

दौलत राम महाविद्यालय
(दिल्ली विश्वविद्यालय)

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A Star Status by G.O.I & NAAC Accredited 'A' Grade College

Reference number

September 16, 2018

Quotations are invited for following instruments in a sealed envelope on or before 5th November 2018 at Daulat Ram College, University of Delhi. Established companies and brands will have advantage over local manufacturers. Following instruments will be purchased for carrying out research work in the SERB funded project. Vendors can provide the Institutions where their instruments are currently being used.

Suppliers please note we would be providing certificate for concessional 5% GST rate, as these instruments will be used for research purpose only. In case of query please email:

amarjyoti@dr.du.ac.in. Specification of the required instruments are mentioned below:

A. Instrument list:

1	Humidity chamber.
2	Inverted Fluorescence Microscope
3	Automated cell counting system
4	CO ₂ incubator with CO ₂ cylinders.
5	Liquid Nitrogen tank (45-50 liters)
6	Micropipettes (8 Nos.)

B. Sealed quotations can be submitted by hand or courier.

Dr. Amar Jyoti,
Assistant Professor of Zoology.
Neuropharmacology and drug delivery laboratory,
University of Delhi, Delhi-7.

AP Jyoti
16/9/2018
Principal Investigator

for experiments for SERB Grant.

Dr. AMAR JYOTI
Assistant Professor

Project: DST-SERB: ECR/2016/001897

File no:.....
Neuropharmacology & Drug Delivery
Department of Zoology, Daulat R.
University of Delhi, Delhi

Sanjay R
Principal

Daulat Ram College

1. Product specification for Humidity Chamber:

Int. Volume 280 Ltr

Int. Dimension 660 x 655 x 650 mm (w x d x h)

Ext. Dimension 800 x 1095 x 1220 mm (w x d x h)

Power Failure Alarm Visual Alarm

Door Open Alarm Audio Visual Alarm in case door open for over one min.

Temp. / Humidity control Set humidity $\pm 3\%$, set temp. $\pm 1^\circ\text{C}$, Audio visual alarm illumination 8 watts Fluorescent tube

- * Hermetically sealed Compressor with CFC free refrigerant
- * Chamber calibration port on side
- * Adjustable trays
- * Output for remote alarm
- * Microprocessor controller with LCD display & capacitance type sensor
- * 4" attractive LCD display for direct display of humidity & temperature
- * Auto tuning of controller
- * Settable High / low alarm points with date and time
- * Centronic interface to record Temperature, Humidity, Date & Time by attaching Dot Matrix printer with Adjustable print interval
- * Power failure and resumption recorded with date and time
- * PC communication through RS-485 with data acquisition software
- * Overload cut off relay for compressor
- * Rounded inner chamber for easy cleaning
- * Temperature range 10°C to 60°C , Humidity range 40% to 95% RH
- * Intelligent Controller helps maintain temperature in case of sensor failure
- * Battery Backup for Temperature Controller
- * Auto tuning of controller
- * Self-Diagnosis for errors
- * Histogram format of 24 hours temperature recording
- * Power failure and resumption recorded with date and time
- * Settable High / low alarm points
- * Memory for storage of upto 1000 records
- * Centronic interface to record Temperature, Date, & Time by attaching Dot Matrix printer with adjustable print interval
- * Alarm on equipment / output for remote alarm
- * PC communication through RS-485 with data acquisition software.

Extended warranty on the equipment will be an advantage.

2) Inverted fluorescence Microscope with Image analysis system:

SPECIFICATION FOR INVERTED RESEARCH MICROSCOPE FOR BRIGHT FIELD, PHASE CONTRAST, FLUORESCENCE

APPLICATION WITH IMAGE ANALYSIS SYSTEM.

Microscope Body: Compact body with infinity corrected Optical System & 45° inclined Observation tube, attachable

camera port with light distribution Eyepiece/Camera 100/0: 0/100. The system should be with BF, Phase Contrast

DIC microscopy option for observation.

Illumination: White LED Illumination with more than 40,000 hrs. Working life) with Eco illumination or equivalent Technology to provide uniform brightness to entire FOV.

Condenser: Universal condenser with N.A. 0.3, W. D. 75mm or better for suitable for BF/PH/DIC Microscopy application.

Eyepieces: 10X with F.O.V 22 or better and diopter adjustment facility on both eyes.

Nosepiece: Sextuple DIC nosepiece or better.

Stage: XY Rectangular mechanical stage with Universal sample Holder.

Objectives: Long working distance Objectives suitable for Bright field/Phase Contrast & fluorescence

Application.

☐ Achromat Phase 10x, NA 0.25, W.D. 6.20mm; Ph1

☐ Plan Fluor ELWD 20X, NA 0.45, W.D. 8.2- 6.9 Ph1

☐ Plan Fluor ELWD 40X, NA 0.60, W.D. 3.6-2.8mm with cover glass correction.

Fluo. Access. LED fluorescence attachments with LED light Source with at least 3 LED modules producing the

following wavelengths: 385, 470, 525/530 nm wavelengths that will be compatible with DAPI/ FITC/ TRITC staining along with fluorescence filter turret & filter cube with Noise terminator mechanism.

Camera: Digital color camera capable of handling Bright Field, Dark Field, Phase Contrast & Fluorescence images with 1/1.8" CMOS chip, 5.0 million pixel or more resolution, Quantum efficiency 60% or more. Live display mode, 12.0 frames/sec. at full resolution, max 29 frame per /sec. at ROI mode; binning modes 2x2, 4x4, USB3.0 port for attaching camera to desktop/ through single wire.

Software: Image Analysis Software with following features:

- Image Acquisition, Analysis & Multi-Channel Merging,
- Time Lapse Imaging,
- Z-Stack, Annotation,
- Manual Measurement, counting,
- ND Viewer, Large Image, Macro,
- Report Generator facility,
- Vector layer & Multi-Dimensional File Format.

NOTE: MICROSCOPE, CAMERA & SOFTWARE SHOULD BE FROM SAME MANUFACTURER FOR BETTER

COMPATIBILITY & UPGRADATION.

3) Automated Cell counting system with Image analysis software:

SPECIFICATION FOR CELL COUNTING SYSTEM WITH IMAGE ANALYSIS SOFTWARE

Optical System: Infinity corrected Optical system.

Eyepiece Tube: Trinocular Tube with 30° inclination or better with 360° rotatable

Interpupillary Distance :47-75mm,

Eyepiece: 10X paired eyepiece with 20mm F.O.V. with Dioptre adjustment

Facility on Both Eyes

Illumination: Uniform LED illuminator with more than 50,000hrs with document support for working life of LED illumination.

Nosepiece: Inward Quadruple nosepiece to accommodate 4 objectives at a time

Stage: Rectangular Refocusing Stage with double slide holder.

Condenser: ABBE Condenser, N. A. 1.25

Objectives: Following Objectives suitable for Bright Field microscopy application.

- Plan Achromat 4x N.A. 0.10 W.D. 30.00mm
- Plan Achromat 10x N.A. 0.25 W.D. 10.50mm
- Plan Achromat 40x N.A. 0.65 W.D. 0.56mm
- Plan Achromat 100x oil N.A. 1.25 W.D. 0.20mm Oil

Camera : Digital Color Camera with 1/1.8" CMOS CHIP, 6.0 Million Pixel or

More Resolution, Live Display mode 5 Frames /Sec at Full

Resolution, Max 22 Frames /Sec. at ROI Mode ; Binning Modes 2X2,

USB3.0 port for Data transfer to Desktop, Image Analysis Software

For Image acquisition & analysis.

- VENDOR SHOULD ENCLOSE ISO/CE CONFORMITY CERTIFICATION OF QUOTED MICROSCOPE.
- VENDOR SHOULD ENCLOSE SATISFACTORY INSTALLATION LIST OF QUOTED MICROSCOPE SUPPLIED IN
- PREMIER REFERENCE RESEARCH INSTITUTE.

NOTE:-

DATA ANALYSIS SYSTEM IS REQUIRED FOR PROPOER FUNCTIONING OF IMAGE ANALYSIS SYSTEM.

COMPUTER: BRANDED COMPUTER WITH I-5 PROCESSOR, 4 GB RAM, 500GB HDD, KEYBOARD, OPTICAL MOUSE, DVD

WRITER, 19" TFT COLOR MONITOR, MULTIMEDIA KIT, USB3.0 PORT & CABLE ALONG WITH UPS.

4. Specifications for CO₂ INCUBATOR

(With one CO₂ gas cylinder and 2 stage Regulator)

TECHNICAL SPECIFICATIONS:

230 V/50-60 Hz, CO₂ Incubator, 170 liter 6.0 cu.ft. Capacity

FEATURES:

- Fan-less, six-sided direct heating with seamless chamber
- Unique IR sensor for CO₂ measurement
- Sealed inner Glass door for atmosphere conservation
- RS-232 Communication port with 25mm access port Stackable up to 2 units high
- Large volume humidification pan with dedicated independent heater
- HEPA filtration of gas supply inlets to minimize contamination risk
- 4 position shelving rack with 4 shelves

High temperature disinfection:

- 120 Deg C 4 hour cycle
- Co₂ sensor remains in the chamber
- Ensures a clean and disinfected environment for cell culture

Technical specifications:

- Temperature Management:
Range: 4° C above ambient to 50° C, Control: ± 0.1 ° C
Stability ± 0.1 ° C, uniformity less than or equal to 0.4 ° C
- CO₂ gas management
Range: 0.2 to 20%, control ± 0.1 %
Stability ± 0.2 %, uniformity ± 0.1 %
Recovery: (90% set point) 0.7% / minute,
Connections: 6mm tubing, gas service pressure 0.35bar/ 5 PSI

Humidity:

- Reservoir: removable SS pan, volume, 2.5lts, RH (37 ° C) up to 95%

Dimensions:

- Chamber: 540 X 451 X 693 mm
External: 685 X 677 X 848 mm
Electrical: 220 - 240 volts, 50/60 Hz.
Power: 500 W, power with high temperature 1000 W
Consumption to 37 deg C; < 0.08 KWH
Weight: Net. 90 kg

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5. Liquid Nitrogen Tank

NAME	DIMENSION
CAPACITY (Ltr.)	47
EMPTY WEIGHT (KG)	15
NECK SIZE (mm)	127
OUTER DIAMETER (mm)	461
Height (mm)	754
Static Evaporation (Loss rate)(L/day)	0.45
STATIC HOLDING TIME (DAY)	105
FOR RACKS AND VIAL BOXES	
NO OF RACKS (ea)	7
Measurement of racks (mm)	82x84
Measurement of boxex (mm)	76x76
No of layers per rack (ea)	6
No of vials (ea)	1050
FOR 25ML SINGLE	
NO OF RACKS (ea)	18
NO OF LAYERS PER RACK (ea)	3
No of blood bags (ea)	54
FOR 25ML MULTI	
NO OF RACKS (ea)	7
NO OF LAYERS PER RACK (ea)	3
NO OF BOXES PER LAYER (ea)	4
No of blood bags (ea)	84
Lockable Lid (OPTIONAL) ea	YES
Intelligent Monitor is optional (ea)	YES

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6. MICROPIPETTES (8 Nos.)

RANGE:

- 1) 1-10 μl
- 2) 2-100 μl
- 3) 20-200 μl
- 4) 100-1000 μl

Technical Specifications:

1. Pipettes should be autoclavable.
2. From good international brand.
3. Lightweight.
4. Variable volume and single channelled.
5. Secure volume lock.
6. Should be compatible with universal tips.

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