camera capable of handling bright field, fluorescence, DIC, Dark-field images, with 3-5M Pixel resolution.

Power full camera control including shading correction and optional predefined illumination settings Creates high quality images for use in power point presentation , lab reports, and course related material Images can be posted on website or internet for easy sharing. Camera should be detachable.

Software – Software for automatic calibration , point to point measurement , annotation, image assembly etc.

Software & camera , software should be from one manufacturer only

Hardware – Latest PIV computer 160 GB or higher HDD, 2GB RAM, DVD writer, 17” TFT monitor, Inkjet printer, Antivirus software, etc.

Microscope , camera and software is preferable from one company only

With 1 KVA online-UPS (30-60 min back-up) for microscope.

Minimal three years warranty with one year spare support.

Technical Specifications of Ultrasonic homogenizer:

The instrument that delivers up to 300 watts of ultrasonic disruption and includes an integrated Sound Abating Chamber to reduce cavitational sound emitted during processing.

The clear Plexiglas door for viewing of the sample while protecting the operator against accident

al splashing.

An access port for tubing for use with Cup Tips and the Continuous Flow Chamber.

The Timer and Pulser function to increase precision in sample processing.

The instrument should be preferred with Sona bath, Ultrasonic Generator with integrated Sound Enclosure, Transducer Assembly, Adjustable Height Sample Table, 0.500" (12.7mm) diameter Solid Titanium Tip and Pair of Tip Wrenches.

Specification for " Table Top High Speed Microcentrifuge".

1. Maximum speed (rpm): 15,000-20,000
2. Maximum RCF (G): 21,500 or more
3. Maximum capacity: 2ml.x 24 or 0.5 x 24ml. or above
4. Speed control range: 300 to 15,000 in increment of 100 rpm
5. Timer: 1 to 99 minutes/hold function for continuous operation
6. Acceleration/Deceleration time variable: 2 stage variable acceleration, 2 stage braked deceleration plus coasting deceleration.
7. Drive motor: Brushless DC motor
8. Memory based programmed operation: Speed/RCF, Time, ACCES, DECCS, Stop melody
9. Rotor stop signal: Selectable from 5 types of stop melodies, Beep and Mute.
10. Safety Device: Door interlock, Dual overspeed detector, imbalance detector, abnormal rotor temp.
11. Power requirements: AC 220-240 V, 50-60 Hz
12. Angle Rotor 2ml X 24 or more (Additional for the above equipment)

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Specification for “Laboratory incubator”

1. Microprocessor controlled
2. 3 programmes
3. Chip card system for individual programme
4. Rs 232 interface for printer OR PC communication
5. Delayed heating start and stop function
6. Automatic On/Off timer function (99.59 h.min)l
7. Programming temperature ramp
8. Digital safety thermostat
9. Volume: 55 litres
10. Working temperature: 5^{o} C above ambient upto 70^{o}C or above-with temp. variation ± 1^{o}C

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Specifications for “Fish Activity Recorder”

1. Fish activity tank made of 5mm thick transparent glass wall 3ft. X 1.5ft. X 2ft. Quantity 2 numbers
2. Water cleaning pump and sensor with power controller using 1KV isolated 230V 8A power switch with TTL level drive control board for direct control by the computer interface. Quantity 1 numbers
3. Air bubbler pump with pump power controller using 1KV isolated 230V 8A power switch with TTL level drive control board for direct control by the computer interface. Quantity 1 numbers
4. Thermister water temperature sensor and PID temperature controller with interface to computer for programming and control. Quantity 1 numbers
5. CFL based cool lighting source 40W CFL tube array assembly, tube power control circuit for 90V to 280V AC/DC operation, with power controller using 1KV isolated 230V 8A power switch with TTL level drive control board for direct control by the computer interface. Quantity 1 numbers
6. Ultraviolet CFL based cool lighting source 40W CFL tube array assembly, tube power control circuit for 90V to 280V AC/DC operation, with power controller using 1KV isolated 230V 8A power switch with TTL level drive control board for direct control by the computer interface. Quantity 1 numbers
7. pH sensor with Analog to digital converter for direct data measurement by computer with proper computer interface hardware PCB, Quantity 1 numbers
8. Water conductivity measurement with conductivity to frequency converter for direct data measurement by computer with proper computer interface hardware PCB. Quantity 1 numbers
9. Light illumination LUX photo sensor with light to frequency converter for direct data measurement by computer with proper computer interface hardware PCB. Quantity 1 numbers

10. Water visibility sensor with visibility to frequency converter for direct data measurement by computer with proper computer interface hardware PCB. Quantity 1 numbers

11. Computer controlled chemical mixer peristaltic pump. Quantity 1 numbers

12. Fish surfacing activity sensor array made of sensor for fish surface activity of breathing as event counter and with interface to computer for information capturing in real time. Quantity 1 numbers

13. Sensor array made of 16 photo sensor elements for sensing presence of fish in two zones: bright zone and dark zone with time information for fish activity sensed by the sensor in zones as event record information and with interface to computer for information capturing in real time. Quantity 1 numbers

14. Microprocessor based real time controller for all above sensors listed from 2-13 in 2U height 19" rack based embedded computer. Quantity 1 numbers

15. Isolated RS232 interface board and RS232 interface cable to PC. Quantity 1 numbers

16. Real time embedded software fish activity recording in real time, Quantity 1 numbers

17. 1000W AC Mains power inverter for supporting instruments with 4 hours power back up in case of power failure

Technical Specifications Manual DNA Sequencer with Power Supply

Specifications:

Gel casting system:

1. The system should be multifunctional, include top and base sections; with bonded inner glass plates outer set of glass plates, adjustable leveling feet; leveling indicator; sandwich clamps to be used while gel casting and running, buffer drain system.
2. Horizontal gel casting with syringe.
3. No need of gel clamps, clips or fans.
4. Gel size: The gel size range may be 38x50cm (WxH) or more with integrated plate chamber. Size should be adjustable as per requirement.
5. All the accessories, like 0.4mm thick spacer sets, pair of glass plates and extension with shark tooth combs of different teeth numbers ranging from 12 to 72 well or more (along with minimum two spares), etc.

Gel viewer:

1. The UV trans-illuminator system with uniform UV field (low and high wavelength ranges) and white light platform for both DNA/RNA and protein gels.
2. Dark box (preferred for UV protection).
3. Photographic attachment (digital CCD camera) for gel documentation connected with a PC and printer for image recording and software for routine analysis.
4. Viewing surface size should be in proportionate with the gel casting system of the manual sequencer.
5. Spare one set of lamps.

Power supply:

1. High voltage programmable power supply with wide output range of 20-5000V, should be able to operate four electrophoresis units simultaneously for identical runs and graphic LED display, suitable UPS (30-60 min back-up time)
2. Temperature control inbuilt (30-90^{o}C). With temperature probe.
3. Constant power supply, constant current, constant power or constant temperature options. Automatic power up after power failure.
4. Standard safety adaptor set with output jackets.
5. Inbuilt voltage overload protection, load change detection features.
6. Time control: 99h, 59min.
7. At least 4 recessed sets in parallel.

The system should have at least three years warranty with one year free spare

Specifications for "Microprocessor, CCTV Camera and Image Analysis Software".

1. High-speed and high-resolution CCD video camera frame rate 30 frames/s, pixel resolution 1024X1024, pixel image 24-bit color
2. High speed frame-grabber image-digitizer for above CCD video camera
3. Software for continuous video image frame recording and image analysis
4. CCD video camera mount and fixtures suitable for the existing Microscope
5. Power supply for the CCD video camera
6. Cable for linking video camera with frame grabber
7. Microprocessor AT89S52 controlled Microscope light source switching PWM power supply of 0-6V 0-2A programmable with LED display of

voltage and current, Microscope light brightness sensor photocell light intensity LED display and Microprocessor based brightness controller for constant brightness of the light source. Safety device need to be integrated in the power supply for protecting against over current and over voltage to the lamp to protect the lamp from sudden inrush current damage.

8. 500VA Uninterrupted sine wave noise free and isolated low leakage current very safe type power supply
9. One year free repair / replacement warrantee.

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