

**UNIVERSITY OF CALCUTTA**



**INSTITUTE OF RADIO PHYSICS AND ELECTRONICS**

**Project: "Development of III-Nitride white and ultra violet light emitting diode technology for green energy and societal impact" Funded by the Office of the Principal Scientific Advisor, Govt. of India**  
**PI: Anirban Bhattacharyya**

**NOTICE INVITING TENDER**

**NIT NUMBER: EQ/ABh/44/18-19**

**DATE: 15/03/2019**

**Tenders Are Invited From Bona Fide Vendors**  
**For The Following Item:**

**BIOSAFETY CABINET (Quantity ONE)**

Tender specification for Bio Safety Cabinet;  
Classification Type II (B2), 100 Exhausted, with virus burnout

- Cabinet made from M. S/S.S. 304/316
- Work table Stainless steel 304/316
- Size: 4 Feet
- Pre-Filter Assemblage
- Sealed white light UV- light
- HEPA filter
- Gascock , Magnehelic Guage,
- UV Usage Meter for Monitoring
- Noise Level: 65+/-5 db or better
- Vertical Sliding Front Door
- Extra power outlet switch
- PVC 8" dia ducting as per the site

Air flow: - Designed for 0.45m/s to 0.65 m/s (or better) when measure across the entire filters space during the rated life cycle of filters.

Pre-Filter: - treated with anti-fungal and bactericidal reagents to inhibit growth of microorganisms, fire retardant and water repellence, Efficiency 40 – 60% for Pre-Filters and 60- 90% for intermediate Filters.

HEPA Filters: - Efficiency rating 99.97 % down to 0.3 microns  
Cleanliness Level: - Class M 3.5 (US FED 209E) or corresponding

Illumination: - 100 watts per sq-M of work area.

Impellers:- High performance noise abated statically and dynamically balanced.

Blower Motor: -

- Blower assembly statically and dynamically balanced
- Sized to provide adequate airflow volume over the full life cycle of the HEPA filters.
- Special bearings and suspension mounting to ensure low vibration and noise level.

Power supply: 230 v AC, 50Hz,

**The quotation should include delivery and Installation charges at Institute of Radio Physics and electronics, University of Calcutta, 92 A.P.C. Road, Kolkata-700009, and all other additional charges and applicable taxes.**

**All bids should be complete in all respects. The Vendor must provide documents for GST, PAN, Trade License, Bank Details etc.**

**Last Date for Tender Submission: 28/03/2019**

**For submission of tender and any queries, please contact**

**Dr Anirban Bhattacharyya  
Room 107  
Sisir Mitra Bhavan  
Email: [anirban.rpe@caluniv.ac.in](mailto:anirban.rpe@caluniv.ac.in)**



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**NIT NUMBER: EQ/ABh/45/18-19**

**DATE: 15/03/2019**

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**For The Following Item**

**STEREOZOOM MICROSCOPE WITH TABLE CLAMPED ARTICULATED**  
**SUSPENSION ARM AND CAMERA ATTACHMENT FOR WAFER**  
**TESTING**

**The system should have following features:**

- The magnification range should be 16x – 100x
- 45° Trinocular Head for camera attachment with IPD adjustment 57-75mm
- Zoom Ratio at least 6.3:1
- Objective 1x
- Eyepiece SWF20x/12mm [paired]
- Working distance: At least 115mm or higher
- High stability table mount articulated suspension arm for flexible use of microscope head
- Column height at least 400mm with  $\Phi$ 38mm, Column for focus Arm :  $\Phi$ 30mm
- Focusing arm or drive house for holding viewing head with stand
- External cold light with single guide, minimum length 500mm Rigid Flexional Tube
- 110V/220V power, Tungsten Halogen Lamp with reflector 20V/150W
- Brightness adjustable, Multi-coated IR Cut-off Filter for Heat Insulation and fan cool facility
- LED Ring light for incident illuminator with four zone separate lighting control features.
- White LED colour [not less than 72 LED] Lifetime: 100,000 hrs

- Camera: 1/2 inch 2.0MP CMOS Camera, Image Sensor (4:3)
  - Active pixels: 1600×1200, Pixel size: 4.2µm×4.2µm
  - Image Format Frame rate: 12fps@1600x1200
  - Image capture software
- The zoom head, Stand, Drive house, Camera and Software should be provided from the same manufacturer for seamless integration and operation of the system, camera and software
- Warranty: 1 year

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### NOTICE INVITING TENDER

NIT NUMBER: EQ/ABh/46/18-19

DATE: 15/03/2019

Tenders Are Invited From Bona Fide Vendors

For The Following Item:

### FUME HOOD (Quantity ONE)

<b>Type</b>	Standard Floor Mounting table Type.
<b>Approx. size.</b>	1500 mm (W) x 900 (D) x 1750 mm ( H)
<b>Air Volume (Suction )</b>	2000 AM <sup>3</sup> / Hr or better
<b>Face Velocity</b>	0.50 m/Sec. at 300 mm sash ht. open or better
<b>Type of Exhaust Fan</b>	Centrifugal
<b>Motor Rating</b>	2 HP/3P/440 V. A.C. & DC motor with Variac Control
<b>Motor Make</b>	Kirloskar/Crompton/NEC/Eq
<b>Cabinet</b>	M.S. sturdy structure, Epoxy 0.33 MICRON coated paint for corrosion resistance. Side and back Transparent PP Sheet. 6 mm.
<b>Work table</b>	ACID PROOF GRANITE TOP 6mm thickness
<b>Sash/Shutter</b>	Single. Vertical Slide type. 5 MM Toughed Glass.
<b>Blower MOC</b>	MS with FRP lining
<b>Impeller type &amp; Balancing</b>	MS with FRP lining. Dynamically balanced.
<b>Fume treatment system</b>	See Note (*)
<b>Mist eliminator section</b>	PVC. In-build.
<b>Floor Space reqd.</b>	1200 x1200 x 2500 (H)
<b>Inter Connecting duct &amp; bends</b>	PVC/FRP
<b>Exhaust</b>	To atmosphere through duct
<b>Electrical Arrangements</b>	2 Nos. 15/5 amps 3 pin socket cum control switch. 1 No. Push Button Starter for blower; 1 No. Illumination Switch. 1 No. Indicating Lamp. & 1 no.switch for

	Scrubber Pump (future extension)
<b>Illumination</b>	By Tube Light. 1 operating /1 Std. by
<b>Sink &amp; Tap</b>	Polypropylene chemical resistance sink (2nos) Single way swan neck tap(2 nos) and N2 Gas connection (2 nos).
	N.B: (*) THE PROVISION FOR FUTURE SCRUBBER INSTALLATION SHOULD BE TAKEN INTO CONSIDERATION WHILE MANUFACTURING THE FUME HOOD, WHICH SHALL BE MADE AND INSTALLED BY THE SAME MANUFACTURER AT A LATER STAGE.

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