BIHAR ANIMAL SCIENCES UNIVERSITY

Bihar Veterinary College Campus, Patna - 800 014, Bihar
https://basu.org.in

TENDER DOCUMENT

FOR

SUPPLY AND INSTALLATION

OF

VARIOUS LABORATORY EQUIPMENTS/INSTRUMENTS

THROUGH

E-PROCUREMENT MODE

FOR

THE COLLEGE OF FISHERIES, KISHANGANJ

Tender No.: 18/CPC/BASU/2021-22 **Dated: 15/02/2022**

INDEX

Chapter – 1

NOTICE INVITING e-TENDER (NIT)

NIT No.: – 18/CPC/BASU/2021-22 Dated: 15/02/2022

Sub.: Notice Inviting e-Tender (E-Procurement mode only) for the supply and installation of various laboratory equipments/instruments for the College of Fisheries, Kishanganj.

1. Bihar Animal Sciences University, Patna invites online tenders (https://www.eproc.bihar.gov.in/BELTRON) in Two Bid System (Technical Bid and Financial Bid) from Reputed, Eligible and Qualified Firms/Manufacturer/Suppliers of the following laboratory equipments/instruments for the College of Fisheries, Kishanganj.

Gr. No.	Brief Description of equipments/instruments	Place of supply & Installation	Quantity	Amount of Bid Security/ EMD in INR
1.	Microscope with Imaging System	College of Fisheries, Kishanganj	01	15000.00
2.	Deep Freezer (-80ºC)	-Do-	02	30000.00
3.	Refrigerated Centrifuge	-Do-	01	18000.00
4.	Real -Time PCR	-Do-	01	40000.00
5.	Nano- Spectrophotometer	-Do-	01	21000.00
6.	Gel Documentation System	-Do-	01	18000.00
7.	Water Purification System	-Do-	01	15000.00
8.	Clean Bench Systems for Biosafety Cabinets	-Do-	01	15000.00
9.	CO_2 Incubator	-Do-	01	18000.00
10.	Microtome	-Do-	01	15000.00
11.	Paraffin Embedding System	-Do-	01	24000.00
12.	Automatic Tissue Processor	-Do-	01	42000.00
13.	Trinocular Microscope with Imaging System	-Do-	01	18000.00
14.	Inverted Microscope	-Do-	01	15000.00
15.	Biosafety Cabinet Level -II	-Do-	01	15000.00
16.	Elisa Reader	-Do-	01	18000.00
17.	UV/VS Spectrophotometer	-Do-	01	6000.00
18.	Ultra Centrifuge	-Do-	01	15000.00
		Total	19	

2. Schedule of Requirement: -

Sl. No.	Activity	Date and Time
1.	Online Sale/Download date of Tender documents	From 18/02/2022 to 13/03/2022 (15:00 Hrs.) **(https://www.eproc.bihar.gov.in)**
2.	End Date/Time for submission/ uploading of offer/Bid	14/03/2022 upto 16.00 Hrs. **(https://www.eproc.bihar.gov.in)**
3.	Pre-Bid Meeting	02/03/2022 at 14.30 Hrs., Conference Hall-2, BVC, Patna
4.	Submission of EMD in Hard copy (Original)	Before the time of opening of technical bid (Procurement Office, Administrative Building, Bihar Animal Sciences University, Patna-800 014)
5.	Date & time for opening of Technical Bid	15/03/2022 at 15.00 Hrs. **(https://www.eproc.bihar.gov.in)**
6.	Contact person/Nodal Officer for queries	Director Procurement, Bihar Animal Sciences University, Patna
7.	Financial Bid Opening Date and Time	It will be intimated later on **(https://www.eproc.bihar.gov.in)**

3. Tender enquiry documents containing detailed specifications along with terms and condition can be downloaded from the e-Procurement Portal https://www.eproc.bihar.gov.in/BELTRON.
4. EMD must be enclosed with the hard copy of Technical Bid of the Tender in the form of **Demand Draft** from any Nationalised Bank in favour of **FINANCE COMPTROLLER**, **Bihar Animal Sciences University, Patna. EMD paid through manual mode only.** No interest is payable on Bid Security. Tenders without EMD shall be summarily rejected.
5. In the event of any of the above-mentioned dates being declared as a holiday/closed day for BASU, Patna, the tender will be opened on the next working day at the prescribed venue and time.
6. Tenderers need not to be present at the time of opening of tender as all procedures will done on online mode https://www.eproc.bihar.gov.in/BELTRON
7. This Tender Enquiry Document is not transferable.

Chapter – 2

GENERAL TERMS AND CONDITIONS

1. The technical and financial bids should be submitted through online mode as mentioned respective stage "Technical bid" / "Financial bid" as applicable.
2. **Each instrument has to be tendered separately.**
3. The bidder must provide either the **Original Equipment/item Manufacturer (OEM) or their Authorized Distributor Certificate on their letter head in prescribed format (Annexure- I).** If the same is not provided with Technical Bid the tender will be summarily rejected.
4. The vendors must have executed same nature of work in the **last 2 years**. The user list of such institutions, with name of item and the cost may also be supplied with the bids. Recent orders in government organization should also be enclosed.
5. The Financial Bid should include the cost of main Equipment/items and its essential accessories at F.O.R delivery including of all taxes, GST, charges for insurance and transportation of the goods, agency commission, installation & commissioning, training charges etc. if any.
6. The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender. The bidders should submit copies of suitable documents in support of their reputation, credentials and past performance.
7. Price bids of only those bidders will be opened whose technical bids are found suitable by the committee appointed for the purpose. Date and time of opening of price bids will be decided after technical bids have been evaluated by the committee. Information in this regard will be placed on the website or e-mail. No separate information will be sent to the firms. In exceptional situation, an authorized committee may negotiate price with the qualified bidder quoting the lowest price before issuing the purchase order.
8. NSIC units are exempted for submitting EMD as per BFR guideline.
9. **Earnest Money Deposit (EMD):** Bidder needs to submit the refundable EMD as mentioned against the individual equipments/instruments in the form of **Demand Draft** only in favour of **FINANCE COMPTROLLER, Bihar Animal Sciences University, Patna**. The **original hard copy of EMD should be submitted through manual mode only,** however, scan copy of EMD document should be uploaded on e-procurement portal. Failure to submit the EMD on due date will lead to the rejection of the tender.
10. No interest shall be payable by the buyer to the bidder on EMD.
11. **While sending rates, the firm shall give an undertaking to the effect that "the terms /conditions mentioned in the Inquiry Letter/Tender Notice against which the rates are being given are acceptable to the firm". In case the firms do not give this undertaking, their rates will not be considered.**
12. All disputes shall be subject to Patna Jurisdiction only.

13. All tenders in which any of the prescribed conditions is not fulfilled or any condition is put forth by the tenderer shall be summarily rejected.
14. **Bihar Animal Sciences University, Patna reserves the right to cancel the tender at any point of time without assigning any reason.**
15. **The offer submitted by Telegram/E-mail/Speed post shall not be considered. No correspondence will be entertained in this matter.**
16. **Duly signed hard printed copy of all tender documents (submitted on e-procurement portal) should be submitted by the tenderer to Procurement Office, Administrative Building, Bihar Animal Sciences University, Patna-800 014 latest by 14/03/2022.**
17. **Bidders must submit duly stamped envelope (for registered/speed post) with complete postal address for refund of EMD documents.**
18. Bidders should go through the tender terms, conditions and specifications carefully and fill in the attached compliance statement accurately and unambiguously. They should ensure that all the required documents are furnished along with the bid.
19. **Signing of Tender documents:** A person signing the tender form or any document forming part of the tender on behalf of another person should have an authority to bind such other person and if, on enquiry it appears that the person so signing had no authority to do so, Bihar Animal Sciences University, Patna may without prejudice, cancel the contract and hold the signatory liable for all costs, consequences and damages under the civil and criminal remedies available.
20. The tenderer should sign and affix his firm's stamp at each page of the tender and all its annexure as the acceptance of the offer made by tenderer will be deemed as a contract and no separate formal contract will be drawn. **No page should be removed/ detached from this notice inviting tender.**

Chapter – 3

SPECIAL TERMS AND CONDITIONS FOR TENDERERS

The following terms and conditions should be complied with during submitting tender:-

1. Online https://www.eproc.bihar.gov.in/BELTRON tender invited in **two bid systems**.
2. Tenders should be submitted to the e-Procurement Portal https://www.eproc.bihar.gov.in/BELTRON only.
3. Delivery schedule with definite date of delivery at destination taking into cognizance of transit facility must be indicated. This contractual delivery date/ period should be inclusive of all the lead time.
4. The tenderer submitting his tender would be deemed to be considered and accepted all the terms and conditions. No enquiries, verbal or written shall be entertained in respect of acceptance or rejection of the tender.
5. Bihar Animal Sciences University, Patna reserves the right to cancel/ reject in or any part of the tender, which generally do not fulfil the conditions stipulated in the tender without assigning any reason.
6. Any action on the part of tenderer to influence anybody of the university shall make his/ their tender liable for rejection.
7. In case of placement of purchase order, the vendor (the tenderer whose tender is accepted) may comment on the purchase order within **10 days** from the date of dispatch of purchase order otherwise it seems that offer is acceptable to the vendor.
8. Bihar Animal Sciences University, Patna may in writing make any revision or change in the purchase order, including additions or deletions from the quantities originally ordered or in the specifications or drawing. If any such revisions/ changes affect the price or delivery, the same shall be subject to the adjustment of price/ delivery, wherever required on a reasonable basis by mutual agreement in writing which should be communicated.
9. The institute reserves the right to cancel the purchase order or any part thereof shall be entitled to revise the contract wholly or in a part by written notice to the vendor if:-
   (a) The vendor fails to comply with the terms and conditions of the purchase order including specifications and other technical requirement.
   (b) The vendor becomes bankrupt or goes into liquidation.
   (c) The vendor fails to deliver the goods in time and or does not replace the rejected goods promptly.
   (d) A receiver is appointed for any of the property owned by the vendor.
10. Upon the receipt of the said cancellation notice, the institute shall discontinue all works of the purchase order and matters connected with it.

11. Supply order will be issued as per the requirement of the institute. The supplier will have to supply ordered materials within the delivery time mentioned in the supply order.
12. Unless otherwise specified in the order, the order price shall remain firm and will not be subject to escalation of any description during the dependency of the order, notwithstanding the change in the cost of material and components he/they may take clearance while the order is under execution even if the execution of the order for any reason whatsoever.
13. The institute may its option, reject such defective materials at the vendor's expense in which event the vendor shall, without any cost to the Institute and as promptly as possible, remove such materials and furnish and install proper and acceptable material.
14. In the event of delay delivery and/or unsatisfactory manufacturing progress and supply, the Institute has the right to cancel the purchase order as whole or in part without liability for cancellation charges.
15. Timely delivery as mentioned in purchase order shall be in the essence of the order and no variation shall be permitted except with prior authorization in writing from the Institute.
16. In the event of delay in making delivery on the part of the vendor, it will be at Institute discretion to receive delivery with a reduction in price of the article/or equipment.
17. Forced measure shall mean and be limited to the following: -
    (a) Any war/hostilities
    (b) Any riot or civil communication
    (c) Any earthquake, flood, tempest, lighting or other natural physical disaster.
    (d) Any strike or lock up (Only those exceeding ten continuous days' duration) affecting the performance of the vendor's obligation.

    The seller shall advise the Institute by Registered Letter duly certified by local chamber of commerce of statuary authorities the beginning and end of the above caused of delay within 7 days of occurrence and cessation of such forced measure concern. In the event of delay lasting over one month, if arising due to our cause of force measure, the Institute reserves the right to cancel the order.
18. No payment shall be made for rejected materials nor the tenderer be entitled to claim for such items.
19. Rejected materials would be removed by the tenderer from the site within two weeks or the date of rejection at their own cost. In case they are not removed they will be auctioned at the risk and responsibility of the suppliers without any further notice.
20. In case of not honouring the supply order, the Institute will have the right to impose penalty as deemed fit and to resort to make purchase at the suppliers' cost and risk and his security deposit may be forfeited in favour of the Institute cost and risk.
21. Taxes & Levies - **rates of inclusive of all taxes, duties and GST**. No extra payment will be made by the BASU, Patna in this regard.

22. Disputes, if any, arising between the Institute and the bidder out of or in connection with the terms and conditions contained herein shall be referred for arbitration to the Patna jurisdiction. Disputes shall be decided keeping in view of the terms and conditions of the tender and Bihar Financial Rules applicable to the Institute.
23. **Bihar Animal Sciences University, Patna have DSIR Certificate (Reg. No.: TU/V/RG-CDE (1293)/ 2020 Dated: 07.01.2021). Hence, Customs Duty exempted on all the scientific equipment and GST should be quoted @5% only. So, price should be quoted considering this point and DSIR certificate may be made available on demand at the time of issue of supply order.**
24. **Minimum two-years onsite comprehensive warranty from the date of installation shall be provided.**
25. No Advance payment shall be made.
26. For delay in supply, BASU will charge liquidated damage @0.5% per week maximum 10% after which the order will be cancelled.
27. **Performance Guarantee: The vendor shall furnish unconditional Performance Bank Guarantee (PBG) @ 7.0% of the order value for the entire period of warranty i.e. 26 months and should be submitted at the time of supply the order in the form of Bank Guarantee (Annexure-II)/ Fixed Deposit Receipt (FDR)/ Term Deposit Receipt (TDR) in favour of "Finance Comptroller, Bihar Animal Sciences University, Patna".**
28. **Validity of the bid shall be 90 days from the date of opening of quotation/tender.**
29. **The quoting party should give a certificate to the effect that** the quoted prices are the minimum and they have **not quoted** the same item on lesser rates than those being offered to university to any other customer nor they will do so till the validity of offer or execution of the purchase order, whichever is later.
30. **Copies of at least last two-supply orders received from other customers or details of last two supplies made to other customers preferably in India for the same item/model may be submitted with the offer giving reasons of price difference of their supply order & those quoted to us, if any.**

Chapter - 4

TENDER FORM

To,

The Director-Procurement,
Bihar Animal Sciences University, Patna-14

Subject: Tender Notice No.: ……

Sir,

I have gone through the terms and conditions laid down in the tender documents and accept the same.

I am hereby submitting the bid and enclosing the documents as per details given below:

CHECK LIST

Sr. No.	Particulars	Remarks
1.	Original EMD attached	Yes/ No
2.	Attested copies of GST registration	Yes/ No
3.	Attested copies to PAN (Permanent Account Number)	Yes/ No
4.	Technical bid in the prescribed format uploaded	Yes/ No
5.	Financial bid in the prescribed format uploaded	Yes/ No
6.	Valid Authorization Letter from the manufacturer on their Letter Head	Yes/ No
7.	Audited balance sheet of the firm of the last three years issued from registered chartered accountant firm	Yes/ No
8.	Income Tax Return copy of the last three years	Yes/ No
9.	Address Proof	Yes/ No
10.	Details of reputed Organizations where the tenderer has executed/running during last two years with proof	Yes/ No
11.	Experience certificate of the last three years	Yes/ No
12.	Self-Declaration –No Blacklisting	Yes/ No
13.	Certificate that firm possesses its Service Centre in Bihar / Pan India	Yes/ No
14.	All pages of the tender document are to be serially number, signed and stamped by the vendor	Yes/ No

Yours faithfully,

Name and Signature of the authorized person of
the firm/tenderer along with seal

Place:

Date:

Chapter – 5

TECHNICAL BID

1. (a) Name of the Tenderer: …….

(b) Status of the Tenderer: …….

(i) Manufacturer/Importer: …….

(ii) Proprietorship: .....

2. Partnership/Company

Full Postal Address .....

.....

.....

.....

3. Telephone No.: .....

4. Mobile No.: .....

5. Fax No.: .....

6. e-mail address:.....

7. (a) Names of agencies with whom: ……..the tenderer is registered.

(b) Names of procurement agencies to whom: …….....

Items have been supplied during last 2 years:…….....

8. Bank details of the bidder:……

Name of Account Holder:…….

Name of Bank:……..

Bank Account No.:……

IFSC & MICR Code:……

Address of the Bank:……

I am enclosing duly signed Technical specification of the items offered in response of this Bid.

Seal & Signature of Bidder

	TECHNICAL BID SHEET			
	Bihar Animal Sciences University			
	Tender No.		:	
	Group No.		:	
	Quantity		:	
	Name of Equipment/Items		:	
Sl No.	Details			To be Filled in color cells by Bidders
1	Name of the Bidder			
2	Address of the Bidder			
3	Constitution of the firm/ agency (Attached copy)			
4	Bid Processing Fee	(A) As prescribed in Tender document, (Non-Refundable) and to be paid only through e-Payment modes i.e. Internet Payment Gateway (Master or Visa Card) /Internet Banking/NEFT or RTGS		
		Bid Processing Fee Amount - Rs. 1,180.00		
5	Earnest Money	(A) As prescribed in Tender document, duly pledged in Favour of FINANCE COMPTROLLER, Bihar Animal Sciences University, Patna		
		Bid Security Amount - Rs.	Bid Security Amount - Rs.	
A.	QUALIFYING CRITERIA			
6	Attested scan copies of GST registration			
7	Attested scan copies in PAN			
8	Scan copy of valid Authorisation Letter from the manufacturer on their letter head			
9	Scanned copy of Audited balance sheet of the firm of the last three years issued from registered chartered accountant firm			
10	Scanned copy of Income Tax Return copy of the last three years			
11	Scanned copy of Address Proof			
12	Scan copy of details of reputed Organisations where the tenderer has executed/running during last two years with proof.			
13	Scanned copy of Experience certificate of the last three years			
14	Scan copy of self-declaration –No Blacklisting			
15	Scanned copy of detail technical specification and other required documents			
16	Scanned copy of Certificate that firm possess its Service Centre in Bihar / Pan India			
				Director Procurement Bihar Animal Sciences University, Patna

Chapter – 6

Technical Compliance of the Bidder with reference to the 'Specification of Equipment's'/items
(Separate form to be used for each items/equipments offered)

Name of the Bidder/Tenderer:

Tender No.:

Name and Model No. of offered goods/equipment/items:

Make:

Gr. No.	Technical specification from Bihar Animal Sciences University	Features available in equipment's/items Yes or No	Any deviation from Specification, if any	Corresponding part number/ datasheet/ page no. in broacher in support of specification
	1. MICROSCOPE WITH IMAGING SYSTEM			
1.	1. **Type:** Upright compound microscope with full Koehler Illumination 2. **Control Display:** 5-element display on either side of the stand and long-life blue LEDs. This intensity display is well readable from several meters distance. 3. **Contrasting Method:** Bright field. Upgradeable to Phase Contrast, Dark-Field, simple Polarization and Fluorescence 4. **Illumination** • With modular slide-in concept • Must be easy change of illuminators from LED to halogen • LED illumination 3W white-light, 5600K, lifetime 35000 hours • Halogen illumination with 6V 30W halogen lamp • Homogeneous field illumination 22mm • Light manager remembers precise amount of light set for each lens position 5. **Optical system:** Colour-corrected infinity optics 6. **Eyepiece** • A pair of eyepieces 10x suitable for spectacle wearers and retro fittable eyepiece pointer • Eyepiece with field of view of 22mm • Eyepieces secured with setscrews against unauthorized removal 7. **Objectives:** With High quality objectives of the iPlan-Achromat class: • iPlan-Achromat 4x/0.1 WD: 30.7 mm • iPlan-Achromat 10x/0.25 WD: 17.4 mm • iPlan-Achromat 40x/0.65 WD: 0.6 mm • iPlan-Achromat 100x/1.25 WD 0.30 mm • 5-position nosepiece tilted back and objectives			

	secured against unauthorized removal 8. **Condenser:** Focusable and centerable Abbe condenser 0.9/1.25. With Holder for phase contrast and darkfield sliders 9. **Viewing Tube** • Viewing and Trinocular tubes (50%:50%) with 25° angle and field of view 22mm • Siedentop "up and down" position for 2 different viewing heights • With interpapillary distance continuously variable from 48 to 75 mm by asymmetric folding of the binocular part • Tube is secured against dropping by special dovetail 10. **Stage** • Mechanical reckless stage with long-lived stage surface with right-controls • Stage size 185x135, travel range 75x50 • With well-readable Vernier and long "Ergonomic" stage drive • With double-slider holder 11. **Power** • With power unit integrated into stand with cable storage at the backside of the stand. Ergonomic shape for convenient, safe carrying. • 5V USB port at the back of the stand to connect a power bank or charge mobile device • ECO mode, automatically go into a sleep mode after 30min inactivity 12. **Filters:** Colour filter set blue, green and yellow 13. **Dust Cover:** With Dust Cover 14. **Anti-fungus treated** optics. Must provide anti-fungus certification from manufacturer. 15. **Camera** • Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. • Camera should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. • The camera shall provide an on-screen display (OSD) that allows to control the camera without an extra controller/computer or software. • In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. • Images shall be stored conveniently on a USB flash drive. • The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. • The camera shall provide multiple setup possibilities to use it in a wireless mode 16. **Microscope and** camera should be from same manufacturer and System should be ISO and CE			

	Certified. 17. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
2. DEEP FREEZER (-80ºC)				
2.	1. Capacity: 360-380 Ltrs 2. Must include NON-CFC REFRIGERANTS 3. 13 cu. ft. capacity Upright, with (2) 1 horsepower compressors 4. Latch and handle for ergonomic handling and one hand operation with padlock capability 5. Durable Steel interior with Inner doors. 6. Down-feed evaporator 7. Adjustable solid Stainless Steel shelves 8. Triple -sealing silicone door gasket 9. 5" non-CFC foamed-in-place polyurethane insulation; 4.5" in door 10. Two 10" tube axial fans to provide maximum cooling of the compressor Housing 11. Heavy-duty dual wheel swivel locking casters. 12. Automatic voltage compensator responds to high and low voltages 13. Powder coat paint for a durable surface 14. Service valves provided to allow easy recovery of refrigerants and field servicing. 15. Front to back airflow with Removable, cleanable air filter 16. Hinged grill swings out for easy access to filter and battery 17. A vacuum relief port allows easy re-entry after door openings 18. Heavy duty hinge for ensuing positive closure and un-interrupted service 19. TEMPERATURE CONTROL • The microprocessor controller must monitor in one degree C increments, with digital display. • Eye Level Information center for At-a-Glance Monitoring • Temperature probe must be positioned to insure the alarm sounds before the stored product can be affected by a rise in temperature • Battery back-up for the alarm monitoring system • Both visual and audible alarms must alert operator of over and under temperature, power fail, door ajar, and low battery conditions • Dry contacts included for connection to optional remote alarms. • Optional eye level recorder mounted in the door or optional data logger 20. CERTIFICATIONS: CE Mark. Manufactured by an ISO-9001 company 21. The system should have minimum 2 years onsite			

	comprehensive warranty from the date of installation. 22. No. of selves: 3 to 5			
	3. REFRIGERATED CENTRIFUGE			
3.	1. Capacity: 4 x145ml or 6 x 50 ml 2. Speed: 17,800 – 18,000 RPM 3. RCF: 30,000xg 4. Temperature range: -10°C to 40°C 5. The rotor should have auto lock system. 6. Should have One-touch operation with pre-saved protocols. 3 direct program buttons, 96 additional programs accessible via folder. 7. Should have Pre-Cooling Function with direct button. 8. Refrigeration System should be CFC Free. 9. Sound Level should not be more than 56 dBA. 10. Should have drainage system to prevent rusting. 11. Bucket lids must operate in a safe manner without spring clips or metal components. 12. Centrifuge must have a swing out rotor capable of spinning samples above 16,000 xg. 13. The machine should offer following rotors to meet future needs of the lab by just adding rotors: • Fixed angle rotor 6 x 50 mL Individually Sealed Rotor, 5,600 rpm, and 5,014 x g. • 2-4 standard or 2 deep well microplates, PCR strips and haematocrit capillaries • Rotor for running up to 30 spin columns in certified sealed angle rotor, 14000RPM, 22000xg • Swing out rotor to spin 8 x 50ml or 15 ml conical tubes. 4000 RPM, 3300xg 14. Rotor to be supplied: • Fixed angle rotor 6 x 50 ml in bio containment certified angle rotor, with speed not less than 9,500 rpm, 12,100 x g, and Adapter for 15 ml tube • Swinging out plate rotor with capacity of 4x standard or 2 deep well plate with speed 4400RPM, 2500xg. • Fixed angle Microliter rotor 24 place rotor with speed not less than 17,800 rpm / 30,200 x g 15. CE marked, IVD compliant, UL listed- for safety containment 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
	4. REAL-TIME PCR			
4.	1. The system should be automated integrated 96 well peltier based for both real-time PCR and post-PCR (end-point) analysis with 6 independently controlled zones. 2. It should have interactive touch screen LCD for standalone operation with 8 – 10 GB onboard memory for storage of at least 1600 - 2000 runs. 3. System should support minimum recommended reaction volume of 10–30 µL/10–100 µL for 0.1/0.2 mL block. 4. The Quoted System Should support the temperature range from 40 to 100°C with block ramp more than			

	6 DegC/sec, and run time less than 40 minutes. 5. System should have four coupled / six de-coupled excitation and emission filter sets to enable collection of up to 21 unique combinations of wavelengths during a single run for multiplexing five colours or above. 6. The System should utilize a bright white LED source, excitation by LED light source with a > 5 years lifespan and detection by CMOS/CCD with whole plate imaging and detection. 7. The system should be factory calibrated for the following FAM/SYBR Green, VIC/JOE/HEX/TET, ABY/NED/TAMRA/Cy®3, JUN, ROX/Texas Red™ dyes 8. The system should be able to do applications such as Gene Expression, Genotyping, Copy Number Variation, Pathogen Detection, Strain Typing, and Viral Load, Mutation Scanning, Methylation and other Epigenetic 9. Applications, miRNA profiling, Protein analysis with proximity ligation assays and Protein Thermal Shift technology. 10. System should detect differences in target quantity as small as 1.5-fold in singleplex reactions, and should have 10 logs of linear dynamic range. 11. Single-plate analysis Absolute and relative gene expression, SNP genotyping, presence/absence, high resolution melt, Multiplate analysis Gene expression studies, SNP genotyping studies. 12. The normalization of reaction due to non-PCR related fluctuations should be possible by using any calibrated dye. 13. The system can be connected to the online ecosystem and instrument data/status will be automatically uploaded, allow users to access and securely share result with colleague anywhere, anytime from any location with internet access 14. Features to assist with 21 CFR part 11compliance Security, auditing and e-signature, CE, ISO, and MIQE compliant 15. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
5. NANO- SPECTROPHOTOMETER				
5.	1. Wavelength Range: 190-850 nm or better 2. Sample Size: 1 µL 3. Path length: 0.03 to 1 nm 4. Light Source: Xenon flash lamp 5. Detector Type: 2048-element CMOS linear image sensor 6. Wavelength Accuracy: +/- 1 nm 7. Spectral Resolution: <1.8 nm (FWHM @Hg 254 nm) 8. Absorbance Accuracy: ± 3% (at 0.97 absorbance at			

	302 nm) 9. Absorbance Range: Pedestal-0-550 A (10 mm equivalent) 10. Detection Limit: Pedestal: 2 ng/µL dsDNA, BSA (IgG) : 0.06 (0.03) mg/mL 11. Maximum Concentration: 27,500 ng/µL (dsDNA) 12. Measurement Time: < 8 seconds 13. Touch Screen: >6 inch 1280 × 800 high-definition colour display, android based Quad Core ARM Cortex A-9 Processor, Multipoint capacitive touch, Gesture Recognition: Single point, single point hold, swipe and pinch. 14. Connectivity: Three USB-A ports, Ethernet, Bluetooth and Wi-Fi 15. Internal Storage: 32 GB flash Memory 16. Software: Software should have feature to identify the contaminants like protein and phenols in samples and reports corrected analyte concentration. System must have image analyser to detect bubbles and other anomalies in the sample column. Software should provide instant feedback about sample quality with on-demand technical support for guided troubleshooting. 17. Application Support: Nucleic Acid A260, A260/A280, A260/A230 and Labelled Nucleic Acids; Protein A280 and A205, Protein Pierce 660, Protein Bradford, Protein BCA, Protein Lowry, Labelled Proteins, OD600, Kinetics, UV-Vis, and Custom Methods. 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
6. GEL DOCUMENTATION SYSTEM				
6.	1. The system should have Small footprint to conserve benchtop space. 2. The system should come with a UV light base 312 nm and is capable of visualizing both DNA and RNA gels 3. It should have option for the use of safe blue-light trans- illumination without the risks of UV light trans- illumination. 4. Provision for Sensors to permit illumination only when the Imager Camera Hood is properly positioned over the Light Base unit. 5. It should be Compatible with a wide range of fluorescent and visible dyes (e.g. Qdot®, SYBR Safe®, ethidium bromide). 6. Compatible with different gel formats including precast gels (e.g. E-Gel® Agarose Gels, NuPAGE® Novex Bis-Tris Gels) and pour-it-yourself gels (agarose, or polyacrylamide). 7. It should perform Real-time sample imaging allowing detailed sample viewing. 8. It should eliminate the need for film or processing chemicals. 9. Electrical Requirements: 100–240 V, 50/60Hz, 0.6A 10. Temperature: Ambient ± 5oC to 40˚ C			

	11. Viewing surface dimensions should be minimum 10 cm × 15 cm 12. It should do direct camera to PC image transfer. 13. Lens with F/1.4, with broad range amber filter 14. High resolution 12 bit CCD Camera: 1.0 to 1.5 megapixels with dynamic 56DB 15. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
7. WATER PURIFICATION SYSTEM				
7.	1. System should be quoted along the external Pre-treatment and External RO to handle the silica free applications. 2. System should be standalone single stage system-produce Endotoxin and bacteria free ultrapure water Type 1 and Type 2 directly from potable water supply. 3. System should be capable of providing ASTM Type I (18.2 Mega ohm resistivity) Water and have the UF cartridge to cater Biological applications 4. System should be capable of providing ASTM Type II (1-10 Mega ohm resistivity) Water from potable tap water 5. System has feed water acceptance level of Conductivity upto 1400-1500 µS/cm or more, Fouling Index (SDI) > 3 and Total Chlorine less than 0.1 ppm 6. System should have a pre-treatment module/or kit with 1µm filter, Harness Stabilizer 7. System should have RO Flow rate 3Ltr/hour or more 8. Type 1 water flow rate should be equal or more than 1Ltr/Minute 9. Reverse Osmosis module is made up of thin film composite polyamide RO membrane with rejection rate of 94 - 99% 10. System should have water specific Purification pack before UV lamp consisting of mixed bed ion exchange resin/ micro filter / activated carbon to ensure better purification and longer life of the cartridges. 11. UF should be inbuilt in system come with the life of 2 years to avoid any recurring cost. 12. System should have dual wavelength 185/254 nm for UV-oxidation for reducing the content of microorganisms and their metabolites to ensure the quality of Type 1 water 13. System should have inbuilt reservoir 6 ltr or more in volume. Water is recirculated through High Purity Cartridge to maintain purity of Type 2 water in tank all the time. 14. System should have to fed with imported Pre-treatment water as to take the excessive care.			

	15. System be compatible for onsite IQ/OQ(Onsite Validation) 16. Production rate of Purified Water @ 3 ltrs/hr or more 17. System should be quoted with one set of Consumables including RO. 18. Technical specifications **Ultra-Pure (Type I) water** • Resistivity: 18.2 Mega Ohms.cm @ 25 Degree C. • TOC: < 5 ppb • Bacteria: < 0.01 cfu /ml or better • Particulates (0.22 micron): < 1 /ml • RNAse: < 0.003 ng/ml or better • DNAse: < 0.4 pg/ml or better • Endotoxin: 0.001 EU/ml or better • Flow rate : ≥ 1 Litre/Minute. **Ultra-Pure (Type II) water** • Resistivity: > 1 Mega Ohms.cm @ 25 Degree C. • TOC: < 30 ppb • Flow rate: ≥3Ltr/hour 19. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
8. CLEAN BENCH SYSTEMS FOR BIOSAFETY CABINETS				
8.	1. Ergonomic design for versatile usage, eases of use, plug & play system. 2. Designed so as to meet the requirements of US Federal Standard 209 B (BS 5295) providing particle free air to meet class 100 conditions 3. International Standards - UK Complied Certifications – ISO 9001:2015, CE. GMP. 4. Company is under Make in India & MSME Certified with International standard, Certified model with duly mentioned brand name Internal IQ/OQ/PQ Certification. 5. Re circulates 70% of HEPA filtered air and Rest 30% exhausted through a HEPA filter and discharged to the lab or exhausted through an optional exhaust system 6. HEPA-filtered exhaust air in Type A2 cabinet May be re circulated into the room or exhausted to the outdoors through a canopy exhaust connection. 7. HEPA-filtered down-flow air is a portion of mixed down-flow and inflow air from a common plenum. 8. Negative Pressure air surrounding all Biological contaminated ducts and plenums. 9. Negative pressure surrounds the work area with double wall plenums for protection 10. High velocity air forced through HEPA filters, Filtered air is thrown in the chamber with a high velocity which in turn disperse particulate matter on all surface, The lower portion of the Air showers suck the contaminated air and allow it to pass to blower supply plenum, This process is a continuous process in which air is continuously filtered and recirculated inside the chamber without any exchange with the external environment			

	11. Exhaust air pass through HEPA Filter & Virus burn unit Exhaust ducting with L- Bent PVC pipe supplied with the machine. 12. Material of Construction: - Outer Body- CRCA Sheet epoxy Powder coated antibacterial& Antirust effect, 22 gauge OR Stainless Steel-304 PVC /Matt grit/ Sattin finish, 22 GAUGE 13. Work table top: - SS-304, PVC /Matt grit/ Sattin finish, 22 GAUGE. Single piece without Any internal joint or welding with below spillage collection zone. The work table can be removed for cleaning of the spillage. Front & rear air grille at the working chamber. 14. Front door – Counter balanced weight with 5 mm toughened/tempered glass UV –protected to protect customer from UV Exposure – complete transparent along with base structure to hold the cabinet & ease of access. 15. Air flow type: - Vertical Air flow from the top. 16. Air Flow Velocity:- 90 FPM ±20%, Inflow Velocity: 0.53 m/s, Down flow Velocity: 0.33 m/s 17. Aerodynamically designed front airflow intake grid eliminates potential turbulence an contamination 18. Statically balanced motor blower Assembly (Heavy Duty), 1440 rpm, ¼ hp. Noise of the blower is less than 55 dBA & Very low vibration 19. Filtration Assembly: - Room air is drawn from the top of the cabinet through a HEPA-Filter, then the air pass through HEPA Filter and spread evenly in the working area providing a constant a stream of clean air flow within the work area. Also the exhaust air goes though HEPA filter to maintain a complete safe arena. HEPA Filter is Mini pleat type, made from water resistant, fire retardant, imported micro-fine glass fibre media; conforms to EU – 14 Grade, with an efficiency rating better than 99.999% for 0.3 µ. These filters are designed to accommodate higher air flow volume. 20. Perforated diffuser screen /shield mesh guard protect Filters from damage. 21. Front angular 10 degree slope helps reduce fatigue of user. 22. Pressure manometer to track filter pressure & air/gas cock inside the working area 23. Easy removable back/front panel for easy access to electrical fittings and easy removable filter placement for ease of access during service. 24. Wheels: -Mounted on heavy tubular stand with lockable castors with foot rest. 25. Electricals fittings & Fixtures: - • Microprocessor based PID Controller – UV ONOFF, UV-Timer, Blower 3 speed control – High, Low, Medium, and Display of UV Age. • Fluorescent light – 20 watt, >800 lux, with chokes for lighting UV Light – 15 watt, Philips make • Power supply -220-230 V, 50-60 Hz, 5/15 amps power cord.			

	• Internal 5 amp electrical connection for usage of several machines in clean air 26. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
	9. CO_2 INCUBATOR			
9.	1. Capacity: 6 - 7 cu. ft. 2. Temperature Range (Metric) Ambient +5°C to 50°C Relative Humidity 3. CO2 Sensor Technology IR Sensor Type 4. CO2 Incubator Oxygen Control None 5. CO2 Concentration Range 0 to 20% 6. Certifications/Compliance UL, CUL, CE Data Outputs Optional 4-20mA 7. The system should have minimum 2 years onsite comprehensive warranty from the date of installation. 8. Supply with one CO2 cylinder and regulator 9. No. of shelves: 3 to 5			
	10. MICROTOME			
10.	1. Designed for effortless manual sectioning via a counter-balanced, exceptionally smooth-running hand wheel. 2. Instrument with X/Y specimen orientation 3. Fast exchange system for specimen clamps, both Universal Cassette Clamp & Standard Clamp 4. Personalized User Selectable Coarse Feed wheel turn direction, either Clockwise or Anti-Clockwise to suit user's preference 5. Retraction on/off function 6. Two mechanical trim steps at 10 µm, 50 µm: (50 µm coarse, 10 µm fine) 7. Blade holder for disposable blades—must be for both High & Low Profile with standard specimen clamp. 8. The object head with +/-8° X/Y orientation equipped with a fast specimen clamp exchange system for improved workflow. 9. Storage space on top of the instrument housing provide room for sectioning tools and accessories. 10. The instrument feature a low-maintenance micrometer feed system with backlash 11. Maintenance-free vertical cross-roller guides and horizontal specimen feed via precision cylinder guide system. 12. Distortion-resistant base plate ensure optimum overall stability. 13. The vertical stroke of 59 mm 14. Horizontal specimen travel range of 25 mm 15. Allow to section specimens up to a size of 50 mm			

	x40 mm x 40 mm. 16. Ergonomically designed hand wheel grip. 17. Hand wheel lockable in any position via brake lever attached to base plate 18. Lockable hand wheel in upper position via hand wheel grip. 19. *Location conditions:* • Operating temperature range 10°C to 35°C. • Temperature range during storage 5°C to 55°C. • Relative humidity max. 80%, non–condensing. • Storage humidity < 80%. 20. Technical information- Section thickness setting range 0.5–60 µm. 21. Section thickness selection from 0.5–2 µm in 0.5 µm-steps. • from 2–10 µm in 1 µm-steps. • from 10–20 µm in 2 µm-steps. • from 20–60 µm in 5 µm-steps. • Total horizontal specimen feed 25 mm. 22. Vertical specimen stroke 59 mm 23. Specimen retraction ON/OFF 24. Specimen orientation: Horizontal 8° & Vertical 8° with Rotation ± 90° 25. Dimensions and weight should be lean & compact—must occupy lean work space in lab 26. Must include Sturdy Waste Tray 27. Must be Imported Model with both European CE & USFDA Certified 28. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
11. PARAFFIN EMBEDDING SYSTEM				
11.	**I. Hot Plate:** 1. Microprocessor controlled two-piece tissue embedding system consisting of heated paraffin station and separate cold plate. 2. The paraffin flow is activated by means of a height-adjustable, pivotable clip - activated either manually by pushing or via a foot switch with controllable flow rate. 3. Working start time and end time settings, Weekly working days setting with real time setting. 4. Should have symmetrical and unobstructed workspace: The 100% symmetrical and unobstructed workspace with equal left & right working spaces from the dispense nozzle in between, reduces distractions and allows to keep your cassettes, molds and other accessories warm and at hand for a smoother workflow.			

	5. Should have Easy-to-open spacious trays for efficient access to cassettes and molds: Easy-to-open trays allow for efficient access to cassettes and molds, resulting in smoothly run batches. Tray lids should be half opened to keep the temperature stable. 6. Should have bright white LED for contrast and visibility of the most transparent samples- Easily Controllable by the key on LCD control panel: The bright white LED improves contrast and visibility of the most transparent samples. 7. Provide the error message for operation condition monitoring. 8. Large heated working surface and integrated mold tray and cassette bath with temperature adjustment from 50 to 75°C in 5°increments. 9. Cassette bath and mold tray should be interchangeable to accommodate changes in embedding work flow. 10. Should have Easy to clean metal frame and silicon coated wristpads. The ergonomic wrist pads increase hand stability and precision, even when embedding the most difficult biopsies. 11. Programmable for weekly timer, work days, work starting time, work end time, real time and day of week for automatic switch on and off of the instrument. 12. Operating temperatures: 50 °C to 75 °C, adjustable in 1 °C increments. 13. Should have RAPID Heating: to boost heating if wax in needed to refill in between instrument run, then rapid heating allows wax granules to melt within 15 minutes. 14. Easy to clean metal frame and silicon coated wristpads. The sturdy design of the special scraper helps clean all grooves and crevices. 15. Removable tray must hold: approx. 150 cassettes 16. Paraffin tank: Max. 4 L 17. Rectangular shaped Peltier cooling unit in front of the nozzle—for immediate freezing of the molten paraffin. 18. Display: 5.7 inch capacitive LCD touch screen 19. Two Heated removable waste tray & Heated removable forceps 6 nos. holder easily accessible from either side. 20. Large peltier element cold spot to assist tissue orientation. 21. Power supply: 110-120 V AC, 220-240 V AC, 50/60Hz, Power consumption: 1000 VA max **II. Cold Plate** 22. Operating temperature: -6 °C (self-regulating) to hold			

	up to 70-80 standard cassettes. Temperature should strictly MUST NOT go BELOW -6 °C to avoid tissues getting hard & brittle where chances of tissue destruction & tissue breakage are high 23. Min. guaranteed workload capacity: 65 blocks solidified in 30 minutes 24. Adjustable work surface height for optimum ergonomics. 25. Provision for Self-Regulation so that no need to turn down the temperature in summer or worry about too fast cooling in winter. 26. Both HOT & COLD Instruments Should have CE and USFDA certificate 27. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
12. AUTOMATIC TISSUE PROCESSOR				
12.	1. Benchtop unit, movable on rollers. 2. Carousel-type construction with 12 processing stations: 10 reagent stations, 2 wax baths. 3. One basket operation/standard tissue basket without vacuum/without fume control 4. Connection for optional third wax bath. 5. Glass beakers, solvent-resistant and dishwasher-proof, with beaker carriers and minimum/maximum filling marks. 6. Aluminium standard tissue basket. Membrane keyboard and LCD screen. Locking key to prevent inadvertent changing of programmed parameters. 7. Indication of station and program parameters such as number of tissue baskets, remaining infiltration time, real time, start time(delayed start time), overall run time and end of run time. Audible alarms, error messages and warning codes for "paraffin solid" status. 8. Manual and automatic mode of operation. 9. Infiltration time of up to 99 h 59 min, individually programmable for each station. 10. Immediate start and delay start up to 9 days. 11. Permanent tissue basket movement (can be switched ON/OFF) at 3 second intervals in both manual and automatic operation. 12. 1 minute drain time between stations for reduced carry-over. 13. Advanced safety concept. Automatic immersion of tissue basket in a station in case of mains power failure. 14. Power failure indication including station number and time lapsed in excess of programmed infiltration time. Automatic reheating of wax before basket transfer to a wax bath.			

	15. Crank for manual raising and rotation of carousel-for immediate tissue basket removal or transfer to the next station. 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
13. TRINOCULAR MICROSCOPE WITH IMAGING SYSTEM				
13.	1. Upright compound microscope 2. Control Display: 5-element display on either side of the stand and long-life blue LEDs. This intensity display is well readable from several meters distance. 3. Contrasting Method: Bright field, Upgradeable to Phase Contrast, Dark-Field, simple Polarization and Fluorescence 4. Illumination: With modular slide-in concept; Must be easy change of illuminators from LED to halogen; LED illumination 3W white-light, 5600K, lifetime 35000 hours; Halogen illumination with 6V 30W halogen lamp, Homogeneous field illumination 22mm & Light manager remembers precise amount of light set for each lens position 5. Optical system: Colour-corrected infinity optics 6. Eyepiece: A pair of eyepieces 10x suitable for spectacle wearers and retrofittable eyepiece pointer; Eyepiece with field of view of 22mm; Eyepieces secured with setscrews against unauthorized removal 7. Objectives: With High quality objectives of the iPlan-Achromat class: iPlan-Achromat 4x/0.1 WD: 30.7 mm, iPlan-Achromat 10x/0.25 WD: 17.4 mm, iPlan-Achromat 40x/0.65 WD: 0.6 mm,Ÿ iPlan-Achromat 100x/1.25 WD 0.30 mm & 5-position nosepiece tilted back and bjectives secured against unauthorized removal 8. Condenser: Focusable and centerable Abbe condenser 0.9/1.25.With Holder for phase contrast and darkfield sliders 9. Viewing Tube: Viewing and trinocular tubes (50%:50%) with 25° angle and field of view 22mm. Siedentopf "up and down" position for 2 different viewing heights with interpupillary distance continuously variable from 48 to 75 mm by asymmetric folding of the binocular part Tube is secured against dropping by special dovetail 10. Stage: Mechanical reckless stage with long-lived stage surface with right-controls. Stage size 185x135, travel range 75x50, With well-readable vernier and long “Ergonomic” stage drive, With double-slider holder 11. With power unit integrated into stand with cable storage at the backside of the stand. Ergonomic shape for convenient, safe carrying. 12. 5V USB port at the back of the stand to connect a power bank or charge mobile device 13. ECO mode, automatically go into a sleep mode			

	after 30min inactivity 14. Filters: Colour filter set blue, green and yellow 15. With Dust Cover & Anti-fungus treated optics (Must provide anti-fungus certification from manufacturer). 16. Camera: Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. And should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. The camera shall provide an on-screen display (OSD) that allows to control the camera without an extra controller/computer or software. In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. Images shall be stored conveniently on a USB flash drive. The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. The camera shall provide multiple setup possibilities to use it in a wireless mode. 17. Certification: System should be ISO and CE certified. Both microscope and camera should be from same manufacturer. 18. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 19. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
	14. INVERTED MICROSCOPE			
14.	1. Modular Illumination (HAL and LED) White LED. Should also have provision to interchange LED with HAL illumination. Halogen illumination should also be included. 2. Contrast techniques Bright field, phase contrast. Upgradeable to Fluorescence 3. Stage details Dimensions: 200 X 239 mm 4. Stage focus Coarse adjustment: 45 mm/rev Fine adjustment: 0.5 mm/rev Stage lift: 15 mm Stage adjustment: Right side 5. Nosepiece turret Nosepiece turret with 4 positions 6. Objectives and objective indicators Objective indicators for fast identification of magnification Recommended Objectives Plan-ACHROMAT 4X/0.10; 10X/0.25 LD Plan-ACHROMAT: 40X/0.50 Ph. 7. Condensers Long distance (LD) condenser with NA 0.3 and working distance (WD) = 72 mm. Position for phase sliders to be available with the condenser. 8. Binocular tube details Binocular tube with phototube. Field of View: 20 Inter-pupillary Distance: adjustable from 48 to 75 mm Viewing Angle: 45° Viewing Height: 350 to 390 mm Fixed Split: 50% visible, 50% documentation			

	9. Eye pieces 10X/ FOV 20 10. Accessories Universal mounting frame -for micro-well plates, flasks, Petri dishes 11. Camera Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. And should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. The camera shall provide an on-screen display (OSD), available in at least 3 languages, that allows to control the camera without an extra controller/computer or software. In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. Images shall be stored conveniently on a USB flash drive. The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. The camera shall provide multiple setup possibilities to use it in a wireless mode. 12. Microscope, camera and software should be from same manufacturer 13. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
15. BIOSAFETY CABINET LEVEL - II				
15.	1. The Bio safety cabinet should be Type A2 in which 70% Air should be re- circulated and 30% of the air should be exhausted 2. The Bio Safety Cabinet must include two DC motors. 3. The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments. 4. In order to preserve safety to the user and the environment, the exhaust blower on the cabinet must continue operating when the supply blower stops working. If the exhaust blower should fail, the supply filter will also be turned off. 5. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor from temperature, humidity and other environmental phenomena that can impact the sensor's performance. 6. The microprocessor must display the inflow and down flow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions. 7. The front window must be a 10” sash opening and be made of laminated safety glass to ensure containment of potentially hazardous samples in the case of accidental glass breakage. 8. All interior and exterior parts must be painted or			

	smooth to ensure no risk of cuts to users or maintenance personnel. 9. The cabinet noise level must be less than 63 dB(A) for a 4 foot cabinet as measured in a sound proof room 12 inches in front of the cabinet and 15 inches above the work surface. 10. The Biosafety Cabinet should have microprocessor controller and same must be located on a slanted front panel so it is easy to see and reach from a seated working position in front of the cabinet. 11. The interior of the front window must be accessible for cleaning without requiring the user remove or support the window. 12. The cabinet must automatically reduce fan/blower motor speed to 30% when the front window sash is in closed position to ensure reduced energy consumption when the cabinet is not is use. 13. In order to provide maximum effectiveness, efficiency and safety to laboratory Personnel, UV light must be programmable to allow for specific exposure times from 0 to 24 hours. The automatic shut off feature on the UV light saves money on replacement of the bulbs. 14. The Cabinet should have provision to fit taps for Vacuum, Water and Non-combustible Gas. 15. The Bio safety Cabinet should be NSF certified with listing on NSF website. 16. Cabinet should have individual sticker of NSF Certification along CE certificate. 17. The Bio safety cabinet should incorporate HEPA filter of the class H 14 EN 1822 or better and having minimum efficiency of 99.995% at 0.3 µm particle size. 18. Approximate Dimension: Exterior 1500 H x 1300 W x 800 D; Interior 800 H x 1200 W x 500 D. 19. Ventilation System Exhaust and Inflow air volume approx 300-350 CFM 20. Heat Emissions at 25ºC should be approx 0.2 KW or lesser. 21. The BSC must incorporate an LED Indicator to indicate filter loading and should provide visual and audible alarm to indicate excessive HEPA filters loading which can result in unsafe airflows deviation from the NSF recommended inflow and down flows air velocity values measured in meters per second or foot per minute. 22. The cabinet should be provided with fixed / adjustable Height Stand, UV Light and one set of detachable arms rest and electrical outlet. 23. The Drain Pan of the BSC should be made of Stainless Steel. The drain pan should not be painted or power coated. 24. The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space. Bio Safety Cabinet with single glass side walls should not be quoted. 25. The system should have minimum 2 years onsite			

	comprehensive warranty from the date of installation.			
	16. ELISA READER			
16.	1. Read-out Range: 96 Well Plate; 384 Well Plate 2. Measurement Technology: Absorbance 3. Plate Type: 96 and 384 well plates 4. Software Type: Internal software or PC control with Software 5. Wavelength Selection: Filters 6. Wavelength Range: 340–850 nm 7. Photometric Linearity: 0–3 Abs, ± 2%, 96-well plate, 450 nm 8. Accuracy (Photometric): ± 1% (0–3 Abs) or ±0.003 Abs, 450 nm 9. Precision: CV ±0.2% (0.3–3 Abs), 450 nm 10. Incubator Temperature: From ambient + 4°C up to 50°C 11. Shaking: Linear shaking 12. Measurement Speed: 7 s, 96-well plate (fast mode); 13 s, 384-well plate (fast mode) 13. USB Connections: USB for computer connections data export and external printer 14. Application: ELISA, enzyme activity, protein quantification, endotoxin, cytotoxicity and proliferation assays, enzyme assays and growth curves 15. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
	17. UV/VS SPECTROPHOTOMETER			
17.	1. Control: System should have High Definition 7" touch screen control 2. Detector Type: Dual Silicon Photodiodes 3. Power: External AC to DC converter. Voltage and Frequency (Hz) selected automatically, 100–240 volts, 50–60 Hz. 4. Lamp: Xenon Flash Lamp /or any equivalent lamp / 5. Optical Design: Dual Beam or better 6. Spectral Bandwidth: 2 nm or better 7. Wavelength Accuracy: ±0.5 nm or better 8. Wavelength Data Interval: 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm or better 9. Wavelength Range: 190 nm – 1100 nm or better 10. Wavelength Repeatability: < ±0.2 nm or better 11. Photometric Range: –2A to +3.5A or better 12. Photometric Repeatability: ±0.001A at 1A or better 13. Stray Light: < 1.0%T 198 nm (KCl) or better, <0.05%T at 220 nm (NaI) or better, <0.03%T at 340 nm (NaNO2) or better 14. Baseline Flatness: ±0.002A or better 15. Wavelength Scan Speed: Slow, medium and fast – minimum up to 1600 nm/min or better			

	16. Connections: Single USB supports flash memory devices for method and data storage, 17. USB on side supports connection to a Windows™ computer running 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			
	18. ULTRA CENTRIFUGE			
18.	1. Speed: 100,000 rpm RCF :> 750,000 x g 2. Maximum Capacity: 6 x 230-250 mL 3. Drive System: Imbalance tolerant direct drive; eye balance to within 5 mm Control: Microprocessor Control Panel: Touch screen colour LCD/LED panel (5 to 10 inch) 4. Programmability: 1,000 programs with step-runs Run Log Database: Up to 5,000 runs recorded in onboard memory 5. Data Communication: USB: Host x 1, Device x 1 / LAN x 1 Accel/Decel Profiles: 10/11 (10 and coasting) Speed Range: 1,000 rpm to max. Speed in 100 rpm increments Speed Control Accuracy: ±10 rpm (1,000 rpm – max. speed) 6. Timer: 1 min to 999 hours 59 min (with 1 min increments) with HOLD function 7. Temperature Set Range: +2 to +40 °C Temperature Accuracy: ±0.5 °C 8. Ambient Temperature Range: +10 to +30 °C Temperature 9. Control System: Solid-state thermoelectric module refrigeration (CFC/HCFC/HFC-free) Vacuum System: Oil-rotary vacuum pump with moisture removal function and oil diffusion pump; vacuum of 0.7 Pa to 0.13 with Rotor tracking system 10. Operation screens: Yes Drive 11. Cooling: Air-cooled Functions- Automatic RCF; ω2dt integrator; real time control 12. Heat Output: 1 kW or below 13. Noise: 51 dBA 14. Should have Self-locking rotor system 15. Should have the facility to monitor instrument status from across the lab. 16. Rotor required: 6 x 50 ml, 12 x 15 ml and 24 x 1.5 ml. 17. Certification: CE and cCSAus. 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.			

Seal & Signature of Bidder

Chapter – 7

PRICE SCHEDULE FORM

Price Schedule for Goods Being Offered from India/abroad in INR

(Separate form to be used for each item offered)

Name of the Bidder/Tenderer:

Address of Bidder/Tenderer:

Tender No.:

Name of offered goods/items:

Make and Model of equipments/items:

Place:

Date:

Seal & Signature of Bidder

BIHAR ANIMAL SCIENCES UNIVERSITY			
	NIT No.	:-	
	Group No.	:-	
	Quantity	:-	
	Name of Equipment/Items	:-	
	Last date of online submission (Date and Time)	:-	
	Earnest Money (in Rs.)	:-	
	Bid Processing Fee of Beltron (in Rs.) Non-Refundable and to be paid only through e-Payment mode i.e. Internet payment gateway (Master or Visa Card)/Internet Banking/NEFT or RTGS	:-	1180.00

FINANCIAL BID FORMAT

TO BE FILLED IN BY BIDDER

1	Name of the Bidder	:	
2	Address of the Bidder	:	
3	Name of Equipment / item as mentioned in Tender Document	:	
4	Name & Model No. of offered goods/items		
5	F.O.R. price inclusive of all taxes and duties		
6	Total Bid price (inclusive of all taxes and duties, GST) in Indian Currency, INR		
7	Total Bid pricing in words		

Note	Note-1: The cost of optional items shall be indicated separately, if any
	Note-2: Bihar Animal Sciences University, Patna have DSIR Certificate (Reg. No.: TU/V/RG-CDE (1293)/ 2020 Dated: 07.01.2021). So, price should be quoted considering this point.

Director Procurement
Bihar Animal Sciences Univeristy

Annexure- I

MANUFACTURER'S AUTHORISATION FORM

To,

The Director Procurement,
Bihar Animal Sciences University,
Patna-800014

Dear Sir,

Ref. Your Tender Inquiry No……., dated……

We, …….. who are proven and reputable manufacturers of…….. (*Name of equipment/item offered in the tender*) hereby authorise Messrs……. (N*ame and address of the supplier*) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred tender inquiry for the above……. *(Name of equipment/item offered in the tender*) manufactured by us.

We further confirm that no supplier or firm or individual other than Messrs. …… (*name and address of the above agent*) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred tender inquiry for the above ……. *(Name of equipment offered in the tender*) manufactured by us.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorised agent.

We also confirm that the price quoted by our agent shall not exceed than that which we would have quoted directly.

Note:-

(i) This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.
(ii) Original letter may be sent.

Annexure-II

MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY

To,

The Finance Comptroller,
Bihar Animal Sciences University,
Bihar Veterinary College Campus, Patna-14

WHEREAS …… (name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no……. dated ……. to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of **Rs.----------/- (----------)**, and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the …..... day of ……, 20……..

……..…….
(Signature of the authorized officer of the Bank)

…….
Name and designation of the officer

…….
…….
Seal, name & address of the Bank and address of the Branch

Chapter – 10

SELF-DECLARATION – NO BLACKLISTING

Date:……..

To,

The Director Procurement,
Bihar Animal Sciences University,
Patna-800014, Bihar

Dear Sir/Madam,

Ref: Tender for the supply and installation of various laboratory equipments/instruments for the College of Fisheries, Kishanganj.

In response to the Tender Document for the supply and installation of various laboratory equipments/instruments for the College of Fisheries, Kishanganj, BASU, I / We hereby declare that presently our Company / firm _____ is having unblemished record and is not declared ineligible for corrupt & fraudulent practices either indefinitely or for a particular period of time by any State/ Central Government/ PSU/Autonomous Body.

We further declare that presently our Company/ firm _____ is not blacklisted/debarred and not declared ineligible for reasons other than corrupt & fraudulent practices by any State/ Central Government/ PSU/ Autonomous Body on the date of Bid Submission.
If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.
Thanking you,

Yours faithfully,

Place:
Date:

Signatures_____
Name_____
Seal of the Organization_____

Chapter – 11

AUTHORIZATION LETTER FOR ATTENDING TENDER OPENING

No…….. Date……..

To,

The Director Procurement,
Bihar Animal Sciences University,
Patna-800014, Bihar

Subject: Tender No._____Due on _____.

Sir,

Mr./Ms. ……. has been authorized to be present at the time of opening of above tender on my/our behalf. His/her attested signatures are as under:

Yours faithfully,

Signature & Seal of the Bidder

Chapter – 12

PREVIOUS SUPPLY ORDERS FORMAT

Name of the Firm:

Order placed by [Full address of Purchaser]	**Order No. and Date**	**Description and quantity of ordered equipment**	**Value of order**	**Date of completion of delivery as per contract**	**Has the equipment been installed satisfactorily?** [Attach a certificate from the Purchaser/ Consigner]	**Contact person along with telephone No. Fax No. E-mail address**

Signature and Seal of the Manufacturer/ bidder ……

Place:

Date:

Chapter – 13

TECHNICAL SPECIFICATIONS

The Required Technical Specifications of Scientific Equipments/Instruments as follows:

Gr. No.	Equipment Name	Qty.	Specifications
1.	**MICROSCOPE WITH IMAGING SYSTEM**	**01**	1. **Type:** Upright compound microscope with full Koehler Illumination 2. **Control Display:** 5-element display on either side of the stand and long-life blue LEDs. This intensity display is well readable from several meters distance. 3. **Contrasting Method:** Bright field. Upgradeable to Phase Contrast, Dark-Field, simple Polarization and Fluorescence 4. **Illumination** • With modular slide-in concept • Must be easy change of illuminators from LED to halogen • LED illumination 3W white-light, 5600K, lifetime 35000 hours • Halogen illumination with 6V 30W halogen lamp • Homogeneous field illumination 22mm • Light manager remembers precise amount of light set for each lens position 5. **Optical system:** Colour-corrected infinity optics 6. **Eyepiece** • A pair of eyepieces 10x suitable for spectacle wearers and retro fittable eyepiece pointer • Eyepiece with field of view of 22mm • Eyepieces secured with setscrews against unauthorized removal 7. **Objectives:** With High quality objectives of the iPlan-Achromat class: • iPlan-Achromat 4x/0.1 WD: 30.7 mm • iPlan-Achromat 10x/0.25 WD: 17.4 mm • iPlan-Achromat 40x/0.65 WD: 0.6 mm • iPlan-Achromat 100x/1.25 WD 0.30 mm • 5-position nosepiece tilted back and objectives secured against unauthorized removal 8. **Condenser:** Focusable and centerable Abbe condenser 0.9/1.25. With Holder for phase contrast and darkfield sliders 9. **Viewing Tube** • Viewing and Trinocular tubes (50%:50%) with 25° angle and field of view 22mm • Siedentop "up and down" position for 2 different viewing heights • With interpapillary distance continuously variable from 48 to 75 mm by asymmetric folding of the binocular part • Tube is secured against dropping by special dovetail

			10. **Stage** • Mechanical reckless stage with long-lived stage surface with right-controls • Stage size 185x135, travel range 75x50 • With well-readable Vernier and long "Ergonomic" stage drive • With double-slider holder 11. **Power** • With power unit integrated into stand with cable storage at the backside of the stand. Ergonomic shape for convenient, safe carrying. • 5V USB port at the back of the stand to connect a power bank or charge mobile device • ECO mode, automatically go into a sleep mode after 30min inactivity 12. **Filters:** Colour filter set blue, green and yellow 13. **Dust Cover:** With Dust Cover 14. **Anti-fungus treated** optics. Must provide anti-fungus certification from manufacturer. 15. **Camera** • Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. • Camra should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. • The camera shall provide an on-screen display (OSD) that allows to control the camera without an extra controller/computer or software. • In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. • Images shall be stored conveniently on a USB flash drive. • The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. • The camera shall provide multiple setup possibilities to use it in a wireless mode 16. **Microscope and** camera should be from same manufacturer and System should be ISO and CE Certified. 17. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
2.	**DEEP FREEZER** **(-80ºC)**	**02**	1. Capacity: 360-380 Ltrs 2. Must include NON-CFC REFRIGERANTS 3. 13 cu. ft. capacity Upright, with (2) 1 horsepower compressors 4. Latch and handle for ergonomic handling and one hand operation with padlock capability

			5. Durable Steel interior with Inner doors. 6. Down-feed evaporator 7. Adjustable solid Stainless Steel shelves 8. Triple -sealing silicone door gasket 9. 5" non-CFC foamed-in-place polyurethane insulation; 4.5" in door 10. Two 10" tube axial fans to provide maximum cooling of the compressor Housing 11. Heavy-duty dual wheel swivel locking casters. 12. Automatic voltage compensator responds to high and low voltages 13. Powder coat paint for a durable surface 14. Service valves provided to allow easy recovery of refrigerants and field servicing. 15. Front to back airflow with Removable, cleanable air filter 16. Hinged grill swings out for easy access to filter and battery 17. A vacuum relief port allows easy re-entry after door openings 18. Heavy duty hinge for ensuing positive closure and un-interrupted service 19. TEMPERATURE CONTROL • The microprocessor controller must monitor in one degree C increments, with digital display. • Eye Level Information center for At-a-Glance Monitoring • Temperature probe must be positioned to insure the alarm sounds before the stored product can be affected by a rise in temperature • Battery back-up for the alarm monitoring system • Both visual and audible alarms must alert operator of over and under temperature, power fail, door ajar, and low battery conditions • Dry contacts included for connection to optional remote alarms. • Optional eye level recorder mounted in the door or optional data logger 20. CERTIFICATIONS: CE Mark. Manufactured by an ISO-9001 company 21. The system should have minimum 2 years onsite comprehensive warranty from the date of installation. 22. No. of selves: 3 to 5
3.	**REFRIGERATED CENTRIFUGE**	**01**	1. Capacity: 4 x145ml or 6 x 50 ml 2. Speed: 17,800 – 18,000 RPM 3. RCF: 30,000xg 4. Temperature range: -10°C to 40°C 5. The rotor should have auto lock system. 6. Should have One-touch operation with pre-saved protocols. 3 direct program buttons, 96 additional programs accessible via folder. 7. Should have Pre-Cooling Function with direct button. 8. Refrigeration System should be CFC Free. 9. Sound Level should not be more than 56 dBA. 10. Should have drainage system to prevent rusting.

			11. Bucket lids must operate in a safe manner without spring clips or metal components. 12. Centrifuge must have a swing out rotor capable of spinning samples above 16,000 xg. 13. The machine should offer following rotors to meet future needs of the lab by just adding rotors: • Fixed angle rotor 6 x 50 mL Individually Sealed Rotor, 5,600 rpm, and 5,014 x g. • 2-4 standard or 2 deep well microplates, PCR strips and haematocrit capillaries • Rotor for running up to 30 spin columns in certified sealed angle rotor, 14000RPM, 22000xg • Swing out rotor to spin 8 x 50ml or 15 ml conical tubes. 4000 RPM, 3300xg 14. Rotor to be supplied: • Fixed angle rotor 6 x 50 ml in bio containment certified angle rotor, with speed not less than 9,500 rpm, 12,100 x g, and Adapter for 15 ml tube • Swinging out plate rotor with capacity of 4x standard or 2 deep well plate with speed 4400RPM, 2500xg. • Fixed angle Microliter rotor 24 place rotor with speed not less than 17,800 rpm / 30,200 x g 15. CE marked, IVD compliant, UL listed- for safety containment 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
4.	**REAL-TIME PCR**	**02**	1. The system should be automated integrated 96 well peltier based for both real-time PCR and post-PCR (end-point) analysis with 6 independently controlled zones. 2. It should have interactive touch screen LCD for standalone operation with 8 – 10 GB onboard memory for storage of at least 1600 - 2000 runs. 3. System should support minimum recommended reaction volume of 10–30 µL/10–100 µL for 0.1/0.2 mL block. 4. The Quoted System Should support the temperature range from 40 to 100°C with block ramp more than 6 DegC/sec, and run time less than 40 minutes. 5. System should have four coupled / six de-coupled excitation and emission filter sets to enable collection of up to 21 unique combinations of wavelengths during a single run for multiplexing five colours or above. 6. The System should utilize a bright white LED source, excitation by LED light source with a > 5 years lifespan and detection by CMOS/CCD with whole plate imaging and detection. 7. The system should be factory calibrated for the following FAM/SYBR Green, VIC/JOE/HEX/TET, ABY/NED/TAMRA/Cy®3, JUN, ROX/Texas Red™ dyes

			8. The system should be able to do applications such as Gene Expression, Genotyping, Copy Number Variation, Pathogen Detection, Strain Typing, and Viral Load, Mutation Scanning, Methylation and other Epigenetic 9. Applications, miRNA profiling, Protein analysis with proximity ligation assays and Protein Thermal Shift technology. 10. System should detect differences in target quantity as small as 1.5-fold in single plex reactions, and should have 10 logs of linear dynamic range. 11. Single-plate analysis Absolute and relative gene expression, SNP genotyping, presence/absence, high resolution melt, Multiplate analysis Gene expression studies, SNP genotyping studies. 12. The normalization of reaction due to non-PCR related fluctuations should be possible by using any calibrated dye. 13. The system can be connected to the online ecosystem and instrument data/status will be automatically uploaded, allow users to access and securely share result with colleague anywhere, anytime from any location with internet access 14. Features to assist with 21 CFR part 11compliance Security, auditing and e-signature, CE, ISO, and MIQE compliant 15. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software. 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
5.	**NANO-SPECTROPHOTOMETER**	**01**	1. Wavelength Range: 190-850 nm or better 2. Sample Size: 1 µL 3. Path length: 0.03 to 1 nm 4. Light Source: Xenon flash lamp 5. Detector Type: 2048-element CMOS linear image sensor 6. Wavelength Accuracy: +/- 1 nm 7. Spectral Resolution: <1.8 nm (FWHM @Hg 254 nm) 8. Absorbance Accuracy: ± 3% (at 0.97 absorbance at 302 nm) 9. Absorbance Range: Pedestal-0-550 A (10 mm equivalent) 10. Detection Limit: Pedestal: 2 ng/µL dsDNA, BSA (IgG) : 0.06 (0.03) mg/mL 11. Maximum Concentration: 27,500 ng/µL (dsDNA) 12. Measurement Time: < 8 seconds 13. Touch Screen: >6 inch 1280 × 800 high-definition colour display, android based Quad Core ARM Cortex A-9 Processor, Multipoint capacitive touch, Gesture Recognition: Single point, single point hold, swipe and pinch. 14. Connectivity: Three USB-A ports, Ethernet, Bluetooth and Wi-Fi

			15. Internal Storage: 32 GB flash Memory 16. Software: Software should have feature to identify the contaminants like protein and phenols in samples and reports corrected analyte concentration. System must have image analyser to detect bubbles and other anomalies in the sample column. Software should provide instant feedback about sample quality with on-demand technical support for guided troubleshooting. 17. Application Support: Nucleic Acid A260, A260/A280, A260/A230 and Labelled Nucleic Acids; Protein A280 and A205, Protein Pierce 660, Protein Bradford, Protein BCA, Protein Lowry, Labelled Proteins, OD600, Kinetics, UV-Vis, and Custom Methods. 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
6.	**GEL DOCUMENTATION SYSTEM**	**01**	1. The system should have Small footprint to conserve benchtop space. 2. The system should come with a UV light base 312 nm and is capable of visualizing both DNA and RNA gels 3. It should have option for the use of safe blue-light trans- illumination without the risks of UV light trans- illumination. 4. Provision for Sensors to permit illumination only when the Imager Camera Hood is properly positioned over the Light Base unit. 5. It should be Compatible with a wide range of fluorescent and visible dyes (e.g. Qdot®, SYBR Safe®, ethidium bromide). 6. Compatible with different gel formats including precast gels (e.g. E-Gel® Agarose Gels, NuPAGE® Novex Bis-Tris Gels) and pour-it-yourself gels (agarose, or polyacrylamide). 7. It should perform Real-time sample imaging allowing detailed sample viewing. 8. It should eliminate the need for film or processing chemicals. 9. Electrical Requirements: 100–240 V, 50/60Hz, 0.6A 10. Temperature: Ambient ± 5oC to 40˚ C 11. Viewing surface dimensions should be minimum 10 cm × 15 cm 12. It should do direct camera to PC image transfer. 13. Lens with F/1.4, with broad range amber filter 14. High resolution 12 bit CCD Camera: 1.0 to 1.5 megapixels with dynamic 56DB 15. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.

7.	**WATER PURIFICATION SYSTEM**	**01**	1. System should be quoted along the external Pre-treatment and External RO to handle the silica free applications. 2. System should be standalone single stage system-produce Endotoxin and bacteria free ultrapure water Type 1 and Type 2 directly from potable water supply. 3. System should be capable of providing ASTM Type I (18.2 Mega ohm resistivity) Water and have the UF cartridge to cater Biological applications 4. System should be capable of providing ASTM Type II (1-10 Mega ohm resistivity) Water from potable tap water 5. System has feed water acceptance level of Conductivity upto 1400-1500 µS/cm or more, Fouling Index (SDI) > 3 and Total Chlorine less than 0.1 ppm 6. System should have a pre-treatment module/or kit with 1µm filter, Harness Stabilizer 7. System should have RO Flow rate 3Ltr/hour or more 8. Type 1 water flow rate should be equal or more than 1Ltr/Minute 9. Reverse Osmosis module is made up of thin film composite polyamide RO membrane with rejection rate of 94 - 99% 10. System should have water specific Purification pack before UV lamp consisting of mixed bed ion exchange resin/ micro filter / activated carbon to ensure better purification and longer life of the cartridges. 11. UF should be inbuilt in system come with the life of 2 years to avoid any recurring cost. 12. System should have dual wavelength 185/254 nm for UV-oxidation for reducing the content of microorganisms and their metabolites to ensure the quality of Type 1 water 13. System should have inbuilt reservoir 6 ltr or more in volume. Water is recirculated through High Purity Cartridge to maintain purity of Type 2 water in tank all the time. 14. System should have to fed with imported Pre-treatment water as to take the excessive care. 15. System be compatible for onsite IQ/OQ(Onsite Validation) 16. Production rate of Purified Water @ 3 ltrs/hr or more 17. System should be quoted with one set of Consumables including RO. 18. Technical specifications **Ultra-Pure (Type I) water** • Resistivity: 18.2 Mega Ohms.cm @ 25 Degree C. • TOC: < 5 ppb • Bacteria: < 0.01 cfu /ml or better • Particulates (0.22 micron): < 1 /ml • RNAse: < 0.003 ng/ml or better • DNAse: < 0.4 pg/ml or better

			• Endotoxin: 0.001 EU/ml or better • Flow rate : ≥ 1 Litre/Minute. **Ultra-Pure (Type II) water** • Resistivity: > 1 Mega Ohms.cm @ 25 Degree C. • TOC: < 30 ppb • Flow rate: ≥3Ltr/hour 20. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
8.	**CLEAN BENCH SYSTEMS FOR BIOSAFETY CABINETS**	**01**	1. Ergonomic design for versatile usage, eases of use, plug & play system. 2. Designed so as to meet the requirements of US Federal Standard 209 B (BS 5295) providing particle free air to meet class 100 conditions 3. International Standards - UK Complied Certifications – ISO 9001:2015, CE. GMP. 4. Company is under Make in India & MSME Certified with International standard, Certified model with duly mentioned brand name. Internal IQ/OQ/PQ Certification. 5. Re circulates 70% of HEPA filtered air and Rest 30% exhausted through a HEPA filter and discharged to the lab or exhausted through an optional exhaust system 6. HEPA-filtered exhaust air in Type A2 cabinet May be re circulated into the room or exhausted to the outdoors through a canopy exhaust connection. 7. HEPA-filtered down-flow air is a portion of mixed down-flow and inflow air from a common plenum. 8. Negative Pressure air surrounding all Biological contaminated ducts and plenums. 9. Negative pressure surrounds the work area with double wall plenums for protection 10. High velocity air forced through HEPA filters, Filtered air is thrown in the chamber with a high velocity which in turn disperse particulate matter on all surface , The lower portion of the Air showers suck the contaminated air and allow it to pass to blower supply plenum , This process is a continuous process in which air is continuously filtered and recirculated inside the chamber without any exchange with the external environment 11. Exhaust air pass through HEPA Filter & Virus burn unit. Exhaust ducting with L- Bent PVC pipe supplied with the machine. 12. Material Of Construction:- Outer Body- CRCA Sheet epoxy Powder coated antibacterial& Antirust effect, 22 gauge OR Stainless Steel-304 PVC /Matt grit/ Sattin finish, 22 GAUGE 13. Work table top: - SS-304, PVC /Matt grit/ Sattin finish, 22 GAUGE. Single piece without Any internal joint or welding with below spillage collection zone. The work table can be removed for cleaning of the spillage. Front & rear air grille at the working chamber. 14. Front door – Counter balanced weight with 5 mm

			toughened/tempered glass UV –protected to protect customer from UV Exposure – complete transparent along with base structure to hold the cabinet & ease of access. 15. Air flow type: - Vertical Air flow from the top. 16. Air Flow Velocity:- 90 FPM ±20%, Inflow Velocity: 0.53 m/s, Down flow Velocity: 0.33 m/s 17. Aerodynamically designed front airflow intake grid eliminates potential turbulence an contamination 18. Statically balanced motor blower Assembly (Heavy Duty), 1440 rpm, ¼ hp. Noise of the blower is less than 55 dBA & Very low vibration 19. Filtration Assembly: - Room air is drawn from the top of the cabinet through a HEPA-Filter, then the air pass through HEPA Filter and spread evenly in the working area providing a constant a stream of clean air flow within the work area. Also the exhaust air goes though HEPA filter to maintain a complete safe arena. HEPA Filter is Mini pleat type, made from water resistant, fire retardant, imported micro-fine glass fibre media; conforms to EU – 14 Grade, with an efficiency rating better than 99.999% for 0.3 µ. These filters are designed to accommodate higher air flow volume. 20. Perforated diffuser screen /shield mesh guard protect Filters from damage. 21. Front angular 10 degree slope helps reduce fatigue of user. 22. Pressure manometer to track filter pressure & air/gas cock inside the working area 23. Easy removable back/front panel for easy access to electrical fittings and easy removable filter placement for ease of access during service. 24. Wheels: -Mounted on heavy tubular stand with lockable castors with foot rest. 25. Electricals fittings & Fixtures: - • Microprocessor based PID Controller – UV ONOFF, UV-Timer, Blower 3 speed control – High, Low, Medium, and Display of UV Age. • Fluorescent light – 20 watt, >800 lux, with chokes for lighting UV Light – 15 watt, Philips make • Power supply -220-230 V, 50-60 Hz, 5/15 amps power cord. • Internal 5 amp electrical connection for usage of several machines in clean air 26. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
9.	**CO_2 INCUBATOR**	**01**	1. Capacity: 6 - 7 cu. ft. 2. Temperature Range (Metric) Ambient +5°C to 50°C Relative Humidity 3. CO2 Sensor Technology IR Sensor Type 4. CO2 Incubator Oxygen Control None 5. CO2 Concentration Range 0 to 20% 6. Certifications/Compliance UL, CUL, CE Data

			Outputs Optional 4-20mA 7. The system should have minimum 2 years onsite comprehensive warranty from the date of installation. 8. Supply with one CO2 cylinder and regulator 9. No. of shelves: 3 to 5
10.	**MICROTOME**	**01**	1. Designed for effortless manual sectioning via a counter-balanced, exceptionally smooth-running hand wheel. 2. Instrument with X/Y specimen orientation 3. Fast exchange system for specimen clamps, both Universal Cassette Clamp & Standard Clamp 4. Personalized User Selectable Coarse Feed wheel turn direction, either Clockwise or Anti-Clockwise to suit user's preference 5. Retraction on/off function 6. Two mechanical trim steps at 10 µm, 50 µm: (50 µm coarse, 10 µm fine) 7. Blade holder for disposable blades—must be for both High & Low Profile with standard specimen clamp. 8. The object head with +/-8° X/Y orientation equipped with a fast specimen clamp exchange system for improved workflow. 9. Storage space on top of the instrument housing provide room for sectioning tools and accessories. 10. The instrument feature a low-maintenance micrometer feed system with backlash 11. Maintenance-free vertical cross-roller guides and horizontal specimen feed via precision cylinder guide system. 12. Distortion-resistant base plate ensure optimum overall stability. 13. The vertical stroke of 59 mm 14. Horizontal specimen travel range of 25 mm 15. Allow to section specimens up to a size of 50 mm x40 mm x 40 mm. 16. Ergonomically designed hand wheel grip. 17. Hand wheel lockable in any position via brake lever attached to base plate 18. Lockable hand wheel in upper position via hand wheel grip. 19. *Location conditions:* • Operating temperature range 10°C to 35°C. • Temperature range during storage 5°C to 55°C. • Relative humidity max. 80%, non–condensing. • Storage humidity < 80%. 20. Technical information- Section thickness setting range 0.5–60 µm. 21. Section thickness selection from 0.5–2 µm in 0.5

			µm-steps. • from 2–10 µm in 1 µm-steps. • from 10–20 µm in 2 µm-steps. • from 20–60 µm in 5 µm-steps. • Total horizontal specimen feed 25 mm. 22. Vertical specimen stroke 59 mm 23. Specimen retraction ON/OFF 24. Specimen orientation: Horizontal 8° & Vertical 8° with Rotation ± 90° 25. Dimensions and weight should be lean & compact—must occupy lean work space in lab 26. Must include Sturdy Waste Tray 27. Must be Imported Model with both European CE & USFDA Certified 28. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
11.	**PARAFFIN EMBEDDING STATION**	**01**	**I. Hot Plate:** 1. Microprocessor controlled two-piece tissue embedding system consisting of heated paraffin station and separate cold plate. 2. The paraffin flow is activated by means of a height-adjustable, pivotable clip - activated either manually by pushing or via a foot switch with controllable flow rate. 3. Working start time and end time settings, Weekly working days setting with real time setting. 4. Should have symmetrical and unobstructed workspace: The 100% symmetrical and unobstructed workspace with equal left & right working spaces from the dispense nozzle in between, reduces distractions and allows to keep your cassettes, molds and other accessories warm and at hand for a smoother workflow. 5. Should have Easy-to-open spacious trays for efficient access to cassettes and molds: Easy-to-open trays allow for efficient access to cassettes and molds, resulting in smoothly run batches. Tray lids should be half opened to keep the temperature stable. 6. Should have bright white LED for contrast and visibility of the most transparent samples- Easily Controllable by the key on LCD control panel: The bright white LED improves contrast and visibility of the most transparent samples. 7. Provide the error message for operation condition monitoring. 8. Large heated working surface and integrated mold tray and cassette bath with temperature adjustment

			from 50 to 75°C in 5°increments. 9. Cassette bath and mold tray should be interchangeable to accommodate changes in embedding work flow. 10. Should have Easy to clean metal frame and silicon coated wristpads. The ergonomic wrist pads increase hand stability and precision, even when embedding the most difficult biopsies. 11. Programmable for weekly timer, work days, work starting time, work end time, real time and day of week for automatic switch on and off of the instrument. 12. Operating temperatures: 50 °C to 75 °C, adjustable in 1 °C increments. 13. Should have RAPID Heating: to boost heating if wax in needed to refill in between instrument run, then rapid heating allows wax granules to melt within 15 minutes. 14. Easy to clean metal frame and silicon coated wristpads. The sturdy design of the special scraper helps clean all grooves and crevices. 15. Removable tray must hold: approx. 150 cassettes 16. Paraffin tank: Max. 4 L 17. Rectangular shaped Peltier cooling unit in front of the nozzle—for immediate freezing of the molten paraffin. 18. Display: 5.7 inch capacitive LCD touch screen 19. Two Heated removable waste tray & Heated removable forceps 6 nos. holder easily accessible from either side. 20. Large peltier element cold spot to assist tissue orientation. 21. Power supply: 110-120 V AC, 220-240 V AC, 50/60Hz, Power consumption: 1000 VA max **II. Cold Plate** 22. Operating temperature: -6 °C (self-regulating) to hold up to 70-80 standard cassettes. Temperature should strictly MUST NOT go BELOW -6 °C to avoid tissues getting hard & brittle where chances of tissue destruction & tissue breakage are high 23. Min. guaranteed workload capacity: 65 blocks solidified in 30 minutes 24. Adjustable work surface height for optimum ergonomics. 25. Provision for Self-Regulation so that no need to turn down the temperature in summer or worry about too fast cooling in winter. 26. Both HOT & COLD Instruments Should have CE and USFDA certificate 27. The system should have minimum 2 years onsite

			comprehensive warranty from the date of installation.
12.	**AUTOMATIC TISSUE PROCESSOR**	**01**	1. Benchtop unit, movable on rollers. 2. Carousel-type construction with 12 processing stations: 10 reagent stations, 2 wax baths. 3. One basket operation/standard tissue basket without vacuum/without fume control 4. Connection for optional third wax bath. 5. Glass beakers, solvent-resistant and dishwasher-proof, with beaker carriers and minimum/maximum filling marks. 6. Aluminium standard tissue basket. Membrane keyboard and LCD screen. Locking key to prevent inadvertent changing of programmed parameters. 7. Indication of station and program parameters such as number of tissue baskets, remaining infiltration time, real time, start time (delayed start time), overall run time and end of run time. Audible alarms, error messages and warning codes for "paraffin solid" status. 8. Manual and automatic mode of operation. 9. Infiltration time of up to 99 h 59 min, individually programmable for each station. 10. Immediate start and delay start up to 9 days. 11. Permanent tissue basket movement (can be switched ON/OFF) at 3 second intervals in both manual and automatic operation. 12. 1 minute drain time between stations for reduced carry-over. 13. Advanced safety concept. Automatic immersion of tissue basket in a station in case of mains power failure. 14. Power failure indication including station number and time lapsed in excess of programmed infiltration time. Automatic reheating of wax before basket transfer to a wax bath. 15. Crank for manual raising and rotation of carousel-for immediate tissue basket removal or transfer to the next station. 16. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
13.	**TRINOCULAR MICROSCOPE WITH IMAGING SYSTEM**	**01**	1. Upright compound microscope 2. Control Display: 5-element display on either side of the stand and long-life blue LEDs. This intensity display is well readable from several meters distance. 3. Contrasting Method: Bright field, Upgradeable to

			Phase Contrast, Dark-Field, simple Polarization and Fluorescence 4. Illumination: With modular slide-in concept; Must be easy change of illuminators from LED to halogen; LED illumination 3W white-light, 5600K, lifetime 35000 hours; Halogen illumination with 6V 30W halogen lamp, Homogeneous field illumination 22mm & Light manager remembers precise amount of light set for each lens position 5. Optical system: Colour-corrected infinity optics 6. Eyepiece: A pair of eyepieces 10x suitable for spectacle wearers and retrofittable eyepiece pointer; Eyepiece with field of view of 22mm; Eyepieces secured with setscrews against unauthorized removal 7. Objectives: With High quality objectives of the iPlan-Achromat class: iPlan-Achromat 4x/0.1 WD: 30.7 mm, iPlan-Achromat 10x/0.25 WD: 17.4 mm, iPlan-Achromat 40x/0.65 WD: 0.6 mm,Ÿ iPlan-Achromat 100x/1.25 WD 0.30 mm & 5-position nosepiece tilted back and bjectives secured against unauthorized removal 8. Condenser: Focusable and centerable Abbe condenser 0.9/1.25.With Holder for phase contrast and darkfield sliders 9. Viewing Tube: Viewing and trinocular tubes (50%:50%) with 25° angle and field of view 22mm. Siedentopf "up and down" position for 2 different viewing heights with interpupillary distance continuously variable from 48 to 75 mm by asymmetric folding of the binocular part Tube is secured against dropping by special dovetail 10. Stage: Mechanical reckless stage with long-lived stage surface with right-controls. Stage size 185x135, travel range 75x50, With well-readable vernier and long “Ergonomic” stage drive, With double-slider holder 11. With power unit integrated into stand with cable storage at the backside of the stand. Ergonomic shape for convenient, safe carrying. 12. 5V USB port at the back of the stand to connect a power bank or charge mobile device 13. ECO mode, automatically go into a sleep mode after 30min inactivity 14. Filters: Colour filter set blue, green and yellow 15. With Dust Cover & Anti-fungus treated optics (Must provide anti-fungus certification from manufacturer). 16. Camera: Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. And should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. The camera shall provide an on-screen display (OSD)

			that allows to control the camera without an extra controller/computer or software. In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. Images shall be stored conveniently on a USB flash drive. The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. The camera shall provide multiple setup possibilities to use it in a wireless mode. 17. Certification: System should be ISO and CE certified. Both microscope and camera should be from same manufacturer. 18. System should come with desktop (All in one desktop:- Intel Core i5 ,Memory 8 GB ,Hard Disk Drive 1 TB or higher SATA Hard Drive) with data analysis software 19. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
14.	**INVERTED MICROSCOPE**	**01**	1. Modular Illumination (HAL and LED) White LED. Should also have provision to interchange LED with HAL illumination. Halogen illumination should also be included. 2. Contrast techniques Bright field, phase contrast. Upgradeable to Fluorescence 3. Stage details Dimensions: 200 X 239 mm 4. Stage focus Coarse adjustment: 45 mm/rev Fine adjustment: 0.5 mm/rev Stage lift: 15 mm Stage adjustment: Right side 5. Nosepiece turret Nosepiece turret with 4 positions 6. Objectives and objective indicators Objective indicators for fast identification of magnification Recommended Objectives Plan-ACHROMAT 4X/0.10; 10X/0.25 LD Plan-ACHROMAT: 40X/0.50 Ph. 7. Condensers Long distance (LD) condenser with NA 0.3 and working distance (WD) = 72 mm. Position for phase sliders to be available with the condenser. 8. Binocular tube details Binocular tube with phototube. Field of View: 20 Inter-pupillary Distance: adjustable from 48 to 75 mm Viewing Angle: 45° Viewing Height: 350 to 390 mm Fixed Split: 50% visible, 50% documentation 9. Eye pieces 10X/ FOV 20 10. Accessories Universal mounting frame -for micro-well plates, flasks, Petri dishes 11. Camera Colour camera 8 Megapixels or better, pixel count – 3840*2160, exposure range of 0.06 ms to 1 s with a frame rate of 30 fps with a passive cooling system. And should have interfaces – HDMI, USB 3.0 Type C, Ethernet, Micro-D Full 4k Resolution in 30 fps. The camera shall provide an on-screen display (OSD), available in at least 3 languages, that allows to control the camera without an extra controller/computer or software.

			In the OSD, camera parameters and the image file name shall be selected and adjusted via mouse and keyboard. Images shall be stored conveniently on a USB flash drive. The camera shall support both, the operation in stand-alone mode and in combination with a computer and software. The camera shall provide multiple setup possibilities to use it in a wireless mode. 12. Microscope, camera and software should be from same manufacturer 13. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
15.	**BIOSAFETY CABINET LEVEL - II**	**01**	1. The Bio safety cabinet should be Type A2 in which 70% Air should be re- circulated and 30% of the air should be exhausted 2. The Bio Safety Cabinet must include two DC motors. 3. The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments. 4. In order to preserve safety to the user and the environment, the exhaust blower on the cabinet must continue operating when the supply blower stops working. If the exhaust blower should fail, the supply filter will also be turned off. 5. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor from temperature, humidity and other environmental phenomena that can impact the sensor's performance. 6. The microprocessor must display the inflow and down flow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions. 7. The front window must be a 10" sash opening and be made of laminated safety glass to ensure containment of potentially hazardous samples in the case of accidental glass breakage. 8. All interior and exterior parts must be painted or smooth to ensure no risk of cuts to users or maintenance personnel. 9. The cabinet noise level must be less than 63 dB(A) for a 4 foot cabinet as measured in a sound proof room 12 inches in front of the cabinet and 15 inches above the work surface. 10. The Biosafety Cabinet should have microprocessor controller and same must be located on a slanted front panel so it is easy to see and reach from a seated working position in front of the cabinet.

			11. The interior of the front window must be accessible for cleaning without requiring the user remove or support the window. 12. The cabinet must automatically reduce fan/blower motor speed to 30% when the front window sash is in closed position to ensure reduced energy consumption when the cabinet is not is use. 13. In order to provide maximum effectiveness, efficiency and safety to laboratory Personnel, UV light must be programmable to allow for specific exposure times from 0 to 24 hours. The automatic shut off feature on the UV light saves money on replacement of the bulbs. 14. The Cabinet should have provision to fit taps for Vacuum, Water and Non-Combustible Gas. 15. The Bio safety Cabinet should be NSF certified with listing on NSF website. 16. Cabinet should have individual sticker of NSF Certification along CE certificate. 17. The Bio safety cabinet should incorporate HEPA filter of the class H 14 EN 1822 or better and having minimum efficiency of 99.995% at 0.3 µm particle size. 18. Approximate Dimension: Exterior 1500 H x 1300 W x 800 D; Interior 800 H x 1200 W x 500 D. 19. Ventilation System Exhaust and Inflow air volume approx 300-350 CFM 20. Heat Emissions at 25ºC should be approx 0.2 KW or lesser. 21. The BSC must incorporate an LED Indicator to indicate filter loading and should provide visual and audible alarm to indicate excessive HEPA filters loading which can result in unsafe airflows deviation from the NSF recommended inflow and down flows air velocity values measured in meters per second or foot per minute. 22. The cabinet should be provided with fixed / adjustable Height Stand, UV Light and one set of detachable arms rest and electrical outlet. 23. The Drain Pan of the BSC should be made of Stainless Steel. The drain pan should not be painted or power coated. 24. The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space. Bio Safety Cabinet with single glass side walls should not be quoted. 25. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
16.	**ELISA READER**	**01**	1. Read-out Range: 96 Well Plate; 384 Well Plate 2. Measurement Technology: Absorbance 3. Plate Type: 96 and 384 well plates 4. Software Type: Internal software or PC control with Software 5. Wavelength Selection: Filters

			6. Wavelength Range: 340–850 nm 7. Photometric Linearity: 0–3 Abs, ± 2%, 96-well plate, 450 nm 8. Accuracy (Photometric): ± 1% (0–3 Abs) or ±0.003 Abs, 450 nm 9. Precision: CV ±0.2% (0.3–3 Abs), 450 nm 10. Incubator Temperature: From ambient + 4°C up to 50°C 11. Shaking: Linear shaking 12. Measurement Speed: 7 s, 96-well plate (fast mode); 13 s, 384-well plate (fast mode) 13. USB Connections: USB for computer connections data export and external printer 14. Application: ELISA, enzyme activity, protein quantification, endotoxin, cytotoxicity and proliferation assays, enzyme assays and growth curves 15. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
17.	**UV/VS SPECTROPHOTOMETER**	**01**	1. Control: System should have High Definition 7" touch screen control 2. Detector Type: Dual Silicon Photodiodes 3. Power: External AC to DC converter. Voltage and Frequency (Hz) selected automatically, 100–240 volts, 50–60 Hz. 4. Lamp: Xenon Flash Lamp /or any equivalent lamp / 5. Optical Design: Dual Beam or better 6. Spectral Bandwidth: 2 nm or better 7. Wavelength Accuracy: ±0.5 nm or better 8. Wavelength Data Interval: 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm or better 9. Wavelength Range: 190 nm – 1100 nm or better 10. Wavelength Repeatability: < ±0.2 nm or better 11. Photometric Range: –2A to +3.5A or better 12. Photometric Repeatability: ±0.001A at 1A or better 13. Stray Light: < 1.0%T 198 nm (KCl) or better, <0.05%T at 220 nm (NaI) or better, <0.03%T at 340 nm (NaNO2) or better 14. Baseline Flatness: ±0.002A or better 15. Wavelength Scan Speed: Slow, medium and fast – minimum up to 1600 nm/min or better 16. Connections: Single USB supports flash memory devices for method and data storage, 17. USB on side supports connection to a Windows™ computer running 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.
18.	**ULTRA CENTRIFUGE**	**01**	1. Speed: 100,000 rpm RCF :> 750,000 x g 2. Maximum Capacity: 6 x 230-250 mL 3. Drive System: Imbalance tolerant direct drive; eye balance to within 5 mm Control: Microprocessor Control Panel: Touch screen colour LCD/LED

			panel (5 to 10 inch) 4. Programmability: 1,000 programs with step-runs Run Log Database: Up to 5,000 runs recorded in onboard memory 5. Data Communication: USB: Host x 1, Device x 1 / LAN x 1 Accel/Decel Profiles: 10/11 (10 and coasting) Speed Range: 1,000 rpm to max. Speed in 100 rpm increments Speed Control Accuracy: ±10 rpm (1,000 rpm – max. speed) 6. Timer: 1 min to 999 hours 59 min (with 1 min increments) with HOLD function 7. Temperature Set Range: +2 to +40 °C Temperature Accuracy: ±0.5 °C 8. Ambient Temperature Range: +10 to +30 °C Temperature 9. Control System: Solid-state thermoelectric module refrigeration (CFC/HCFC/HFC-free) Vacuum System: Oil-rotary vacuum pump with moisture removal function and oil diffusion pump; vacuum of 0.7 Pa to 0.13 with Rotor tracking system 10. Operation screens: Yes Drive 11. Cooling: Air-cooled Functions- Automatic RCF; ω2dt integrator; real time control 12. Heat Output: 1 kW or below 13. Noise: 51 dBA 14. Should have Self-locking rotor system 15. Should have the facility to monitor instrument status from across the lab. 16. Rotor required: 6 x 50 ml, 12 x 15 ml and 24 x 1.5 ml. 17. Certification: CE and cCSAus. 18. The system should have minimum 2 years onsite comprehensive warranty from the date of installation.