
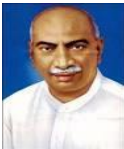


DETAILED NOTIFICATION

	MADURAI KAMARAJ UNIVERSITY (UNIVERSITY WITH POTENTIAL FOR EXCELLENCE) Palkalai Nagar, Madurai 625 021, Tamil Nadu. INDIA.		
Lr. No. MKU/DST-PURSE/01		Date :18.02.2021	
For and on behalf of Madurai Kamaraj University, the sealed tenders (two-cover system) are invited by the Registrar, Madurai Kamaraj University, Madurai 625 021, under the DST-PURSE scheme, for the supply and installation of the following items, from the Reputed Suppliers/executors.			
No.	ITEM	EMD Amount (1% of the estimate cost)	Period of Contract
Establishment of	Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB with Accessory Equipments at Madurai Kamaraj University	65,000	90 days
Tenders are invited until 3.00 p.m. on 5.03.2021 which will be opened by the Registrar, Madurai Kamaraj University at a date and time to be intimated later in the presence of the Tenderers or their agents who choose to be present at the time of opening. Technical and Commercial bid must be submitted separately and should not be clubbed together.			
The specifications, terms and conditions are available in the University website www.mkuniversity.ac.in from 18.02.2021. The tender documents are available for downloading at the website.			
Printed tender documents can be obtained from DST-PURSE office, Madurai Kamaraj University upon remitting the fee in the form of DD in favor of DST-PURSE, Madurai Kamaraj University payable at Madurai. Cost of Printed tender documents Rs. 1000/- (plus 18% GST) and can be obtained from DST-PURSE office, Madurai Kamaraj University until 11.30 am of the last date of Tender submission.			
			REGISTRAR i/c

TENDER SCHEDULE

Tender Announcement Date	:	18-02-2021
Publication Date on Portal	:	18-02-2021
Pre-Bid Meeting	:	24.02.2021, @ 12.15 P.M
Last date for Submission	:	5.03.2021 until 3.00 PM
Tender-Technical Bid Opening	:	Will be intimated.
Price-Bid-Opening	:	Will be intimated to the qualified bidders.



Madurai Kamaraj University
(University with Potential for Excellence)
PALKALAI NAGAR, MADURAI - 625 021



TENDER DOCUMENT

Terms and condition for the **Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB with Accessory Equipments at Madurai Kamaraj University**, Madurai - 625 021, as per Guidelines of Government of Tamil Nadu Tender Transparency Act for the purchase of equipments by Government Departments, Undertakings and Autonomous Bodies [April 1998]

1. DUE DATE AND TIME

Sealed Tenders, in are invited by the Registrar, Madurai Kamaraj University under two cover system from the reputed manufacturing concerns or their regional Agents / Authorized dealers and suppliers for the **Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB with Accessory Equipments at Madurai Kamaraj University**, as per specifications indicated in the Commercial bid.

The duly filled Tender forms containing the Technical Bid and Commercial Bid should reach **on or before 03.00 p.m of the date specified in the tender schedule**. Tenders received after due date and time will be summarily rejected.

The EMD (approx. 1% of the estimated cost) should be enclosed in the Technical bid only.

2. MODE OF DESPATCH

Tenders should be addressed to the Registrar, Madurai Kamaraj University, Palkalai Nagar, Madurai - 625 021, by designation and should be only in sealed covers by Registered or Speed Post with Acknowledgement due or in person. Tenders received in ordinary covers without seal will not be considered.

3. SUPERScription

The Tender should be sealed and superscribed as **“Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB with Accessory**

Equipments at Madurai Kamaraj University, Palkalai Nagar, Madurai – 625 021, due on the date and time specified in the Tender schedule of this document.

The Tender document relating to the Technical Bid duly filled in and signed must be put in sealed cover super scribed as **“Technical Bid”**. The Tender document relating to the Commercial Bid must be duly filled in and signed and must be put in a sealed cover separately, super scribed as **“Commercial Bid”**. The sealed Tender cover containing the Technical Bid (**with EMD**) and Commercial Bid should be sent to the Registrar, Madurai Kamaraj University, Palkalai Nagar, Madurai – 625 021. Covers received without such superscription will be summarily rejected.

4. EARNEST MONEY DEPOSIT

Each Tender should be accompanied by Earnest Money Deposit of E.M.D. (as specified in page No.2 of this document) by Demand Draft drawn in favour of Coordinator, DST-PURSE, Madurai Kamaraj University. The Earnest Money Deposit of any unsuccessful tenderers will be returned after the acceptance of the successful tender, at the expenses of the Tenderers within a reasonable time consistent with the rules and regulation on this behalf. The above **EARNEST MONEY DEPOSIT** amount held by the University till it is returned to the Tenderers would not earn any interest therefor. Earnest Money Deposit of the successful Tenderer may be adjusted towards security deposit for the successful tenderer.

5. ELIGIBILITY CRITERIA

The bidders must fulfill the following Eligibility conditions and also submit documentary evidence in support of fulfilling these conditions while submitting the Technical Bid. The University will consider the Commercial Bid of the vendors who qualify in the Technical bid. For those vendors who are not qualified in the Technical Bid, the Commercial bid will not be considered. **The bidder should submit i) GST, ii) TIN number, iii) Income Tax return details, iv) List of Institutions / Organizations supplied, v) Dealership certificate / Company Profile, vi) The bidder must have visited the site/building at MKU and the site visit confirmation document certified by the DST-PURSE Coordinator or his nominee should be enclosed, vii) The bidder / executor should be in the business for at least 5 year, viii) Should have made at least 20 clean rooms including BSL II/III – The list must be provided, ix) The firm must be ISO 9001:2015 certified company , x) The products need to be CE certified.**

6. DETAILS TO BE FURNISHED AND MODE OF PRESENTATION

The Tender should contain particulars like name and addresses of the Tenderers, net rate including excise duty, custom duty* (for imported item, clearing and forwarding charges, surcharge, GST, freight, octroi, insurance for delivery, delivering up to the point, installation and commissioning of the equipment and such other levies that may be applicable.

- a. The rates should be kept firm for **Ninety days** from the date of the opening of the Tenders for acceptance.
- b. The rate should be quoted for each item with specification and model if applicable and should be indicated clearly both in words and figures. Any **scoring or overwriting** should be attested by the Tenderer with full signature. The rate quoted should be firm and **should not be subject** to any variation clauses.
- c. The **University shall not pay any increase in duties, taxes and** surcharges on account of any revision by the Government at the time of supply and installation.
- d. Supply of the equipment and other accessories shall be as per the specifications mentioned in the corresponding Appendixes and according to the delivery and installation schedule indicated.

7. OPENING OF TENDERS:-

The tenders received upto 03.00 p.m. **on the date specified in the Tender Schedule** will be opened by the Registrar, or any other officer authorized by him on his behalf at an intimated date and time in the presence of those Tenderers or their representatives who may be present at the time of opening. The representatives of the Tendering firm who are attending the opening of the Tenders should bring a letter of authority from the Tendering firms which they represent to identify their bonafide.

8. AGREEMENT:

- a. The successful tenderer should execute an agreement for the fulfillment of the contract in the stamp paper in the model form enclosed in Appendix, within fifteen days from the date of acceptance of the tender.
- b. The expenses incidental to the executing of agreement shall be borne by the successful Tenderer.
- c. The conditions stipulated in the agreement form should be strictly adhered to and violation of any of the conditions will entail termination of the contract without prejudice to the rights of the University and recovery of any consequential loss from the successful Tenderer.

9. SECURITY DEPOSIT:

- a. The successful Tenderer will be required to remit the **Security Deposit** equivalent to **Five percent (5%)** of the value of the Purchase order within **fifteen days** from the date of receipt of communication/intimating them of the acceptance of the Tenders. If the accepted Tenderer fails to remit the

Security Deposit within the above said period, the Earnest Money Deposit remitted by him will be forfeited to the Madurai Kamaraj University and his Tender will be held void. Purchase order will be released after execution of the above contract by the successful Tenderer and after remitting the Security Deposit by way of Demand Draft / Bankers' cheque / irrevocable bank guarantee drawn in favour of Coordinator, DST-PURSE, Madurai Kamaraj University, Madurai – 625 021.

- b. The Security Deposit furnished by the Tenderer in respect of his Tender will be returned to him at the **end of the warranty period** subject to the satisfaction of the University.
- c. In case of successful Tenderer, The Earnest Money Deposit, if paid, may be adjusted towards Security Deposit the Tenderer remitted.
- d. If the Tenderer fails to act according to the Tender or backs out when his Tender is accepted, his Security Deposit mentioned above will be forfeited to the University.

10. SUPPLY AND INSTALLATION

- a. The supply and installation of items and other accessories should be made strictly in accordance with the specifications given in the Commercial Bid and should successfully fulfill the tests carried out by the University. The supply and installation should be as per the delivery schedule to be sent by the University along with the placement of firm orders. The successful Tenderer should give guarantee for a period of **THREE-years** for the items and other accessories installed, against breakage or breakdowns due to manufacturing defects. The guarantee period takes effect from the date of satisfactory installation. The Tenderer shall be liable to make good the loss by replacing the item or other accessories found defective during the guarantee period. The item should be installed in the premises of the University at the cost and risk of the Tenderer.
- b. The material or goods are to be guaranteed for a period of at least three years after installation and commissioning against manufacturing defect and bad workmanship. The warranty period specified, will commence from the date of handing over the item to the University to its satisfaction.
- c. If the supply, installation and commissioning of the systems are not effected before the specified period from the date of purchase order, the University shall have the authority to cancel the order and to take any such action which will be deemed fit in the circumstances.
- d. If any manufacturing or other technical defects are found within the specified months from the date of installation, commissioning and handing over the system to the University Authorities, the same will have to be rectified or replaced free of cost by the supplier.
- e. During the warranty period, if due to manufacturing and other technical defects of the equipment supplied, the system is down and if it is not restored in working

condition within 96 hours, the supplier shall be liable for a penalty of one percent per week during breakdown period on the total contract price.

- g. The warranty will cover all the materials and goods supplied by the supplier under this contract irrespective of the fact whether these have been manufactured by the supplier or not.
- h. In case of failure by the Tenderer to deliver goods or materials demanded from them within the period specified for delivery or in case of goods or materials being delivered without a correct invoice in duplicate, the Registrar or anyone duly authorized by him shall have power to reject any such goods or materials so rejected or not delivered unless the supplier shall themselves forthwith supply others that shall be sufficient and satisfactory and any excess of cost so incurred by the Tenderer over the contract price together with all charges and expenses attending the purchase shall be recoverable by the University from the supplier.
- i. The successful Tenderer shall supply licensed versions / models / products. The University will not be held responsible for any consequences arising of patent right problems.

11. PAYMENT OF COSTS:

The terms of payments for purchase of items: The cost of items will be paid on installation, commissioning and handing over of the items after testing and fulfilling the technical specifications. The testing that should be carried out for commissioning the material supplied and the satisfactory installation to be certified by the University.

12. FORFEITURE OF EARNEST MONEY DEPOSIT:

If the accepted Tenderer fails to act according to the tender conditions or backs out after his tender has been accepted, his Earnest Money Deposit will be forfeited to the University.

The successful Tenderer shall not assign or make over the contract, the benefit of burden thereof to any other person or persons or body corporate. He shall not underlet or sublet to any person/s or body corporate for executing the contract or any part thereof.

13. PENALTY FOR NON-FULFILMENT OF TENDER:

Penalty will be levied at the rate of 1% per week on the total contract price if the installation and commissioning has not been completed in full within the stipulated period subject to force majeure conditions. Besides, such performance may entail black listing of the supplier.

14. ACCEPTANCE AND WITHDRAWALS:

The final acceptance of the tender is entirely vested with **University which reserves the right to accept or reject** any or all the tender without assigning any reason whatsoever. There is no obligation on the part of the University to communicate with rejected Tenderers. After acceptance of the tender by the University, the Tenderer shall have no right to withdraw his Tender or claim higher price. Tenders with **incomplete information** will be summarily rejected.

15. POST WARRANTY:

The post warranty annual maintenance charges (AMC) is applicable for the remaining period after the satisfactory completion of the warranty period offered by the vendor. The annual maintenance charges should be indicated.

The AMC payable from the date of completion of warranty in advance against invoices/bill to be preferred by the vendor. The vendor agrees to provide comprehensive maintenance of the equipment, which shall include preventive maintenance and corrective maintenance at the location specified by the University. The maintenance shall also include replacement of all parts of equipments. The equipment which is down should be restored in good working condition within 48 hours. Otherwise the supplier shall be liable for a penalty of 1% per week of the breakdown period on the total price of the system. The University reserves the right to terminate the maintenance contract in the event of unsatisfactory maintenance and claim damages for non-fulfillment of contract.

16. PENALTY FOR NON-FULFILMENT OF CONDITIONS

The supplier agrees that in the event of non-fulfillment or non-observance of any of the conditions stipulated in the conditions, the Supplier shall pay as penalty an amount equivalent to 10%(ten) percent of total value of equipment or an amount equal to the actual loss incurred by the purchaser whichever is greater. This provision applies up to the end of the life cycle of the equipments (i.e.) even during the post warranty period.

17. EXEMPTION OF CUSTOMS DUTY AND EXISE DUTY

The Madurai Kamaraj University, being a Research oriented higher education institution, is exempted from paying Excise duty and Customs duty / Concessional Customs Duty. The supplier shall therefore obtain Exemption Certificate from the University, issued by the Government of India, before clearing the consignment.

18. TIME-SCHEDULE

Time-schedule is mandatory. Supply should be made within 60 days for any purchase. If not supplied or part only is supplied, then concurrence for purchase from L2 to be got from L1. If no concurrence is given by L1, then notice to be issued and after 15 days L2 is called and negotiated for the supply at L1 rate, or at a lesser price originally quoted by L2. University is vested with the power of modifying the quantity, time and alteration in

the specification without hindering the requirements. Those who are agreeable for the above terms should only apply for the tender.

18. GENERAL

The tenderers while sending their tender should enclose a copy of the conditions stipulated duly certified and attested by them in token of accepting the tender conditions that they understood and accepted them in full. Tenders received without the certified copy of the conditions shall be rejected summarily.

I/We _____ have gone through the terms and conditions and will abide by them as laid down above.

SIGNATURE OF THE TENDERER

WITH OFFICE SEAL

OTHER APPLICABLE CONDITIONS:

1. The quotation must specify the period within which the supply could be effected from the date of receipt firm orders.
2. The prices quoted should clearly specify charges for delivery of the goods to destination indicated overleaf.
3. Sales tax or any other taxes/GST if applicable should be shown separately giving the full rate of taxes for each items giving ex-incidence of such levies.
4. If the rates are under D.G.S. & D. Please specify the same clearly enclosing necessary documents.
5. ***The brochure / leaflets/ catalogue / Diagrams, etc. describing the technical features of the offered item tot be submitted for proper evaluation and would be considered for technical evaluation, in addition to the production of a prototype model of the table .***
6. Dealership certificate on the offered products must be included in case the vendor is a dealer.
7. The vendor must have credential in supplying such system in any institute of national importance and similar organizations
8. Bidder should have valid Service Tax registration number, GST number and meet all legal requirements.
9. Any amendment / corrigendum to the RFP (Request for proposed) document shall be posted on the University Website
10. MKU University reserves the right to call for any other details or information from any of the Bidders. Moreover, the University reserves all rights to reject any bid at any time, at any stage, fully or partly for whole process and / or for particular bidder and also reserves all rights at any time to add, alter, modify, change, edit & delete any condition at any stage. MKU also reserves the right to cancel the entire tender process without assigning any reason. In this regard, the decision of University shall be final and binding on all the participants.
11. Every page of the RFP document shall be signed by the bidder or by a person duly authorized by the bidder.
12. Bidder shall submit letter of authorization, authorizing the person signing the RFP document on behalf of the bidder.
13. All changes, alterations, corrections in the RFP document shall be signed in full by the person(s) signing the RFP document, with date. No eraser and/or over writing without authentications is/are permissible.

14. The complete RFP document along with the documentary evidence should be numbered.
15. The bidder shall carefully examine and understand the scope of work, specifications/conditions of RFP and seek written clarifications, if required, to ensure that they have understood all scope of work, specifications/conditions of RFP.
16. If the bidder has NSIC certification they will get the NSIC benefits.
17. If the bidder, after submission, revokes his bid or modifies the terms and conditions thereof during the validity of his bid except where the University has given opportunity to do so, the earnest money deposit submitted by Bidder shall, in such case, be forfeited.
18. The successful bidder i.e. Service Provider, within 15 days of receipt of Letter of Intent or within such extended time as may be allowed by University in its discretion, shall submit a Performance Bank Guarantee for an amount equal to 5% of the contract value having validity of 24 months (after Completion of warranty). In case of extension of maintenance contract, the Service Provider shall submit a fresh Bank Guarantee for the Contract value covering the extended period of AMC.

TECHNICAL BID

MADURAI KAMARAJ UNIVERSITY, PALKALAI NAGAR, MADURAI – 625 021

Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB at Madurai Kamaraj University, Madurai – 625 021.

Profile of the Company:

The Company should provide the following details

1. Name of the Organization	
2. Nature of the Organization (Govt. / Public / Private / Partnership /Proprietorship)	
3. (a) Address of the Registered Office of the firm with Phone Number, Cell No, Fax and E-mail. (b) Year of Establishment (related to Printers business) (c)SGST & CGST Reg No./GST No. (d) If approved small scale	
4. Annual turnover for the previous three years as on I. General : II. Item listed in tender Document	
5. Location of the factory with address	
6. Maintenance and service centre facilities in Madurai city / other areas and total number of Service Engineers available:	
7. Names of the Government Agencies / Educational Institutions to whom similar items have been supplied in the preceding Three year	
8. Total experience in the related areas	

9. Is your Company an original manufacturer of the item and related items? If yes, state the specific items you Manufacture			
10. What type of maintenance support does your company provide for the pares			
11. What are your conditions for up gradation of items after the warranty period?			
12. In case of breakdown of the item, what will be the mean Downtime? And state whether standby systems will be provided			
13. State the minimum amount of time required to supply the items if your company/ Organization gets the order			
14. State whether you will agree to supply the manuals Drivers for items supplied.			
15. EMD PAYMENT PARTICULARS [The DD should be enclosed in the Technical Bid only]			
(1) Number of Demand Drafts enclosed:			
(2) Demand draft particulars			
Sl.No	Name of the bank and Branch	DD No. and Date	Amount Rs.
Total			

Signature:

Name of the Firm

Phone/Mobile No.

COMMERCIAL BID

Madurai Kamaraj University, Palkalai Nagar, Madurai – 625 021

Tender Schedule for the **Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB at Madurai Kamaraj University, Madurai – 625 021,**

Sl.	Description/Specification	Qty.	Rate Rs.	Total (Inclusive of all Taxes) Rs.
1.				

Warranty Period should be clearly mentioned: Years

A]

1. Please indicate the Annual Maintenance Charges per annum on the basic price of items, excise duty, sales tax, etc., year wise for the remaining period of 5 years life cycle after warranty period.
2. Indicate the location of service centre, address with phone / fax numbers.
3. Indicate No. of Service persons available.
4. Minimum Time required for contact and Service
5. Any other details in support of the above systems you want to furnish.

Tender specifications for the Design, Supply, Installation, Testing, Commissioning, Validation, and Maintenance of BSL-3 LAB at Madurai Kamaraj University

SPECIFICATIONS

- 1) Safety Level BSL-3
- 2) Size of primary facility 650 Sq feet
- 3) BSL III room area: ~500 sq feet with the pressure of -30 Pascals
- 4) Air lock room space: ~ 75 sq feet with the pressure of -20 Pascals
- 5) Change room space: ~ 75 sq feet with the pressure of -15 Pascals
- 6) The BSL III clean rooms must include a i) BSL III Cell Culture Room, ii) BSL III isolation room, and iii) Assay/PCR room
- 7) **HVAC system:** BSL Area - Heating, Ventilation, and Air-Conditioning (HVAC) system, including complete air management system for maintaining the lab environment as per the Guidelines. The bidder should do all related internal lighting and wiring work in the BSL-3 lab and any other job related to the interior mechanical/electrical works.
 1. Use of 100 % outside air with no recirculation.
 2. Managed directional flow to ensure air always flows toward the highest area of containment
 3. Negative Pressure monitoring and control: Adequate pressure point (pressure, temperature, humidity) panels (4 Nos) should be included.
 4. Maintenance of constant temperature of 22+/- 2 °C and humidity at 55+/-5 %
 5. Supply and Exhaust through Terminal HEPA Filters to the Labs.
 6. Exhaust should always be through 2nd stage BIBO Filters.
 7. Cleanliness: CLASS10000 - ISO CLASS 7
 8. Air Changes: 20 Air changes per hour
 9. Velocity: ~ 50 FPM
 10. Modular Cleanroom with Vertical Airflow through ceiling-mounted HEPA filter of 0.3-micron with 99.99% efficiency.
 11. Air-cooled condensing unit, outdoor type, ~8.5TR standard accessories – 2 Nos
 12. Supply Air AHU: Air AHU double skin construction, cooling coils, Kruger fan, pulley, drive motor, 3000 CFM at 125MM WC static
 13. Exhaust Air AHU: single skin construction, Heating chamber, UVC bank, HEPA filter Exhaust blowers 4000 CFM 60 mm static
 14. Fresh air taken from external ambiance through primary and secondary filters located in the supply air AHU needs to be supplied to the BSL rooms and change rooms through the dedicated duct arrangement and HEPA FILTER terminal modules Cleanroom false ceiling.
 15. Dampers in the Supply and exhaust air ducts and AHUs need to be used to regulate the indicated negative pressure inside the BSL facility

16. The system needs to work based on multi-stage air filtration. Air from the ambient area to be collected by the AHU through primary filters and secondary filters of 5 micron and 10-micron ratings, respectively, and passed to Cleanroom through ceiling mounted HEPA filters of 0.3-micron rating.
17. The processed air needs to be collected back into the return air duct through risers and treated properly before letting into the atmosphere through a dedicated AHU Exhaust air system
18. Suitable exhaust AHU required to be designed to remove the contaminated air from the BSL II/III facility. Exhaust air treatment requires HEPA filters to remove microbes of sizes 0.3 micron and above, a series of heating coils to burn-out escaped bio-contaminants and bank of ultra- violet lamps to acts a germicide.
19. Hand drawn copper pipe, supply & laying; Expansion Valve, Hand shut off valves, Room Thermostat, etc with installation – 2 sets
20. Cleanroom Led Lights, 20W - ~16
21. Minipleat HEPA, Terminal Module, 1200X600MM size for BSL room - ~14
22. Airflow velocity 40 to 50 feet per minute at downstream side
23. Noise level 55 decibels +/- 5% inside the lab Illumination: 20-watt LED flat panel lights
24. Differential pressure -30 Pascal's
25. 20 Air changes per hour
26. Total air volume required 3000 CFM for Supply & 4000 CFM for Exhaust, with VCD dampers
27. Condensing system 2 x 8.5 TR Air cooled units
28. Air balancing: The BSLIII facility required to be maintained at negative pressure of - 30 Pascal's in order to prevent leakage of potential hazardous contamination into the adjacent areas. The volume of air supplied into the Lab always be lower than the air exhausted out from the BSLIII facility.
29. Supply air & Exhaust air AHUs need to be interlocked
30. Alarm to alert the operators about the malfunction, and both, supply air and exhaust air and system to de-activate the AHUs.
31. Smoke detection system with 18 sensors, PLC based control panel, response indicator, alarm, complete wiring etc
- 8) **Side walls and the false ceiling:** side walls and the false ceiling of the BSLIII room should be PUF insulated PPGI or suitable laminated double skin panels having excellent thermal resistance with smooth metallic surface finish across the entire Cleanroom. Wall panel - 80mm PUF insulated PPGI laminated Cleanroom Panels; Ceiling panel 60 mm PUF insulated PPGI laminated Cleanroom panels
- 9) **Flooring:** Airtight and chemical resistant Epoxy flooring 3 mm thick. The topside of floor to be covered by sheet vinyl flooring (PVC), non-skidding, abrasion resistant and chemical resistant.
- 10) Touch-free Hand wash and Eye wash station should be provided, including the plumbing work.
- 11)The garment cabinet should be GI powder coated

- 12) A Static Pass Box, Made of IS 304 stainless steel with UV sterilization and interlocking systems, should be provided.
- 13) Air Shower Entry system, Suitable for 2 persons per cycle, made of powder-coated GI construction
- 14) "C" frame type Wall table with two under bench storage modules made of SS
Size: 2000x750x750mm – 2 Nos
- 15) Sink table, 900 x 600 x 750mm, with one eyewash station and one sink with swan neck tap
- 16) Biosafety cabinet, CLASS-II B2, with IS304 SS construction, Size: 4 x 2 x 2 ft – 2 Nos.
- 17) Biosafety cabinet, CLASS-III, in IS304 SS construction Size: 4 x 2 x 2 ft – 1 No
- 18) Vertical Laminar Airflow, Size: 4 x 2 x 2 ft, in IS 304 SS – 1 No
- 19) **Doors:** All the doors should be of powder-coated double-layered GI sheets with SS hinges, SS handles door-closures & viewing windows etc. View Panels 6 mm thick clear glass, double glazed. The doors must have interlocking features.
- 20) **Lock System:** Biometric entry with HMI interface to enter into the facility. However, Free exit system should be provided, i.e., All locks should be freely openable from inside to outside.
- 21) **CCTV System:** CCTV facility should be provided for surveillance of the Laboratory. The CCTV system shall be complete with wall/ceiling mounted high resolution color cameras, multiplexer cum DVR, associated power and control cabling etc.
- 22) Equipment load Total approx. 10 KW
- 23) 100 Nos. full sets of disposable PPE wears to be used at BSL III must be included
- 24) Modern Lab Tables with cupboards and 4 workings chairs must be included as a part of design
- 25) **Uninterrupted Power Supply lines:** Power supply lines to be provided in the facility to cater to the extreme essential power requirement for the vitals of BSL-3 facility including all critical components like Door Interlocks, BMS, Operation of Isolation Valves, exhaust blowers of BSL-3.
- 26) **Testing and Validation:** Validation, Commissioning, documentation and regular testing for Three years should be provided. The following test should be performed on-site after installation and validated
 1. Containment Barrier Integrity Test
 2. Laser Particle Count test to confirm the cleanliness level as per ISO 14644-1
 3. DOP integrity test for HEPA Filter as per IESRP-CC-002.
 4. Velocity profile for HEPA filter as per IES-RP-CC-002
 5. Ducting leak test
 6. Room Differential Pressure test
 7. Particle Count Test for Cleanliness
 8. Air Velocity/ Pattern smoke Test
 9. Room Air change Rate Test
 10. Light intensity Test
 11. Noise level Test
 12. Biological Safety Cabinet Test
 13. Temperature and RH

- 27) Standards compliance: General requirement IEST-RP-CC-002.2 Air Cleanliness ISO 14644-1 & US FED STD 209E Filter Performance IEST-RP-CC-034.1 & The Required recent ICMR/DBT norms in the infrastructure of BSL III must be accomplished.
- 28) Test Certificates for Cleanroom, Bio safety cabinets & Laminar Airflow should be provided.
- 29) DQ, IQ, OQ & PQ documents & warranty certificate, working manual need to be provided
- 30) Water backflow preventers to be installed included.
- 31) **Warranty**: Comprehensive Warranty for the operation and maintenance of the entire facility for THREE years must be included