

PONDICHERRY UNIVERSITY
SCHOOL OF LIFE SCIENCES
DEPT.OF BIOCHEMISTRY & MOLECULAR BIOLOGY
(R.V.NAGAR, KALAPET, PUDUCHERRY – 605 014)
SCHEDULE OF TERMS & CONDITIONS

Sub: Supply of Major, Minor equipments, Computer peripherals, Server and Software for the Dept. Of Biochemistry & Molecular Biology -Reg.

Schedule of Requirements

Sealed tenders are invited under **two bid systems** for Major Scientific Equipments as per the technical details and specifications given below: -

Specifications & Allied Technical Details

I.MAJOR EQUIPMENTS (Imported) Under DST-FIST GRANT

Item-1: Motorized Inverted Fluorescence Microscope -1 No.

Description	Specifications
General	Inverted fluorescence microscope with fast research grade high resolution CCD camera and image analysis system
Optical System	Epi-fluorescence inverted incident light excitation, Phase contrast illumination, Bright field transmitted, light, diasporic tungsten-halogen and high pressure mercury arc lamps,
Epi-fluorescence attachment	With filter cassette and Mercury lamp, Lamphouse for 100W, Collector lens, Mercury Lamp socket for 100W, Starter unit for 100W, Lamp centering tool, Mercury Lamp 100W and Power cord
Observation Tube	Binocular type
Objectives:	WDPlan Achromat 4x/0.1, Plan A Chromat Phase 10x/0.25 and 20x /0.45 and 40x/0.6
Eye piece	Widefield 10x focusable with diopter adjustment, 10x with cross line, focusable with diopter, 12.5x focusable with diopter and 15x focusable with diopter adjustments.
Reticles	Cross line reticle 023 mm with micrometer scale (100 div in 10mm)
Nose piece	Quintuple reversed with splash protection
Coarse/fine focusing	coaxially positioned control knobs, coarse 42mm rotation, fine0.2mm/rotation, Min increment 2 um, Coarse motion torque adjustable
Stage	Plain stage 200 x 260mm, hard coated surface; Mechanical Stage for viewing specimens on Tissue culture plate/flask and microscopic slide
Substage illumination:	Plain stage 200 x 260 mm, hard coated surface, 6V/30W Quartz halogen lamp in centerable housing and integrated diffuser
Condenser:	Focusable ELWD NA 0.30/72 mm and/or LWD NA 050/28 mm, and Phase Slider
Phase Contrast	Phase slider with centerable PH1,BF ,PH3, for LWD and ELWD condensers.

Fluorescence Attachments	Fluorescence mirror unit cassette (6 position) with shutter and shockless mechanism, including color beads for indication (Blue (6 pcs), Red (6 pcs) and Green (6 pcs)) Fluorescence illuminator (340nm applicable) with filter slider (32mm dia.), including UV light protection plate Lamp house for 100W mercury with bulb
Filter Cubes	wide band Blue, wide band Green, wide band Red, wide band UV (330-380) and empty filter, with their respective exciter, emitter and dichroic; Neutral density filter
Software	Image pro plus software Version 7.0
Essential Accessories (at no extra cost)	3KVA Suitable UPS and stabilizer with one hour backup and 3 year warranty Should provide dust cover and stage extension Plate Burner Mercury-HBO 100W/2-2 numbers All necessary consumables for initial installation and standardization All spare parts should be available with the supplier or principals for period of 10years
Power requirements	Power input to be 220-240 VAC,50 Hz fitted with Indian type plug pin.
Conditions for operation	The unit should be capable of being located and operated in an ambient temperature of 0-50°C and relative humidity 15-90%.

Instrument to have C-mount video adapters, CCD camera (for IR capture) having 5 megapixels with image resolution 2580x1944, progressive scan mode, Automatic/manual shutter, with auto exposure, white balance features, transfer speed:10MHz 10bit, pixelsize:3.4um x 3.4um.

Item-2: Ultra Low Temperature Freezer (Vertical Type) -80°C - 1 No.

Description	Specifications
General	Microprocessor controlled ultra low tem. Freezer (Vertical type) Programmable temp Range upto-86°C in increment of 1°C Pull down time: 4.1 Hrs Two pass-through access ports Heated air vent to prevent vacuum formation Non-Volatile memory and auto re-start Battery backup 4-Digit password protection for temp and alarm set points Lockable security plates
Electronics	System monitoring and reporting technology software built-in for fault diagnosis or set point variance
Power	525 watts/12.60Kwh per day
Insulation	Polyurethane foam insulation, CFC free
Compartments	Five compartments with four adjustable height SS shelves

Capacity	410litre, Internal dimension 126.5x55x57.5 (H x W x D cm)
Dimensions	Should have optional facility for CO ₂ and LN ₂ back up system
Alarm	The freezer should be audible, visual alarm feature for indication of high and low temperature conditions, power failure, low battery and also automatic restart with non-volatile memory, set point return to user programmed levels after power interrupt.
Oil	It should be CFC free and biodegradable compressor oil.
Certification	The freezer should be CE and UI certified.
Essential Accessories (at no extra cost)	Suitable UPS and stabilizer with one hour backup and 3 year warranty All spare parts should be available with the supplier or principals for period of 10years
Power requirements	Power input to be 220-240 VAC,50 Hz fitted with Indian type plug pin.
Conditions for operation	The unit should be capable of being located and operated in an ambient temperature of 0-50°C and relative humidity 15-90%.

Item-3: Automated X-Ray Film Processor - 1 No.

Description	Specifications
General	A Brand (ISO 9001-2000 certified) Automatic film processor Table top model, Automatic anti oxidation and anti crystallization cycles, manual chemical pumping option, built in display brightness control, flame retardant engineering plastics, auto shut of when lid is open, visual warning over hot surfaces, microprocessor controlled switching, thermostat controlled heating, fuse protected circuitry, bath capacity 5L Advanced digital control (ADC) model having additional features like, Temperature display, membrane keypad interface, Variable dryer temperature and variable replenishment rate.
Essential accessories (at no extra cost)	Suitable UPS and stabilizer with 1 hour back up All necessary reagents/consumables for initial installation and standardization All spare parts should be available with the supplier or principals for a period of 5 years
Warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	Unit should be capable of being located an ambient temperature of 0-50°C and relative humidity 15-90%, operational at ambient temperature of 10-40°C and relative humidity of 15-90%.humidity of 15-90%.

II. MINOR EQUIPMENT ([Indigeneous])

Item-4: Thermal Cycler - 1No

Description	Specifications
General	Thermocycler, 6 powerful peltier elements with long life technology and 6 control circuits with PT 1000 thermal probes 96 well universal block and heated lid with automatic height adjustment for 96x0.2ml, 96 well PCR plates or 48x0.5 ml tubes having flat caps.

Sample capacity	<p>(0.2 ml)/(24) or Sample capacity (0.5 ml)/(18), (0.2ml)/(96) User interchangeable block (tool required) (yes) Ramping speed : max heating 3-6°C/sec, max cooling 4.5°C/sec Block Uniformity (at 72°C): ± 0.25°C Tem. Range of thermo block:4 to 100°C Heatable lid to105°C Regulating accuracy/ Uniformity:5°C/ ± 0.5°C cat 55°C Adjustable ramping: 0.1 to 2.0°C/Sec Programmable lid locking Max. Number of segments: 9 Max. number of cycles: 99 Touch sensitive TFI (16 color) display, control via USB mouse</p> <p>Internal memory for 1000 typical PCR Protocols/16 MB PC software for convenient creation of PCR Programs. Password protected user accounts with flexible access online help Calculator for melting temp. and elongation time. Quick start function for the last program executed. Auto restart after power failure. Instant incubation mode. LAN networking possible. GLP repots 4X USB, 1x Ethernet parts (MS windows).</p>
Essential accessories (at no extra cost)	<p>Suitable UPS and stabilizer with 1 hour back up All necessary reagents/consumables for initial installation and standardization All spare parts should be available with the supplier or principals for a period of 5 years</p>
Warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	Unit should be capable of being located an ambient temperature of 0-50°C and relative humidity 15-90%, operational at ambient temperature of 10-40°C and relative humidity of 15-90%.humidity of 15-90%.

Item-5: Refrigerated Table Top Centrifuge - 2 Nos.

Description	Specification
General	<p>High speed refrigerated centrifuge Max speed 20000 rpm, Max g value: 25,000 Max. Cap.400ml Max. tube size:100ml Have rotor identifying sensor which makes automatic identification of the rotor when installed to the shaft. Microprocessor controlled system, speed time, temp, Acceleration and deceleration memory Drive system maintenance free, high torque brushless direct drive motor Equipped with alarm and automatic stopping function Abundant time settings required from starting to the hold range. CFC free refrigerant</p>
Rotor types	<p>Swing out 4x 25 ml (capacity) Angular: 4x100 ml; 6x50 ml; 8x25ml; 24x 1.5 ml (capacity)</p>

Stabilizer	Suitable Stabilizer
Instrument warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	Unit should be capable of being located at ambient temperature of 0-50°C and relative humidity 15-90%, operational at ambient temperature of 10-40°C and relative humidity of 15-90%. All spare parts should be available with the supplier or principals for a period of 5years

Item-6: Clinical Centrifuge - 4 Nos.

Description	Specifications
	Laboratory centrifuge for use in routine work in medical and industrial laboratory
General	Centrifuge with 0 to60 min digital timer with step less speed controller. Safety lid lock to prevent rotor cover from opening during instrument run. Centrifuge body constructed of mild steel with high quality power coated finish. Max. speed: 4500 rpm Max. RCF: 2350g
Warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug.
Conditions for operation	Unit should be capable of being located at ambient temperature of 0-50°C and relative humidity 15-90%, operational at ambient temperature of 10-40°C and relative humidity of 15-90%. All spare parts should be available with the supplier or principals for a period of 5 years

Item-7: Deep Freezer (-20°C) - 2 Nos.

Description	Specifications
General	Vertical type Double walled, stainless steel All necessary cooling with voltage stabilizer Volume:280 L
Stabilizer	3kVA auto voltage stabilizer
Warranty	3 years
Essential accessories (at no extra cost)	Suitable Stabilizer All spare parts should be available with supplier or principals for a period of 5 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug .
Conditions for operation	Unit should be capable of being located at ambient temperature of 0-50°C and relative humidity 15-90%, operational at ambient temperature of 10-40°C and relative humidity of 15-90%.

Item-8: Digital Balance - 1 No.

Description	Specifications

General	Digital balance: Analytical Capacity: 200gms Accuracy: 0.00001 gm (0.01mg) Response time: 3 sec
Operating ambient temp	5 to 40°C ambient
warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	The unit should be capable of being located at ambient temperature of 5-40°C and relative humidity 15-90%, Operational at ambient temperature of 10-40°C and relative humidity 15-90%. All spare parts should be available with the supplier or principals for a period of 5 years

Item-9: Autoclave - 2 Nos.

Description	Specifications
General	External Dimension (W x D x H)mm: 440x550x1,050 mm Power consumption: 1.5 KW-2KW Chamber Dimension (W x D x H)mm: 300 x 670mm Chamber material: stainless steel Sterilization temperature: 105°C-126°C Temperature gauge range digital display: 80°C-141°C (176°-286°F) Safety value Pressure Gauge range: 0-0.3Mpa/0.45 psi Timer setting range: 1-180 min Exhaust tank 3L polythene tank Safety devices fused, pressure safety value, anti dry scorch thermo limiter Door switch. Handle switch, current fuse
Warranty	3 years
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	Unit should be capable of being located at ambient temperature of 0-50°C and relative humidity of 15-90%, Operational at ambient temperature of 10-40°C and relative humidity of 15-90%. All spare parts should be available with the supplier or principals for a period of 5years

Item-10: Spectrophotometer - 1 No.

Description	Specification
General	Range: 199nm-800nm Spectral Bandwidth : 1nm Accuracy: + 0.5 nm Readability: + 0.1nm Repeatability: + 0.2 nm Quartz cuvette: 1 cm path length, 1ml volume Light source 50 W Halogen lamp and D ² lamp

	Photometric Repeatability 0.001Abs (0-0.5 Abs) \pm 0.1% T
Warranty	3 years
Essential accessories (at no extra cost) Cuvettes	Suitable UPS and stabilizer with 1 hour back up All necessary reagents/consumables for initial installation and standardization All spare parts should be available with the supplier or principals for a period of 5 years The system must include one pair of 3.0ml, 1.0ml and Capillary, quartz and silica cuvettes. Micro sample holder The ability to correct for blanks in real time is essential.
Power requirements	Power input to be 220-240 VAC, 50 Hz fitted with Indian type plug
Conditions for operation	The unit should be capable of being located ambient temperature of 0-50°C and relative humidity of 15-90%, Operational at ambient temperature of 10-40°C and relative humidity of 15-90%. Self – Test during instrument start up is desirable.

Item-11: MICRO PIPETTE (10 sets) (Make: Eppendorf/Pipetteman/ Fisherbrand only)

Description	Specification
General	Adjustable volume Pipettes , Autoclavable, Single-channel, 4-digit display
One set.	<ol style="list-style-type: none"> 1. 0.5-10 micro L (sub division (0.01) 2. 10-100 micro L (sub division (0.1) 3. 20-200 micro L (sub division (0.2) 4. 100-1000 micro L (sub division (1.0)

Tenders are invited for the following Computer peripherals, Server and Software.

1. High performance Server: - 1 No.

S.No	Component	Quantity	Specification	Desired Attrib.
1	Processor	2	Intel (R), Xenon (R) E5503 (2.0 GHz/ 75W or better) 3MB L2, 6MB L3 for server processor	HE is preferred
2	Memory	1	16GB DDR2 or 12GB DDR3 with advanced ECC	4x4GB or 3x4GB
3	HDD	2	500GB (10K RPM) SAS Disk drive with all storage controllers	Mirroring is required
4	NIC	2	Gigabit Ethernet Card with a max of 1Gbps	Add on card
5	Mother Board	1	n-Vidia chipset or equivalent, with minimum 16 DMIM slots (8 per processor) and Support for SAS drives and all other controllers	
6	Graphics	1	Any compatible card with 512MB dedicated memory	

7	Monitor	1	17" Wide, Flat TFT monitor	USB port support
8	Optical drive	1	DVD +/- RW Dual layer with write capabilities of 16X (internal, ATAPI)	
9	OS support		Must have compatible drivers for 32-bit LINUX and XP/WINDOWS 7	Scientific Linux preinstalled
10	Other	1 each	Cabinet (if assembled), Keyboard, Optical Mouse	

2. Personal computers: - 10 Nos.

S.No	Component	Quantity	Specification	Desired Attrib.
1	Processor	1	Intel Dual core/ equivalent processor (2.5 GHz/ 75W) 8MB cache for individual PC	Low power consumption preferred
2	Memory	1	4GB DDR3	2x2GB
3	HDD	1	500GB (10K RPM) SAS Disk drive with all storage controllers	
4	NIC	1	Gigabit Ethernet Card with a max of 1GBps	Built-in
5	Mother Board	1	Intel/ equivalent as per the requisite of the rest of components (necessary slots, ports, controllers included)	
6	Graphics	1	Any compatible card with 512MB dedicated memory	
7	Monitor	1	15.6" Wide, Flat TFT monitor	USB port support preferred
8	Optical drive	1	DVD +/- RW with write capabilities of 8X (Internal, ATAPI)	
9	OS support		Must have compatible drivers for 32-bit LINUX and XP/WINDOWS 7	Windows 7-Home basic preinstalled
10	Software	1	Microsoft office 2010 Home and Student edition – genuine	Media and Key is required and preinstalled
11	Other	1each	Cabinet (if assembled), Keyboard, Mouse	Should be equipped with USB ports

Specifications quoted above are for a single PC.

3. UPS – 15 KVA unit with minimum 1.5hrs (12V, 65AH X 10 Nos) backup is required. – 1No.

4. Printer - 1 No.

- Print Speed - 16ppm Mono
- Print Resolution - 600 x 600dpi
- Max Paper Size - A3
- ADF - Option
- Paper Capacity - 250 sheets (Drawer)
- Bypass - 100 sheets

- Memory - 16MB (Expandable to 80 MB)
- Warm-up Time - Approx. 25 seconds
- Interface - USB
- Included - 72k developer, 5k toner
- 3 year quality commitment guarantee
- Free setup and delivery
- Free connectivity support

5. Networking

Cable, jacks, ports cable managers everything should be included for a set of one server, 8 PCs and one printer in the quotation

Instructions :

1. The purchase of PCs as per planned is 8 nos and number will be decided based on the price. The quotations are requested for a total no. of 8 PCs and 1 server.
2. The Items requested for, can be of company make/ assembled. All other left out parts if necessary should be included in the quote.
3. Softwares requested for, should be of genuine and should be provided along with the media.
4. Warranty – Comprehensive 3 year on-site warranty for hardware and free spare parts replacement.
5. The system prices should include labour for Networking.
6. Quoted prices should include freight, transit insurance, packing, installation and any other delivery charges.
7. Delivery should be made within 4 weeks from the date of receipt of the purchase order.