ICMR – NATIONAL INSTITUTE OF PATHOLOGY
(Indian Council of Medical Research)
Sriramachari Bhawan, Safdarjang Hospital Campus,
Post Box No.4909, New Delhi – 110029.

(Ref. No.:Equipment/01/2018-19)

TENDER NOTICE

The National Institute of Pathology (ICMR), Safdarjang Hospital Campus, New Delhi, invites Tender from reputed firms up to **21st January, 2019 at 5.00 P.M.** for the procurement of various 'Laboratory Equipments'(i.e. Deep Freezer (-20° C), Stereomicroscope, Centrifuge, Double Wall 22 Litre Vertical Autoclave, PH Meter, Ice Flake Maker, Laboratory Incubator (37°), Electronic Balance, Liquid Nitrogen Cryo-Locator (45 L), Electroporation System, Cooling Cabinet 420-450 ltrs., Refrigerated Centrifuge, Biosafety cabinet, Water Purification System, Horizontal Gel Electrophoresis (with Power Pack), Vertical Gel Electrophoresis, Gradient Thermal Cycler with 96 well block, Laboratory Autoclave, Light Microscope with Camera, Luminometer, Microbalance (Analytical weighing balance), Orbital Shaker Incubator, Deep Freezer -80 C degrees, Transfer Unit Midi Gel with Power Pack, Vertical Gel Electrophoresis Assembly, UV-Vis Transilluminator, Orbital Shaker, Tube Rotator, Co2 Incubator, Biological Hood, Inverted Microscope, Deep Freezer (-20 C), Horigental Gel Electrophoresis with Power Pack, Co2 Incubator, Gel Documentation System, Vertical Gel Electrophoresis, Hot Air Oven, Refrigerated Centrifuge, Inverted Phase Contrast Microscope, H2O2 Vaporizer, Micro HPLC with Fraction Collector etc.

The details of the tender technical specifications along with terms and conditions are available on website www.instpath.gov.in and www.icmr.nic.in

Sd/-

(Dr. Nasreen Z. Ehtesham))
Director-In-Charge

ICMR – NATIONAL INSTITUTE OF PATHOLOGY

Safdarjang Hospital campus, Sriramachari Bhawan, PB No.4909
New Delhi - 110029

Ref.No:NIP/Equip/ T-01/2018-19/2904 **Dated: 28tth December,2018**

Sales of Tender Form from: 31.12.2018 to 18.01.2019 by 4.00 P.M.
Last date for submission of Tender: 21st January,2019 by 5.00 P.M.

TERMS AND CONDITIONS OF THE TENDER FOR SUPPLY OF LABORATORY EQUIPMENTS

1 The National Institute of Pathology, New Delhi, invites '**Sealed Quotation**' for the purchase / import of Laboratory Equipments (as per list of technical specifications enclosed). The bidders may go through the terms & conditions carefully. In case any bidder fails to follow any or more these conditions, the offer shall be summarily rejected.

2 The number and quantity of equipment is probable and subject to change without any further notice / reasons. Notwithstanding the estimate of probable numbers, the Director/Director-in-Charge, National Institute of Pathology, New Delhi, reserves the right to reject any or all the tenders without assigning any reason.

3 **TWO BIDS SYSTEM shall be followed for all the equipment**: (i) Technical Bids (ii) Financial Bids, both the bids should be submitted in separate envelope. Technical bid should accompany Tender Fee, EMD, check list. Technical Bids and Financial Bids will be accepted only from manufacturers of International repute / or their authorised agents for the supply, installation / commissioning of various equipments. Combined bids will be rejected straight way.

4 **The Tender should accompany EMD as under**;

(a) Equipment costing Rs. 2500001 to 5000000	Rs. 1,00,000.00
(b) For equipment costing Rs.1000001 to 2500000	Rs. 50,000.00
(c) For equipment costing Rs.500001 to 1000000	Rs. 25,000.00
(d) For equipment costing Rs.200001 to 500000	Rs. 12,000.00
(e) For equipment costing Rs. 50000 to 200000	Rs. 6,000.00

The EMD should be submitted along with the Tender (Technical Bid) in the form of Bank Demand Draft from Nationalised Bank drawn in favour of 'Director, National Institute of Pathology", (Payable at New Delhi). The Tender without EMD will be rejected summarily. No interest is payable on EMD.

5 **The Cost of Tender Form is Rs.1,000.00** (Non-Refundable) for all items. The tender form can be collected either from the Cashier/SO (Stores), Room No.107 of the Institute on payment of Rupees one thousand by cash or the Tender Form can be downloaded from the Institute **website: instpath.gov.in / icmr.nic.in** directly and enclosed the cost of tender form by Bank Demand Draft along with the Technical Bids. Tender fee will be exempted to the firm on submission of certificate of SSI/NSIC/MSE with the tender form. **However, submission of EMD is mandatory.**

6 The tender must be clearly written or typed without any cancellations / corrections or overwriting. If there exists a difference in the amount quoted in words and numeric, the lowest of them will be taken as the tender amount.

7 Each offer should be accompanied by the complete forms, for each item of equipment, which is enclosed herewith. Separate tender along with the EMD should be submitted for each item of equipment (duly filled and signed check list). Clubbed tender submitted in single tender will be rejected. Separate EMD for each equipment should be submitted in separate envelope and superscript on each envelope the name of equipment & due date.

Contd.....P/2

8 The tenderer should clearly mention whether they are the manufacturer or authorised dealer / agent of the manufactures. In case of dealership distributorship agent's latest letter of authorization from the manufacturer should be submitted along with the tender. The tenderer can also enclose the rates on the letter head of the manufacturer, if empowered to do so by manufacturers in writing, in addition to quoting in the tender form.

9 The validity of the quotation / Tender should be **180 days** from the date of opening of the tender.

10 Successful tenderer will have to deposit 10% performance Security (in INR) may be furnished in the form of an Account Payee Demand Draft, Fixed Deposit Receipt and Performance Bank Guarantee from a Commercial Bank at the total cost of the equipment at the time of placing the order which shall be released only after warranty period and which will be treated as guarantee. Letter of Credit will be opened only after submission of the performance security. If the firm fails to submit the performance security within 20 days of our order, the order shall be deemed as terminated and the EMD of the firm will be forfeited.

11 A copy of specification, description and available illustrated should accompany the tender.

12 Availability of spares, accessories, etc. including facility of servicing of the major equipment, available with the tenderer and authorised dealer should be clearly mentioned. Further, cost of spares for the period from 4th year to 10th year (s) after CSMC period should be clearly mentioned for smooth sanctioning of the equipment.

13 The availability of any required technical feature of the quoted equipments should be carefully and authentically answered with valid proof in the form of printed brochures, etc. Any default in this matter will attract rejection of the tender along with forfeiture of corresponding EMD.

14 If the equipment(s) are of foreign origin, CIF/CIP, New Delhi and FOB value should be quoted separately, giving **270 days validity period** for the tender along with other terms and conditions of supply.

(a) The imported goods the tenderer submitted should clearly mention the agency commission, separately, failing which tender will be rejected. The agency commission will be paid in INR in India after arrival of the goods and satisfactorily installation of the equipment.
(b) General no amendments in the terms and condition of Letter of Credit are permitted, if any amendment is required by the firm, the amendment charges of Letter of Credit will be borne by the firm by the both side (in or outside India). The initial Letter of Credit charges within India will be borne by the Institute at the time of opening of Letter of Credit and the outside L/c charges will be borne by the firm/beneficiary.

15 The payment will be released by wire transfer after satisfactorily installation of the equipment as per the specification of the equipment/terms and condition of tender after submission of bank security.

16 All the items of equipment should be warranted for Three Years Comprehensive and Two Years Non-Comprehensive Warranty. The two year non-comprehensive warranty will be free of cost and should not be quoted separately. AMC charges for the subsequent 6th to 10th years should be clearly mentioned in the Tender Document clearly.

17 Each tender must contain the rates not only in figures but also in words. The total value of each item should invariably be entered in column specified and the total value of the tender should be mentioned both in Foreign Currency as well as in Indian Currency.

Contd...... P/3

18 Increased statutory levies and duties above the rate quoted in the tender will be borne by the manufacture / tenderer and the Institute shall not extend validity period for this reason and it will not bind the Institute for supplies beyond the date specified in the Order / Tender.

19 No tenderer shall be allowed at any time on any ground whatsoever to revise or modify the rates quoted by them. The tenderer will not be allowed to withdraw the offer quoted. In the event of withdrawal the EMD deposited by the tendered shall be forfeited.

20 The Bidder should ensure that the equipment offered by them the specification laid down by the Institute. If at any stage (even after placement of order, shipment, installation, etc.) it is noted that the equipment offered does not meet the specifications laid down by Institute. The Director/Director-in-Charge, National Institute of Pathology, reserves the right to take any decision with forfeit of EMD. Any dispute in this regard.

21 Concerning any terms and conditions of the tender and on the supply of equipment will be subject to New Delhi jurisdiction only.

22 Tender should be preferably, typewritten and every correction in the tender should invariably be signed by the tenderer, failing which, the tender is liable to be rejected.

23 The EMD will be returned to unsuccessful tendered only after the tenders are finalized. In case of successful tender, the EMD will be returned after satisfactorily installation of the equipment with the consent of the Director/Director-in-Charge, NIP.

24 Telegraphic / conditional tender will not be accepted.

25 The Warranty period will start from the date of installation and satisfactory working condition of the equipment.

26 All damaged or unapproved goods shall be returned at supplier's cost and risk and the incidental expenses incurred by the Institute thereon shall be recovered from the supplier. Defective parts in equipments, if found before installation and during the warranty period, shall be replaced within four weeks on receipt of the intimation from the office at the cost and risk of supplier including all other charges.

27 If the tenderer(s) fail to execute the order(s) within the specified time (quoted in the tender) from the date of receipt of order or as mutually agreed to in writing, the order will be cancelled and EMD will be forfeited by the Institute.

28 The firm or tenderer will not be allowed to change the name of the beneficiary in the irrevocable Letter of Credit or in the Wire Transfer.

29 If any of the equipment(s), supplied by the tenderer are found to be broken / damaged or defective or inferior in quality and or not in accordance with description / specification or otherwise faulty or unfit for use or unwholesome, the price(s) of such equipment(s) shall be recovered from the quoting firm or Indian agent.

30 The Instrument & Software should be installed and tested as per the specification free of charge. Training of two operators and more of the Institute staff as per commitment of the tender is to be provided free of cost.

31 Manufacturer's Test Certificate along with conditions and results is to be supplied along with the equipment.

32 The firm clearly should indicate the pre-installation requirement for the equipment in their tender / quotation. If the firm ignores this clause, it will be presumed that the items required

33 Supplier should give an undertaking that spare parts will be supplied as and when ordered for a period of ten years from the date of installation.

34 (a) if similar or identical equipment was supplied in other ICMR laboratory / Institute, the details of such equipment for the preceding three years, may also be given together with the price eventually or finally paid.

(b) Based on the above information NIOP will have its option to obtain details of the equipment, it's performance, after services, etc. for evaluation of the tender, directly from the concerned labs/scientists, etc.

35 The tender has to state in details the Electrical Power / Ups requirement floor space, head room foundation needed and also to state whether air-conditioner environment is needed to house the equipment, etc and to run the tests.

36 The equipment should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the systems without any problem. If the manual are on chargeable basis, the same should be specified in the officer.

37 After successful installation what will be the minimum down time of equipment / instrument in case of breakdown must be mentioned. If the identified firm or person fails to put the system into working condition, further alternative course of action should be suggested adhering to minimum down time.

38 If the supplier fails to supply, installation commission and training for the equipment as per specifications mentioned in the order within the due date, the supplier is liable to pay liquidated damages of 1% value of the Purchase Order awarded, per every week of delay subject to a maximum of 10% for every week beyond the due date and such money will be deducted from any money due or which may become due to the supplier.

39 Attach a copy of registration certificate under the compulsory scheme of Ministry of Finance regarding the registration of Indian agent of foreign supplier wherever it is applicable / available.

40 All the foreign instrument/equipment should be delivered within 45 days after receipt of supply order.

41 To indicate the Warranty of 'free of cost' item with the equipment separately, if any.

42 The technical bids/Financial bids will be opened in the presence of tenderer, the date & time of opening of bids will be communicated separately

43 Last Date for submission of Tender is **21st January,2019 by 5.00 P.M.** The cover (sealed) containing the tender should be **'Superscribed the name of equipment & Due Date of the Tender on the top of the Tender Envelope'.**

Sd/-

(Director-in-Charge)

National Institute of Pathology, New Delhi

I / We agree to abide by all the terms & conditions mentioned as above.

(Signature of the authorize tenderer)

Enclosures:

i) Check list } with all supporting documents

CHECK LIST – I

Demand Draft of E. M. D **(in separate envelope)**	**DD No:____________Dt.____________** **Rs.____________payable at New Delhi**
Technical Bids in separate envelope (Enclosed EMD with Technical Bids)	
Price Bids in separate envelope	
Check List II duly filled in	
Technical Specifications duly filled in	
Certificate of manufacturer's/authorization of agent (s)	
Detailed Literature in original of quoted item attached	
Highlighted the specification in the literature with marker	
Copy of ISO Certification	
AMC Charges for subsequent for Five Years	
Tender Documents purchased (Vide Cash Receipt No.)	**Receipt No:____________Date__________**
Other Documents if any attached	
Attach a copy of latest DGS&D, New Delhi registration certificate	

I have gone through all the terms and conditions and undertake to abide by them. I agree that in case I have not followed any terms and conditions and have provided wrong and misleading information my offer shall be rejected.

Authorized Signatory of the firm (with Seal)

CHECK LIST-II

NAME & DESCRIPTION OF EQUIPMENT ____________________

1	Name & Description of Equipment (with make & model)	
2	Rate per Unit	
3	Excise duty, if any	
4	Other Taxes if any	
5	FOB Price (if imported)	
6	CIF New Delhi, if imported	
7	Indian Agency Commission	
8	Installation charges if any	
9	Total Value	
10	Three years comprehensive & Two years non-comprehensive warranty	
11	AMC charges for sub Five years	
12	Pre-Installation requirement of the Equipment. (if any)	
13	EMD Details	DD No.____________ Date__________ Amount__ ________ Drawn on/Branch ____________________

Please Note: - Filling up above Column is Mandatory. Form without Filling of above Detail may be ejected straightway.

I/We have gone through the terms and conditions of the tender documents and agree to abide by them.

Authorized Signatory of the firm with the Seal

List of Equipments

S.No.	Name of the item	Qty. Required
1	Deep Freezer (-20° C)	3 Unit
2	Stereomicroscope	1 Unit
3	Centrifuge	1 Unit
4	Double Wall 22 Litre Vertical Autoclave	1 Unit
5	PH Meter	4 Unit
6	Ice Flake Maker	1 Unit
7	Laboratory Incubator (37°)	2 Unit
8	Electronic Balance	1 Unit
9	Liquid Nitrogen Cryo-Locator (45 L)	1 Unit
10	Electroporation System	1 Unit
11	Cooling Cabinet 420-450 ltrs.	1 Unit
12	Refrigerated Centrifuge	1 Unit
13	Biosafety cabinet	1 Unit
14	Water Purification System	1 Unit
15	Horizontal Gel Electrophoresis (with Power Pack)	1 Unit
16	Vertical Gel Electrophoresis	1 Unit
17	Gradient Thermal Cycler with 96 well block	1 Unit
18	Laboratory Autoclave	1 Unit
19	Light Microscope with Camera	1 Unit
20	Luminometer	1 Unit
21	Microbalance (Analytical weighing balance)	1 Unit
22	Orbital Shaker Incubator	1 Unit
23	Deep Freezer -80 C degrees	1 Unit
24	Transfer Unit Midi Gel with Power Pack	1 Unit
25	Vertical Gel Electrophoresis Assembly	1 Unit
26	UV-Vis Transilluminator	1 Unit
27	Orbital Shaker	1 Unit
28	Tube Rotator	1 Unit
29	Co2 Incubator	1 Unit
30	Biological Hood	1 Unit
31	Inverted Microscope	1 Unit
32	Deep Freezer (-20 C)	1 Unit
33	Horigental Gel Electrophoresis with Power Pack	2 Unit
34	Co2 Incubator	1 Unit
35	Gel Documentation System	1 Unit
36	Vertical Gel Electrophoresis	1 Unit
37	Hot Air Oven	1 Unit
38	Refrigerated Centrifuge	2 Unit
39	Inverted Phase Contrast Microscope	2 Unit
40	H2O2 Vaporizer	2 Unit
41	Micro HPLC with Fraction Collector	1 Unit
		1 Unit

Item 16.1

Item Deep Freezer (-20 °C) Qty-3

S. No.	Specifications	Features available (Yes/No)
1.	Vertical-type deep freezer with temp. upto -20°C and control panel at the top of cabinet with thermometer or temperature warning light and alarm	
2.	Built in condenser providing low energy consumption.	
3.	Combination of pull out drawers and fast freeze shelves.	
4.	Thermostat with 3-4 hour temperature backup.	
5.	Digital controller for temperature	
6.	Mains warning lamp.	
7.	Single door, Lock facility	
8.	CFC free heavy duty compressor.	
9.	Net Capacity: 300-400 Litres	
10.	Compatible UPS and stabilizer with cabinet	
11.	ISO 9001 & 14001 Certified	
12.	Power supply 220-240 V, 50 Hz /50 Hz	
13.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 2

Item Stereo Microscope (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	Trinocular/Binocular optical body with epi and transillumination with inbuilt camera	
2.	Zoom ratio should be ~1:7	
3.	Objective zoom range should be 0.65X- 45X	
4.	Eye piece should be 10X/22 mm (high eye point super wide field)	
5.	Working distance should be 100 mm	
6.	Interupillary distance adjustment should be 55-75 mm	
7.	Bionocular head inclination should be flexible	
8.	Diopter adjustment should be +/- 5 diopter	
9.	Optical body rotation should be 360 degrees reflected and transmitted illumination volt input 220V/50 Hz halogen lamp 6V 15 W adjustment brightness bottom fluorescent lamp 5W	
10.	International Regulatory Certification	
11.	Power supply 220-240V, 50 Hz	
12.	3 years comprehensive warranty and 2 non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 3

Item 6 Centrifuge (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	bench top centrifuge	
2.	Stainless Steel centrifuge Chamber, easy to clean	
3.	Smooth & soft start	
4.	Safety lid interlock to prevent lid opening during centrifugation	
5.	Automatic door opening	
6.	Gas hinge to prevent door falling	
7.	Function at ambient room temperatures (15-40^{0}C)	
8.	Speed 1000-5000rpm	
9.	Fixed rotors with capacity to hold 15 ml and 50ml falcon tubes	
10.	Digital timer range 0-59mins	
11.	Maximum capacity 400ml	
12.	Microprocessor controller with digital display	
13.	Imbalance detection & centrifugation stop with display of error	
14.	Motor overload protection	
15.	International Regulatory Certification	
16.	Power supply 220-240V, 50/60Hz	
17.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Final Recommendation

Item No. 4

Final Technical specification of Double wall 22 Ltr. Vertical autoclave

Internal tank capacity	20-25 Litres
Load	~2.00 KW
Chamber dimension	~10" x 18"
Working Pressure	~1.2 kgf/cm sq.g (15 psi - 17 psi)
Sterilizing Temperature	121°C to 134°C
Sterilization Time	≤30 Minutes
Timer	Pre-set Time Operation By Digital Timers Analogue 0-90 minutes
Construction	Double/Triple wall & SS GMP construction
Outer Chamber	Heavy Gauge stainless steel
Inner Chamber	304 grade Stainless Steel
Waste Container	Stainless Steel
Lid features	Lid should be made of thick machined high grade stainless steel plate. Lid closing by radial, wing nut type locking system. Sealing of lid by Neoprene/ Silicone jointless gasket.
Water Filling & Removal	Manual with water level indicator and drain valve
Safety Features	Unit should be fitted with pressure gauge, spring loaded safety valve, pressure release valve, low water detector & should be tested up to 2.5 times (~40psi) of required pressure.
Control box with power supply & temperature display	Should be supplied with control box fitted with mains and heating temperature display by digital LED display. Should work on 220/ 230 Volts, 50Htz AC supply.
Certification	NABL certification and/or ISI marked

Item No. 5.

Item **pH meter (Qty 4)**

S. No.	Specifications	Features available (Yes/No)
1.	A laboratory pH meter, with epoxy electrode and protection cover, capable of measuring pH from 2.000 to 16.000	
2.	pH Resolution 0.1, 0.01	
3.	pH Relative Accuracy ±0.002/ ±0.01	
4.	mV Range ±1800.0	
5.	mV Resolution 0.1/1 mV	
6.	mV Relative Accuracy ±0.2 mV or ±0.05% of reading whichever is greater	
7.	Temperature Range -5 to 105 degrees	
8.	Temperature Resolution 0.1°C and Temperature Relative Accuracy ±0.2	
9.	Should have inbuilt temperature sensor with pH/ATC (automatic temperature combination) triode electrode	
10.	TFT/LCD display showing pH and Temperature; Auto read option with indicator to alert when readings are stable	
11.	Up to 3 point pH calibration and automatic recognition of USA/NIST and DIN buffers	
12.	Accessory: Electrode holding stand; Spare electrode- 1	
13.	RS 232 connection available	
14.	International Regulatory Certification: CE certified/ISO9001/140001 certified, TUV 3-in-1, FCC Class A, Certification for Protection against dust and water (IP54) or similar	
15.	Power supply 220-240 V, 50 Hz	
16	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 6.

Item Ice maker Qty- 1

S. No.	Specifications	Features available (Yes/No)
1.	Minimum 50 kg/ day capacity	
2.	Production start time: 10-15 minutes	
3.	Type of ice: flakes	
4.	Storage Capacity of bin: Min. 20kgs	
5.	Built-in insulated storage bin for maximum ice preservation	
6.	Corrosion free exterior and interior	
7.	Microprocessor based temperature control	
8.	PUF insulation	
9.	Quality compressor & Air Cooled condensation CFC/HCFC Free (R404A)	
10.	Automatic low water and full storage cut off system	
11.	Castor wheels for easy movement	
12.	Rugged stainless steel evaporator	
13.	Compatible stabilizer	
14.	ISO 9001 & 14001 Certified	
15.	Power supply 220-240V /50 Hz	
16.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 7

Item No. Laboratory (37 degrees)/Lab Incubator (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	Laboratory incubator with forced convection, microprocessor-control, for incubation of samples at 37 degrees and capacity with ~100 L	
2.	Main body should be with having anti-microbial coating	
3.	Interior chamber should be made up of Stainless steel	
4.	Temperature Range should be from Ambient +10 ^{0}C to 100 ^{0}C.	
5.	Temperature Variation and Control Fluctuation should be as Per DIN 12880	
6.	LED display should be on the top	
7.	The size should not exceed (W x D x H): 30 x 30 x 35 inch	
8.	Noise level should not be above 50 dBA	
9.	Number of Shelves should be atleast 2 Load Per Shelf: around 25 kg	
10.	Heating up time for 37 degrees should not be more than 30 min. Recovery time after opening the door for 30s should not be above 5 min	
11.	Safety features: Over-temperature protection	
12.	Power supply 220-240 V, 50 Hz	
13.	International regulatory certification: CE and IQ/OQ certification	
14.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item No. 8

Item No. 2. Electronic balance (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	An electronic semi-micro balance with maximum capacity of around 220 g and Readability of 0.1 mg with pan sitting on the top	
2.	Repeatability ± 0.1 milligrams	
3.	Linearity (mg) ± 0.2 milligrams	
4.	Response Time (avg) 3 seconds	
5.	Minimum weight (acc. to 1%, k=2) should be ≤3 mg	
6.	Tare Range FULL to Capacity	
7.	Selectable Weight Units g, mg	
8.	Selectable Application Programs- Mass unit conversion by toggling, tare memory	
9.	Display- LCD with backlit/HCD	
10.	Ambient Operating Temperature- 0°C to 40°C	
11.	Sensitivity offset 0.3 mg	
12.	Pan Size -weighing pan of atleast ø80 mm	
13.	With RS-232 Interface	
14.	Internal and External Calibration with auto adjustment	
15.	International Regulatory Certification: ISO 9001/ISO 14001/IP54	
16.	**Safety Features:** Protection against dust and water, Over-load protection, Chemical-resistant body, level locking is preferred	
17.	Power supply upto 230V /50 Hz	
18.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 9

Item No. 1 Liquid Nitrogen Container (Qty 1) SAC 2014-2015/ 2015-2016/ 2016-2017

S. No.	Specifications	Features available (Yes/No)
1.	Portable Sample storage vessel to store clinical samples, cell lines in Liquid Nitrogen in racks/boxes with the capacity of about 40-50 Litres	
2.	Neck diameter should be below 10 inch	
3.	The system should have factory installed level monitor as well as low level alarm.	
4.	Static holding time should be ~ 3 months	
5.	Static Evaporation Rate should be less than 1.0 litre/day	
6.	The system should be able to accommodate 4-6 RACKS. Each rack should be able to accomodate 4-6 cryo boxes with each box containing 100 vials with 2 ml capacity	
7.	Polycarbonate Boxes with capacity of 100 vials of 2 ml	
8.	Cryo Gloves – 1 Pair; Cryo Tongs- 1 pair; Cryo markers- 2; Cryogenic Vials, 2 ml - 1000 pc, Wheeled Accessory Cart	
9.	Transfer vessel should be provided along with the system to carry ~10 L liquid nitrogen for transporting LN2 with withdrawl device and wheel cart. The vessel should have static hold time of ~0.2 L/day and hold time of ~ 3 months, with less than 10 Kg weight.	
10.	Regulatory Certifications: cCSAus and CE	
11.	03 years comprehensive warranty and 02 years non-comprehensive warranty	

Item No. 10

Item No. 2 Electroporation System (Qty 1) SAC 2014-2015/ 2016-2017/ 2017-2018

S. No.	Specification	Features available (Yes/No)
1.	Capability to electroporate eukaryotic cells, prokaryotic cells (bacteria), yeasts and other microorganisms	
2.	Waveform: Exponential or square	
3.	Square wave timing: 0.05-100 ms in 0.05/1 ms increments	
4.	Output Voltage : 10-3000 V	
5.	Capacitance: 10-3000 µF	
6.	Resistance: 50–1,000 Ω	
7.	Sample resistance: ≥ 20 Ω	
8.	Input voltage: 220–240 VAC, 50/60 Hz	
9.	Power: Maximum 240 W	
10.	Operating environment : Ambient Room temperature	
11.	Regulatory certification: Safety EN 61010, EMC EN 61326 Class A	
12.	Required software, pre-set optimized programmes	
13.	Accessories for electroporation (0.1/0.2 cm sterile cuvette, 1000 pc each)	
14.	03 years comprehensive warranty and 02 years non-comprehensive warranty	

Item No. 11

Item No. 4 Cooling Cabinet (420-450) liters SAC 2015-2016

S. No.	Specification	Features available (Yes/No)
1.	Double walled modular structure with ≥ 3" thick PUF insulation	
2.	Inside 304 Stainless Steel and Outside Mild Steel Powder Coated OR Stainless Steel	
3.	Interior illumination	
4.	Full length observation thermally insulating glass door with secure gasket	
5.	Handle and hinges for positive sealing with lock and key arrangement	
6.	Racks & trays – Stainless Steel with adjustable height	
7.	65 mm Port Hole with rubber seal to insert sensors for validation purpose	
8.	Compressor with CFC Free R 134 A / R 404 (Eco Friendly) refrigerant having state of art by-pass system for continuous run of compressor	
9.	Temperature Range : 2 °C to 8 °C	
10.	Temperature Accuracy : ± 1.0 °C	
11.	Temp Uniformity : ± 2.0 °C	
12.	PT1000 temperature sensor for better temperature control accuracy	
13.	Control system with touch screen display coloured screen – 5.7"	
14.	Safety controller sensor to cut off the supply in case of overshoot and undershoot of Temperature giving audio visual alarm	
15.	Complete safety and alarm system	
16.	Complete with IQ, OQ, PQ documents, Operations and Maintenance manuals	
17.	Power supply of 100-240V, 50-60Hz	
29.	3 years comprehensive warranty and 2 years non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 12

Item No. 5 Refrigerated Centrifuge (Qty 1) SAC 2016-2017/ 2017-2018

S. No.	Specification	Features available (Yes/No)
1.	Centrifuge can attain Max speed of at least 16,000rpm with Brushless maintenance free drive	
2.	Temperature range should be of -11°C to 40°C	
3.	CFC free refrigeration and fast cooling option	
4.	Corrosion resistant stainless steel chamber	
5.	Machine should turn OFF automatically after certain hours of non-use to reduce energy consumption & extend compressor life	
6.	Must be able to maintain at 4°C at max. speed	
7.	Acceleration time to maximum speed:< 14sec and Deceleration time:< 15sec	
8.	Run time: upto 99 minutes or continuous mode	
9.	Must be able to store 50 routine procedures with 5 programmable buttons for frequently used programs in the first level	
10.	Able to switch display between rcf and rpm speed setting	
11.	Separate short spin key	
12.	Low noise levels ≤ 65db at max speed	
13.	Audible Alarm at the end of each run	
14.	LED/LCD display depicting all possible run conditions	
15.	Automatic motorised lid locking when lid almost closed	
16.	2-point lid screwing for maximum security even at high speed centrifugation	
17.	Must follow safety standards set by IEC 1010-2-020	
18.	Rotor should be made of anodised aluminium to ensure chemical resistance	
19.	Build-in condensation drain should be available to eliminate water accumulation.	
20.	Rotor must be autoclavable at 121°C for 20min to completely eliminate any contaminating material	
21.	Aerosol tightness should be certified by external body	
22.	Centrifuge should be IVD (In-vitro diagnostic) certified.	
23.	Automatic rotor recognition &imbalance detection	
24.	fixed angle rotor accommodating ~30 x 1.5/2ml tubes for speed about 15000 rpm	
25.	Fixed angle rotor accommodating 15/50ml conical tubes	
26.	Swing-bucket rotor with multiple carriers accommodating 15/50ml conical tubes, culture plates, 250-500 ml bottles	
27.	Compatible Stabilizer should be provided alongwith the instrument	
28.	Power supply upto 230V/50Hz	
29.	3 years comprehensive warranty and 2 years non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 13

Item No. 7 Biosafety Cabinet (Qty 1) SAC 2016-2017/ 2017-2018

S. No.	Specifications	Features available (Yes/No)
1.	Biosafety cabinet should be class II, type A2 with working space of at least 4 Feet	
2.	Should be ≥ 99.99% inhibiting particles ≥0.3 μm with ULPA filter as per EN1822 standards or equivalent.	
3.	The display should indicate the status of filter for maintenance.	
4.	Vibration free, noise level should be ≤ 65 dB	
5.	Cabinet should have Fluorescent and Germicidal UV lamps with automatic control. UV lamps should be programmable for 30 min to 24 h	
6.	All interior walls should be made up of stainless steel and exterior should be powder coated.	
7.	Bio safety cabinet should have internally electrical socket outlet, and fitting for vacuum.	
8.	The system should be with dual DC motors for airflow maintenance and low energy consumption. Differential pressure gauge should be there.	
9.	The system should be provided with support stand.	
10.	Accessories: Height adjusted stool should be provided, Adjustable footrest, Armrest	
11.	International Regulatory certifications: Should be fully compliant tested and certified U.S. Standard NSF 49 / European standard EN12469 /DIN 12980 / Protection class II/ Protection Type IP20.	
12.	The supplier should undertake periodical testing and validation, once every 12 months for 5 years	
13.	Installation, validation every year during warranty period, demonstration, and technical presentation should be conducted.	
14.	Equipment should be supplied with a compatible UPS from standard company with at least 30 minutes backup.	
15.	Power supply 220-240 V, 50 Hz	
16.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item 26.14

Item No. 8 Water Purification System (Qty 1) SAC 2016-2017/ 2017-2018

S. No.	Specification	Features available (Yes/No)
1.	It should come with all accessories for providing the laboratory grade, Type I and Type - II water separately, as and when required.	
2.	The system should be able to provide pure and ultra-pure water from the fed portable tap water with pH 4 to 10 pH units.	
3.	Should have pre- filtration unit consisting of 5 micron filter to remove the particulate matter from fed water.	
4.	The water system will include an EDI (ElectroDeIonisation) module that does not require softening pre-treatment	
5.	Booster pump to maintain the required fed water	
6.	1st stage system to provide RO grade water with purification stages like pre- filter with anti- scaling and activated carbon to remove free chlorine and organic impurities.	
7.	It should at least provide the first stage RO-DI water with a flow rate of at least 3 L/hr, inorganic ions and organic impurity removal upto 99%, particulate and bacteria reduction upto >99%.	
8.	Reservoir of at least 50 litre capacity to store Type II water.	
9.	Intermittent water recirculation to avoid contamination build-up.	
10.	UV lamp installed in the system to allow reduction of level of bacteria.	
11.	Find stage system to provide Ultrapure (Type- I) pyrogen/endotoxin free, RNAse and DNAse free water with Resistivity: ≥18.2 MOhm.cm, conductivity: 0.055uS/cm, Bacteria: <0.1 cfu/ml, Flow rate: upto 1 litres/min and TOC: <5ppb.	
12.	It should have a plunger with an option to have delivery of pure water from 0.22 micron filter for cell culture application.	
13.	Graphic display to shows at a glance the water quality specifications and all critical information (resistivity, TOC level, alerts, alarms, etc.).	
14.	Stand for mounting the entire system on the wall should be provided to save the bench space and all accessories to connect the system with tap water should be provided by the bidder	
15.	Comprehensive warranty on the machine and all essential accessories for a period of 3 years from the date of installation with additional 2 year non- comprehensive warranty and AMC charges for additional three years must be given separately.	
16.	The cost of consumables like filters and cartridges etc. may be quoted separately also.	
17.	Should conform to International Safety guidelines/ FDA approved	
18.	Capable of operating directly from a 230V ± 10%, 50 ± 2 Hertz, single phase AC supply	
19.	Inbuilt AC Stabilizer with self-tripping circuit breaker for protection against overload	

Item No. 15

Item No. 11 Horizontal gel Apparatus with power pack (Qty 1) SAC 2017-2018

S. No.	Specifications	Features available (Yes/No)
1.	A compact Horizontal gel Apparatus that can accommodate Gel size 13X13 cm	
2.	Spare electrodes; Qty- 2 nos.	
3.	Levelling table for gel casting 15 x 15 cm ; Qty-2 No.	
4.	UV transparent gel running tray 70 x 50 mm ; Qty-2 No.	
5.	UV transparent gel running tray 100 x 70 mm; Qty- 2 No.	
6.	Acrylic comb 8 well 1.5 mm ; Qty-5 No.	
7.	Acrylic comb 15 well/20 well 1.5 mm ; Qty-5 No.	
8.	Acrylic comb 3 well preparative 3.0 mm ; Qty-5 No.	
9.	International Regulatory certification: CE Certified.	
10.	1 year comprehensive warranty	

Specifications Power Pack (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	A Power pack with programmable output range: 10 – 300V, ~ 4–500 mA, 1-150 W	
2.	Output Type : Contant V and Contant C	
3.	Built-in timer : 0 – 99 h	
4.	Output Terminal: Two (02) pair jacks in parallel.	
5.	Digital Display	
6.	Operating Conditions : 0 – 40 deg C; 0 – 95% humidity	
7.	Safety Features: No-load detection; Sudden load change detection; Over-load/short-circuit detection; Overload protection.	
8.	Compatible with medium-sized gel (13 cm × 8.5 cm) electrophoresis unit and Transblot apparatus (Wet/Semi-dry apparatus).	
9.	Adapters should be provided to use gel electrophoresis system from other brands	
10.	Regulatory certification: EN-61010, CE Certified.	
11.	Power supply upto 230 V, 50 Hz	
12.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 16

Item No. 12 Vertical gel electrophoresis assembly (Qty 1) SAC 2017-2018

S. No.	Specifications	Features available (Yes/No)
1.	Vertical Mini Gel electrophoresis apparatus with a capacity to run at least 4 gels of approx 8.5 cm × 7.5 cm	
2.	The system should be compatible for hand-cast gels and precast gels in the same assembly.	
3.	Run time should not be more than 1 hr (at 200V constant)	
4.	The same buffer tank should be able to run electrophoresis and Western blot for at least 2 gels.	
5.	Electrode assembly, tank, lid with power Cables, blotting module for transfer of proteins from 2 gels	
6.	At least 10 glass plate set should be provided with each unit along with spacers (1.0 mm/ 0.75 mm), glass plates with integrated spacers are preferred.	
7.	Casting frames and casting stands with leak-free hand-casting should be provided.	
8.	Accessories: Four Ten well plastic combs (1.0/0.75 mm thickness), gel releaser, gel cutter from principle company should be provided	
9.	Regulatory Certification : IEC 1010, CE or equivalent	
10	3 years comprehensive warranty	

Item no. 17

Item No. 13 Gradient PCR (Qty 1) SAC 2017-2018

S. No.	Specification	Features available (Yes/No)
1.	Gradient Block to accommodate 96 x 0.2 ml tubes / PCR plate / PCR strips	
2.	Minimum sample working volume : 10 µl	
3.	Temperature control of the block : 4-99°C	
4.	Gradient Block over columns so that 12 temperature gradients can be run simultaneously.	
5.	Gradient selectable from 1°C to 24°C across the entire temperature control range	
6.	Gradient temperature range 30-99 °C	
7.	Auto restart option in the event of power failure	
8.	Ability to store methods on external card for safety	
9.	Should have memory to store at least 500 protocols.	
10.	Should have heated lid system	
11.	Temperature Uniformity : ± 0.5 °C	
12.	Temperature Accuracy ± 0.25 °C	
13.	Sample heating/cooling rate ~4-5°C /sec.	
14.	Average block ramp rate ≥ 5°C	
15.	Display : Large display showing real-time assay conditions with touchscreen	
16.	Power supply: 230 V, 50 – 60 Hz	
17.	Power consumption ≤ 1000 W	
18.	ISO 9001/CE certified or equivalent	
19.	Three year comprehensive warranty and two year non-comprehensive warranty.	
20.	Accessories: Compatible online UPS with at least 1hr power backup	

Item No. 18

Item No. 14 Laboratory Autoclave (Qty 1) SAC 2017-2018

S. No.	Specifications	Features available (Yes/No)
1.	Portable Laboratory Steam Autoclave with 50 L capacity with top loading option (vertical)	
2.	The system should be able to maintain sterilization temperature upto 135 °C and Pressure range of 0.1 - 0.4 MPa	
3.	The system should be microprocessor controlled. It should have set programme for different applications and option for customized programs	
4.	System should be with LED/LCD display. The system should have Pressure gauge, Steam release option	
5.	The system including lid should be made up of austenitic stainless steel sheet of SUS-304 grade or better.	
6.	The system should be with double interlock option for better safety.	
7.	The system should have an inbuilt fan to cool down the chamber	
8.	Exhaust tank should be with 2 litre or more	
9.	The system should have Small Footprint with Swing-Up Door	
10.	Accessories: Two compatible stainless steel baskets, one drain hose, one exhaust tank	
11.	Safety features: Over temperature alarm, water level indicator, pressure safety valve, over temperature/over pressure limiter	
12.	International regulatory certification: ISO 9001, 2008 & CE Certification	
13.	Power supply 220-240 V, 50 Hz	
14.	Warranty: 03 years comprehensive warranty and 02 non-comprehensive warranty	

Item No. 19

Item No. 15 Light Microscope with camera (Qty 1) SAC 2017-2018

S. No.	Specification	Features available (Yes/No)
1.	Body-Inter changeable, inclined trinocular body, 360° rotatable head	
2.	Eyepieces-Highest quality 10 X wide angle anti fungus field eyepiece.	
3.	Objectives- Parfocal, antifungus coated 4x, 10x, 40x and 100x (oil immersion) with plan achromatic correction	
4.	Optical system- Infinity corrected	
5.	Stage - Horizontal mechanical stage preferably 100 x 140 mm with fine vernier graduations designed with convenient coaxial adjustment for slide manipulation preferably through 30 x 70 mm	
6.	Smooth coaxial coarse and fine motion	
7.	Sub stage- Abbe condenser focusable, continuously variable iris diaphragm	
8.	Illuminator-Built-in LED light source with white light	
9.	Finish-A durable textured acid resistant finish.	
10.	High Definition digital camera with resolution equal to or more than 20 mega pixel with facility for video preview and rechargeable battery along with ability to simultaneously connect camera with personal computer /LCD monitor through	
11.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item No-20

- **Technical Specifications-Luminometer**

- Should have Injectors 2, With Adjustable Injection volume between 25 µl and 300 µl
- Delay between start of last injection and start of integration 0.1 – 200 seconds with increments of 0.1 seconds
- Measurement duration of 5 -10 seconds
- Sample holder and transport system for at least two test tubes
- Sample holder should accommodate 12 mm × height 75 mm tubes.
- Software should have provision for desired protocols not less than 40 for different measuring modes on instrument
- Should have a. raw data measurement with mean value and coefficient of variation and b. cutoff protocols
- Should have measuring modes :
    - Kinetics measurement
    - Raw data measurement
    - Quality control for instrument and reagents
- Should have at least 256 K of memory and 256 K of CMOS memory
- Detector should have atleast 20 ns resolution photon counter
- Should have option for background subtraction for individually measured and also for optionally subtracted from RLU results.
- Should be capable of taking kinetic monitor Histogram printout with 20 data items.
- Automatic range selection.
- Printout of total and peak counts.
- Should have capacity for data storage of 30 assays each, with up to 250 measured values
- The machine should be capable of doing
    - Dual luciferase Reporter Assays and other Glow assays
    - ATP Assays
    - beta-Galactosidase Assays

- 12 mm × height 75 mm tubes-1000 numbers (should be added to the main quotation)
- A personal computer with 2 core processor or more along with the software needed to run the instrument has to be supplied and added to the main quotation
- Voltage stabilizer of desired capacity need to be included in the quotation
- 3 years warranty should be offered
- AMC for the subsequent 2 years need to be quoted

Item No. 20

Technical Specifications-Luminometer

Specifications of Instrument	Feature available Yes/No
Should have Injectors 2, With Adjustable Injection volume between 25 µl and 300 µl	
Delay between start of last injection and start of integration 0.1 – 200 seconds with increments of 0.1 seconds	
Measurement duration of 5 -10 seconds	
Sample holder and transport system for at least two test tubes	
Sample holder should accommodate 12 mm × height 75 mm tubes.	
Software should have provision for desired protocols not less than 40 for different measuring modes on instrument	
Should have a. raw data measurement with mean value and coefficient of variation and b. cutoff protocols	
Should have measuring modes :	
Kinetics measurement	
Raw data measurement	
Quality control for instrument and reagents	
Should have at least 256 K of memory and 256 K of CMOS memory	
Detector should have atleast 20 ns resolution photon counter	
Should have option for background subtraction for individually measured and also for optionally subtracted from RLU results.	
Should be capable of taking kinetic monitor Histogram printout with 20 data items.	
Automatic range selection.	
Printout of total and peak counts.	
Should have capacity for data storage of 30 assays each, with up to 250 measured values	
12 mm × height 75 mm tubes-1000 numbers (should be added to the main quotation)	
A personal computer with 2 core processor or more along with the software needed to run the instrument has to be supplied and added to the main quotation	
Voltage stabilizer of desired capacity need to be included in the quotation	
3 years warranty should be offered	
AMC for the subsequent 2 years need to be quoted	

Item No. 21

Item No. 1 Analytical Balance (Qty 1) **2018-19 (SAC 2017)**

S. No.	Specifications	Features available (Yes/No)
1.	An electronic semi-micro balance with maximum capacity of *around 220 g and Readability of 0.1 mg with pan sitting on the* top	
2.	Repeatability ± 0.1 milligrams	
3.	Linearity (mg) ± 0.2 milligrams	
4.	Response Time (avg) 3 seconds	
5.	Minimum weight (acc. to 1%, k=2) should be ≤3 mg	
6.	Tare Range FULL to Capacity	
7.	Selectable Weight Units g, mg	
8.	Selectable Application Programs- Mass unit conversion by toggling, tare memory	
9.	Display- LCD with backlit/HCD	
10.	Ambient Operating Temperature- 0°C to 40°C	
11.	Sensitivity offset 0.3 mg	
12.	Pan Size -weighing pan of atleast ø80 mm	
13.	With RS-232 Interface	
14.	Internal and External Calibration with auto adjustment	
15.	International Regulatory Certification: ISO 9001/ISO 14001/IP54	
16.	Safety Features: Protection against dust and water, Over-load protection, Chemical-resistant body, level locking is preferred	
17.	Power supply upto 230V /50 Hz	
18.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 22

Item No. 2 Orbital shaker incubator(Qty 1) 2018-19 (SAC 2017)

S. No.	Specifications	Features available (Yes/No)
1.	Compact Bench top shaker with temperature control range from Ambient +5°C to 60°C	
2.	Motion: Orbital with orbital diameter of 25mm or more	
3.	Speed: 40- 275 rpm	
4.	Temperature control accuracy ±0.5°C of set point	
5.	Thermostat cut off for over temperature protection and auto restart after power interruption	
6.	Safe view of samples through internal glass door, without impact on temperature	
7.	Platform: Uniform platform to accommodate flasks and test tubes Size: ~ 400 mm x 400 mm	
8.	Microprocessor based Controller	
9.	Forced air circulation for uniform Temperature	
10.	International Regulatory Certification: ISO 9001/ISO 14001/IP54	
11.	Accessories: clamps to hold 1ltr (2 Nos), 500ml(6 Nos), 250 ml (8 Nos), and test tube rack to hold test tubes	
12.	International Regulatory Certification: ISO 9001/ISO 14001/IP54	
13.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 23

Item No. 1 Deep freezer -80 °C degrees (Qty 1) (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	Vertical-type single-door deep freezer with temperature -80°C±-10°C and with a capacity of 700-750 litres, with pad locking system	
2.	Interior should be stainless steel/coated steel	
3.	Energy usage should be low.	
4.	Exterior Dimensions should not be more than 100 × 100 × 200 cm (L × W × H)	
5.	Display – LCD/LED showing temperature with USB port for direct data extraction	
6.	Memory back up, Operation should resume to set temperature after power off	
7.	Low noise level ≤65 db	
8.	The system should have a vacuum release port for fast reopening of freezers.	
9.	Factory installed LN_2 /CO_2 Back up in case of power failure	
10.	The system should have vacuum based insulation and five fold gasket to avoid temperature leakage	
11.	The system should have independent dual compressors to maintain the temperature for fail safe operation.	
12.	Safety features: Temperature alarm; Remote alarm should be provided with the system to monitoring system from principle company.	
13.	Accessories: 2 inch Cryoboxes and compatible Racks for two compartments (full capacity), Cryo gloves, Medium- 2 pairs; LN_2/ CO_2 cylinder with regulator	
14.	International certifications: CE, and cULus or equivalent, Class IIa Medical Device	
15.	Compatible standard stabilizer (wheel-based) should be provided with the system	
16.	Power supply upto 230 V, 50 Hz	
17.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item No. 24

Item No. 2 Transfer Unit Midi Gel (Qty 1) (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	A wet Transfer Unit to blot 2 medium sized gels (~13 cm) or 4 small sized gels (~7 cm) for Western blotting	
2.	The unit should have plate electrodes for efficient transfer	
3.	The unit should be able to transfer proteins efficiently within 2 hr and should have an option of overnight transfer at 4 degrees.	
4.	Transfer buffer requirement should not be more than 1.5 litres	
5.	A compatible power pack (see specifications below) alongwith the system from the principle company should be provided.	
6.	Accessories: Roller for removing air bubbles, blot assembly tray, sealed ice blocks should be provided along with the system	
8.	International Regulatory Certification: CE, cCSAus certified	
9.	Power supply upto 230 V, 50 Hz	
10.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Power Pack (Qty 1)

S. No.	Specifications	Features
1.	A Power pack with programmable output range: 10 – 250V, ~ 3 A, 1-150 W	
2.	Output Type : Contant V and Contant C	
3.	Built-in timer : 0 – 99 h	
4.	Output Terminal: Two (02) pair jacks in parallel.	
5.	Digital Display	
6.	Operating Conditions : 0 – 40 deg C; 0 – 95% humidity	
7.	Safety Features: No-load detection; Sudden load change detection; Over-load/short-circuit detection; Overload protection.	
8.	Compatible with medium-sized (13 cm × 8.5 cm) gel electrophoresis unit and Transblot apparatus (Wet/Semi-dry apparatus).	
9.	Adapters should be provided to use gel electrophoresis system from other brands	
10.	Regulatory certification: EN-61010, CE Certified or euivalent	
11.	Power supply upto 230 V, 50 Hz	
12.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 25

Item No. 3 Vertical gel electrophoresis assembly (Qty 1) (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	Vertical Mini Gel electrophoresis apparatus with a capacity to run atleast 2 gels of approx 8.5 cm × 7.5 cm	
2.	The system should be compatible for hand-cast gels and precast gels in the same assembly.	
3.	Run time should not be more than 1 hr (at 200V constant)	
4.	The same buffer tank should be able to run electrophoresis and Western blot for atleast 2 gels.	
5.	Electrode assembly, tank, lid with power Cables, blotting module for transfer of proteins from 2 gels	
6.	At least 10 glass plate set should be provided with each unit alongwith spacers (1.0 mm), glass plates with integrated spacers are preferred.	
7.	Casting frames and casting stands with leak-free hand-casting should be provided.	
8.	Accessories: Four Ten well plastic combs (1.0 mm thickness), gel releaser, gel cutter from principle company should be provided	
9.	Regulatory Certification : IEC 1010, CE	
10.	3 years comprehensive warranty and 2 non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 26

Item No. 4 UV-Vis Transilluminator Qty-1 (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	A system having a combination of both UV illuminator for selection of 302 nm and white light with 20 × 20 cm work surfaces to view both nucleic acids stained with ethidium bromide and proteins stained with visible dyes.	
2.	A hinged, clear UV blocking cover should be provided with the system	
3.	UV lamps of 8 W for 302 nm UV light and White light lamp of 8 W for visible light	
4.	Total weight of the system should not be over 10 Kg	
5.	International Certification: CE certified	
6.	Power supply upto 230 V, 50 Hz	
7.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item No. 27

Item No. 5 Orbital Shaker: (Qty 1) 2018-19 SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	Benchtop Open air orbital shaker with Flat Platform with around 18 x 18 inches and non-slippary mat	
2.	Microprocessor control and Speed Range should be 40- 500 rpm	
3.	Orbit should be around 2.0 cm	
4.	Timer 1 to 60 min. or continuous	
5.	Operating Temperature Range 4° to 40°C	
6.	Platform Load Capacity atleast 4.0 kg	
7.	International Regulatory Certification: CE certified	
8.	Power supply upto 230 V, 50 Hz	
9.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 28

Item No. 6 Tube Rotator (Qty 1) (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	Benchtop Tube rotator with speed range of 10 to 40 rpm	
2.	Operating range from 4° C - 60 ° C	
3.	Appx Dimensions 200×150×200 mm.	
4.	The instrument should be able to accommodate 15-20 x 1.5 ml/ 2ml tubes, 7-10 x 15 ml tubes 5-10 x 50 ml tubes Specific rotating paddle should be provided with the instrument for accommodating the above tubes	
5.	International Regulatory Certification: CE, cCSAus certified	
6.	Power supply upto 230 V, 50 Hz	
7.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No.29.

Item No. 7 CO_2 incubator (Qty 1) (2016-17) (SAC 2016)

S. No.	Required Specifications of item	Features available (Yes/No)
1.	Air jacketed, convection-based, Microprocessor controlled, stackable CO_2 incubator with 150-200 L capacity	
2.	Programmable hot air sterilization cycles using temperatures 150 °C -≥180 °C or /H_2O_2 decontamination	
3.	The sterilization cycle should be able to proceed without the need to remove the filters and CO_2 sensors.	
4.	Should be equipped with dual wavelength IR sensor for drift free CO_2 measurement	
5.	Display- LCD/LED screen alongwith USB drive to extract data	
6.	Seamless stainless steel inner chamber with integrated shelf support system	
7.	Incubation temperature range of about 5°C above ambient to 50°C	
8.	Temperature variation should not be more than ± 0.3°C at 37°C	
9.	Recovery time at 37°C and at 5% CO_2 after brief door opening should not be more than 8 min	
10.	CO_2 range should be 0-20% with setting accuracy of 0.1%	
11.	All specified technical data should hold true at temperature of 25 °C	
12.	CO_2 gas guard for connecting two gas cylinders, changing over automatically	
13.	Inner glass door with appropriate measures to ensure long term retention of CO_2; Lockable outer door	
14.	Perforated adjustable stainless steel shelves (3-4) sturdy enough to hold culture vessels to their full capacity	
15.	Maintain an average Relative Humidity of 95% with condensation free walls and view panel	
16.	In-line air/gas HEPA/ULPA filters with warning alarm for their changing time	
17.	Electronic self-diagnostic system for errors with optical and audible alarm/ messaging option	
18.	Safety features: Independently adjustable temperature safety device with visual and audible temperature alarm for protection against over- temperature	
19.	Accessories: CO_2 cylinder- Qty 2; CO_2 Regulator- Qty -1	
20.	The supplier should undertake periodical testing and validation, once every 12 months for 5 years	

Item No. 29

21.	Compliance to GMP applications and should conform to European or US regulatory requirements (CE and ISO9001/14001)	
22.	Compatible standard stabilizer (wheel based) should be provided with the system	
23.	Power supply 220-240 V, 50 Hz	
24.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 30

Item No. 8 Biological Hood (Qty 1) (2016-17) (SAC 2016)

S. No.	Specifications	Features (Yes/No)
1.	Biosafety cabinet should be class II, type A2 with working space of ~ 4 Feet X 2Feet (LXW)	
2.	Should be ≥ 99.99% inhibiting particles ≥0.3 µm with ULPA filter as per EN1822 standards or equivalent.	
3.	The display should indicate the status of HEPA filter for maintenance.	
4.	Vibration free, noise level should be ≤ 65 dB	
5.	Cabinet should have Fluorescent and Germicidal UV lamps with automatic control. UV lamps should be programmable for 30 min to 24 h	
6.	All inetrior walls should be made up of stainless steel and exterior should be powder coated.	
7.	Bio safety cabinet should have internally electrical socket outlet, and fitting for vacuum.	
8.	The system should be with dual DC motors for airflow maintenance and low energy consumption. Differential pressure gauge should be there. There should be an exhaust filter.	
9.	The system should be provided with support stand.	
10.	Accessories: Height adjusted stool should be provided, Adjustable footrest, Armrest	
11.	International Regulatory certifications: Should be fully compliant tested and certified U.S. Standard NSF 49 / European standard EN12469 / DIN 12980 / Protection class II/ Protection Type IP20.	
12.	The supplier should undertake periodical testing and validation, once every 12 months for 5 years	
13.	Installation, validation every year during warranty period, demonstration, and technical presentation should be conducted.	
14.	Equipment should be supplied with a compatible UPS from standard company with ~30 minutes backup and a sealed cabinet.	
15.	Power supply 220-240 V, 50 Hz	
16.	03 years comprehensive warranty and 02 years non-comprehensive warranty	

Item No. 31

Item No. 9 Inverted microscope (Qty 1) (2016-17) (SAC 2016)

S. No.	Specifications	Features available (Yes/No)
1.	A digital, transmitted light, fluorescence imaging system for routine cell and tissue culture, cell confluence determination, cell passaging as well as for imaging of tissue slices stained with H&E, DAB, and other chromogenic stains	
2.	The system should have LED transmitted light illumination for bright-field, phase-contrast and fluorescence (DAPI and FITC)	
3.	The system should be with integrated power supply	
4.	Eyepiece field of view should be atleast 22 mm diameter	
5.	Objective turret encoded with 5 position: Long distance plan achromatic objectives of 5×, 10×, 20×, 40×, 100× Reflector turret: 4-position	
6.	Condenser working distance should be atleast 60 mm with numerical aperture of 0.4 or more	
7.	Stage should be a mechanical stage with x-y axis with fine-positioning controls	
8.	Interchangeable vessel holders should be available	
9.	The system should have CCD camera (≥6 MP) with 2752 × 2208 pixels and atleast 4 μm pixel size for high resolution images with USB3.0 interface.	
10.	Images acquired should be saved in JPEG, TIFF formats. Should have USB ports for transporting images.	
11.	Accessories: Different vessel holders (universal, slide, multiwall plate, T25, T75 culture flask, 35, 60, 100 mm petri dishes), Cover for microscope, oil for using 100× objective	
12.	International regulatory certification: Class I, IP 20, EN 61010-1 allowing for CSA and UL specifications, EN 55011 Class B, EN 61326-1	
13.	The system should be supplied with a compatible stabilizer.	
14.	Power supply 220-240 V, 50 Hz	
15.	03 years comprehensive warranty and 02 years non-comprehensive warranty	

Item No. 32

Item No. 10 Deep Freezer (-20 °C) (Qty 1) (2016-17) (SAC 2016)

S. No.	Specifications	Features available (Yes/No)
1.	Vertical-type deep freezer with temperature control from -20°C to -30°C and with a capacity of ~450 litres	
2.	Front mounted microprocessor controlled digital temperature display located at convenient height	
3.	The system should have memory back up. Operation should resume to the set temperature after power off.	
4.	There should be an option for auto zero calibration through control panel.	
5.	The system should be with pre-coated steel body	
6.	CFC/HCFC free refrigerant	
7.	The system should be with heavy duty hermetic type compressor	
8.	Pull out drawers and with an option of adjustable shelves.	
9.	Instrument should be with low energy consumption ~6 kWh/day	
10.	The system should have door with lock facility with an option of putting external lock	
11.	The sytem should have defrost option.	
12.	Dimensions should not exceed 100 × 100 × 200 cm	
13.	Safety features: The system should have alarm for High temperature, low temperature, door open, and power failure.	
14.	There should be an option of temperature recording system and retrieval of data, remote alarm contact and self diagnostics	
15.	The system should be ISO 9001, 14001 Certified, European CE certified	
16.	Compatible standard stabilizer with wheel based cabinet	
17.	Power supply 220-240 V, 50 Hz	
18.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 32

Item No. 1 -20°C deep freezer (Qty 1) (2015-16) SAC 2015

S. No.	Specifications	Features available (Yes/No)
1.	Vertical double door deep freezer with temperature range ~20 °C	
2.	Capacity: 300-400 Liters	
3.	Audible/Visual Alarms: Hi/Lo temp, power failure, remote alarm	
4.	Should have Front mounted display & control panel located at eye level	
5.	Should have PUF insulation	
6.	Should have combination of pull out drawers and shelves	
7.	Compatible UPS and stabilizer with cabinet	
8.	Power supply upto 230V/ 50Hz	
9.	CFC free heavy duty Compressor	
10.	Insulated door with gasket for sample protection and uniformity with door frame 'hot-line' to prevent ice build-up	
11.	Must have Pre-coated metal body for better chemical/ corrosion resistance	
12.	Noise level <50 dB	
13.	Certifications: ISO 9001/ISO 1348/ISO14001 Certified	
14.	3 years comprehensive warranty and 2 years non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 33

Item No. 2 Horizontal gel electrophoresis system including power pack (Qty 1) (2017-2018) SAC 2017

(A) Specifications of Horizontal Gel apparatus

S. No.	Item	Features available (Yes/No)
1.	Horizontal gel Apparatus that can accommodate Gel size ~13X13 cm	
2.	ACCESSORIES for Horizontal gel Apparatus	
3.	Spare electrodes; Qty- 2 nos.	
4.	Levelling table for gel casting ~15 x 15 cm ; Qty-1 No.	
5.	UV transparent gel running tray ~13 x 13 cm ; Qty-1 No.	
6.	UV transparent gel running tray ~13 x 7 cm; Qty- 1 No.	
7	UV transparent gel running tray ~7 x 13 cm; Qty- 1 No.	
7.	Acrylic comb ~13 well, 1.5 mm ; Qty-4 No.	
8.	Acrylic comb ~7 well, 1.5 mm; Qty-4 No.	
9.	International Regulatory certification: CE Certified.	
10.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

(B) Specifications of Power Pack

S. No.	Specifications	Features available (Yes/No)
1.	A Power pack with programmable output range: 10 – 300V, ~ 4–500 mA, 1-150 W	
2.	Output Type : Contant V and Contant C	
3.	Built-in timer : 0 – 99 h	
4.	Output Terminal: Two (02) pair jacks in parallel.	
5.	Digital Display	
6.	Operating Conditions : 0 – 40 deg C; 0 – 95% humidity	
7.	Safety Features: No-load detection; Sudden load change detection; Over-load/short-circuit detection; Overload protection.	
8.	Compatible with midi-sized gel (~13 cm × 13 cm) electrophoresis unit and Transblot apparatus (Wet/Semi-dry apparatus).	
9.	Adapters should be provided to use gel electrophoresis system from other brands	
10.	Regulatory certification: EN-61010, CE Certified.	
11.	Power supply upto 230 V, 50 Hz	
12.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 34

Item No. 3 CO_2 incubator (Qty 1) (2016-17) (SAC 2016)

S. No.	Required Specifications of item	Features available (Yes/No)
1.	Air jacketed, Microprocessor controlled stackable CO_2 incubator with 50-100 L capacity	
2.	Display- LCD/LED screen	
3.	Programmable hot air sterilization cycles using temperatures 120 ^{0}C - ≥150 ^{0}C.	
4.	The sterilization cycle should be able to proceed without the need to remove the filters and CO_2 sensors.	
5.	Should be equipped with IR sensor for drift free CO_2 measurement	
6.	Copper-stainless steel alloy, inner chamber with integrated shelf support system	
7.	Incubation temperature range of about 5°C above ambient to 50°C	
8.	Temperature variation should not be more than ± 0.3°C at 37°C	
9.	Temperature fluctuation±0.1°C	
10.	Recovery time at 37°C and at 5% CO_2 after brief door opening should not be more than 8 min	
11.	Independently adjustable temperature safety device with visual and audible temperature alarm for protection against over- temperature	
12.	CO_2 range should be 0%-20% with setting accuracy of 0.1%	
13.	CO_2 gas guard for connecting two gas cylinders, changing over automatically	
14.	Inner glass door with appropriate measures to ensure long term retention of CO_2	
15.	In-line air/gas HEPA filters with warning alarm for their changing time	
16.	Maintain an average Relative Humidity of 95% with condensation free walls and view panel	
17.	Perforated adjustable stainless steel shelves (3-4) sturdy enough to hold culture vessels to their full capacity	
18.	All specified technical data should hold true at temperature of 25 ^{0} C	

Item No. 34

19.	Electronic self-diagnostic system for errors with optical & audible alarm and messaging option	
20.	Accessories: CO2 cylinder- Qty 2; CO2 Regulator, Qty -1	
21.	The supplier should undertake periodical testing and validation, once every 12 months for 5 years	
22.	Compliance to GMP applications and should conform to European or US regulatory requirements	
23.	Compatible stabilizer (wheel based) should be provided with the system	
24.	Power supply 220-240 V, 50 Hz	
25.	3 years comprehensive warranty and 2 years non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 35

Item No. 4. Gel Documentation System (Qty 1) (2018-19) SAC 2017

S.No.	Item	Features available (Yes/No)
1.	Gel documentation with fluorescence based detection	
2	Should have Colorimetry/ densitometry analysis features	
4	Maximum sample size area: ~28x 36cm	
5	Maximum image area: ~15 x25cm	
6	Excitation source: Epi-white light and trans-UV (302 nm)	
7	Illumination control: 3 modes (trans-UV, trans white, epi-white)	
8	CCD Detector	
9	Image resolution: ~4 megapixels	
10	Filter holder: 3 positions (2 for filters, 1 without filter)	
11	Emission filters: 1 standard, 3 optional	
12	Operating voltage upto 230V AC	
13	Operating Conditions : ambient temperature; 0 – 95% humidity	
14	Workflow automated selection: Application driven; user selected or recalled by a protocol	
15	Workflow automated execution	
16	Autofocus: Precalibrated focus for any zoom setting or sample height	
17	Auto-exposure : 2 user-defined modes (intense or faint bands)	
18	3 years comprehensive warranty and 2 years non-comprehensive warranty and 5 year AMC after warranty period	

Item No. 36

Item No. 5. Vertical gel electrophoresis assembly (Excluding Power Pack) (Qty 1) (2018-19) SAC 2017

S. No.	Specifications	Features available (Yes/No)
1.	Vertical Mini Gel electrophoresis apparatus with a capacity to run at least 2 gels of approx 8.5 cm × 7.5 cm	
2.	The system should be compatible for hand-cast gels and precast gels in the same assembly.	
3.	Run time should not be more than 1 hr (at 200V constant)	
4.	The same buffer tank should be able to run electrophoresis and Western blot for at least 2 gels.	
5.	Electrode assembly, tank, lid with power Cables, blotting module for transfer of proteins from 2 gels	
6.	At least 10 glass plate set should be provided with each unit along with spacers (1.0 mm), glass plates with integrated spacers are preferred.	
7.	Casting frames and casting stands with leak-free hand-casting should be provided.	
8.	Accessories: Four Ten well plastic combs (1.0 mm thickness), gel releaser, gel cutter from principle company should be provided	
9.	Regulatory Certification : IEC 1010, CE	
10.	3 years comprehensive warranty and 2 non-comprehensive warranty	

Item No. 37

Hot air Oven (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	Hot air laboratory oven with mechanical convection for fast drying, microprocessor-control, and capacity with 200-250 L	
2.	Temperature Range should be from Ambient to 250^{0}C.	
3.	Temperature Variation: +/- 5°C	
4.	LED display	
5.	Number of Shelves should be at least 2 (two)	
6.	Interior chamber should be made up of Stainless steel	
7.	Safety features: Over-temperature protection	
8.	Power supply upto 230 V, 50 Hz	
9.	ISI certification	
10.	3 years comprehensive warranty and 2 years non-comprehensive warranty	

Item No. 38

Two

Refrigerated Centrifuge – ~~Three~~ Units

Sl.No.	Specifications	
1	System should be microprocessor controlled	
2	Temperature set range: 0° C to +30 ° C	
3	Should have high ramp rate to achieve 4°C in 10-15 minutes	
4	System should have safety features like Automatic Rotor Recognition, settable Speed/RCF, quick run, lid Lock & Interlock	
5	Rotors should be compliant to bio-containment and IVD	
6	Run Timer: 0 to 10 hours or Continuous operation	
7	Diagnostic display for errors	
8	CFC free refrigeration system	
9	Electronic imbalance detection with high tolerance of imbalance	
10	Alarms for performance deviations from set parameters	
11	Noise level not more than 65 dB	
12	The firm should quote for 6 monthly calibration until the warranty period	
13	Documentation for IQ, OQ & PQ	
14	Should be able to document run time parameters with soft data acquisition & archival	
15	CFR21 Part 11 compliant wireless system for data acquisition	
16	Data acquisition system should be compatible with other equipment of any make capable of data logging	
17	Certification from internationally acclaimed organizations for quality and safety	
18	Users list with particular reference to Medical/Pharmaceutical Industry	
19	Smaller foot print will be preferred while not compromising with the required features.	
20	Three years comprehensive warranty with two more years of non-comprehensive warranty.	
21	Swing out rotor to develop RCF up to 2,500 g	
22	Single Rotor with adapters for 16-32 slots for 15 ml and 8-16 slots for 50 ml conical centrifuge tubes	
23	System should have Aerosol Tight cap.	
24	Rotor should be certified by internationally acclaimed organizations for quality and safety	

Item No. 39

Inverted phase Contrast Microscope- ~~Three~~ Two Units

Sl.No.	Specifications	
1	Stage with removable **scratch-resistant** glass inserts for smaller dishes	
2	Sufficient stage area for viewing tissue culture flasks of T150 (200 mm x 125 mm), dishes of 145 cm^2 (150 mm dia)	
3	LED transmitted light source with a minimum output of 6000 Kelvin	
4	Light brightness adjustment with on/off switch	
5	Long distance condenser of appropriate NA to accommodate culture vessels	
6	Objective turret for 4 or 5 infinity focus objectives	
7	Multiple plan-achromatic objectives of 2 to 5X, 10X, 20X and 40X	
8	Common phase ring for multiple objectives	
9	Coarse and fine focusing	
10	Integrated camera with a minimum of 5 megapixel resolution	
11	Digital image viewing through a tiltable screen attached to the microscope	
12	Viewing screen of about 8-10 inches diagonal	
13	Viewing screen of a resolution of 1024x768	
14	Digital Image capturing, archiving with wireless (eg.: WiFi) remote portability of images	
15	In built + expandable memory of at least 32 GB	
16	Must have a small foot-print of less than half square foot (< 72 square inches) or total sweep area of approximately one square foot (140 to 160 square inches) to facilitate installation in a standard biosafety cabinet or cGMP facility of bio-safety level 2.	
17	Certification from internationally acclaimed organizations for Performance, safety from the points of view of Electrical, Emissions and Light source	
18	Three years comprehensive warranty with two more years of non-comprehensive warranty.	

Item No.-40

H_2O_2 vaporizer - One Unit

Sl.No.	Specifications	
1	The equipment should be able to generate a jet of hydrogen peroxide vapour in specified rooms for disinfection	
2	Should be constructed of non- H_2O_2 corrosive material like Stainless Steel.	
3	All tubing should be medical grade.	
4	Electronic and mechanical parts should be non- corrosive to H_2O_2	
5	Should be able to generate enough H_2O_2 vapor sufficient to sterilize rooms of volumes of 500 to 2000 cubic feet	
6	Should consume 250 ml or less of H_2O_2 per 1000 cubic feet.	
7	Should be able to complete the cycle of vaporization per 1000 cubic feet within 10 minutes.	
8	Should be digitally programmable by taking input of volume of room to be disinfected.	
9	Should be able to display the volume of H_2O_2 based on the calculated room volume	
10	Should be able to start with a programmed delay for safety of operator and personnel	
11	Should be able to hold sufficient volumes of H_2O_2 for vaporization. Should be on casters for easy mobility	
12	Should be microbiologically tested and validated for sterilization by the NABL or similar standards organization accredited third party Industrial Testing Laboratory	
13	Users list with particular reference to Medical/Pharmaceutical Industry	
14	Smaller foot print will be preferred while not compromising with the required features.	
15	Three years comprehensive warranty with two more years of non-comprehensive warranty	

Item No. 41

Item No. 1 Micro HPLC with Fraction Collector (Qty 1)

S. No.	Specifications	Features available (Yes/No)
1.	An Automatic computer controlled High Performance liquid chromatography system equipped with a suitable Quaternary Solvent delivery system with Column Compartment, PDA Detector, Auto sampler, Fraction Collector and data acquisition system software to perform chromatographic operations and control of different modules of HPLC. The system will be used for separation of biomolecules, majorly proteins and peptides. All the components of the instruments should be provided by the same manufacturer.	
2.	The entire flow path of the system should be Bio-inert/ Biocompatible. All parts of the system including auto-sampler, detector, fraction collector including capillaries and fittings should be metal-free (such as Ceramics/ PEEK/ Titanium).	
3.	**Quaternary Solvent Delivery System** The delivery unit should be capable of working in both isocratic and gradient operation. Online Vacuum degasser should be provided in the system Quaternary Pump should have following features: Programmable flow rate range: up to 2 mL/min or more. Max. Operating pressure: 400 Bar or more. Flow precision: 0.1 % RSD or less. Flow rate accuracy: 1 % or less.	
4.	**Thermo statted Auto sampler** Injection Volume Range: up to 1000 uL. Auto sampler carryover: 0.05 % RSD or better. Injection Precision : < 1 % relative standard deviation (RSD) or better Sample Capacity: Upto 24 samples or more should be accommodated. Temperature Range: 10 to 40 Degrees	
5.	**Manual Injector** Bio Inert Sample loops for Manual Injector -(100 ul, 250 ul, 500 ul, 1000 ul and 2000 ul) with Qty 2 of each loop Syringes- (Qty 2 of each size of sample loop)	
6.	**Photo Diode Array (PDA) Detector with Flow cell.** Wavelength range: 190 – 800 nm or better. Light source: Deuterium lamp/ Tungsten lamp Data acquisition rate: 20 Hz or more. Wavelength accuracy: +/- 1 nm.	

Item No. 41

7.	**Thermostatted Column Compartment** Temp setting facility: Should be able to maintain Ambient to 80 Degrees. It should accommodate 300 mm columns. Temp Accuracy: ± 1 °C.	
8.	**Fraction Collector** Trigger modes : Fractions should be collected in time and peak mode as programmed in the software Maximum system flow: Upto 5 mL/min Fraction containers: Shallow or deep well plates, Auto sampler vials /microfuge tubes 2 mL, Test tubes	
9.	**Chromatography Software** A single Chromatography Software that should provide programming of complete LC system including pump parameters such as flow rates, operating pressure limits, compressibility compensation, calibration and diagnostics, control of detector and fraction collector. Real time triggers to react the condition i.e. to take action on Fault, Leakage, Stop, Start, wavelength switching, injection etc.	
10.	**Accessories:** Plunger Seals- Qty 4; PTFE Frit- Qty 20; Peek tubing 0.18 ID, 5 meter, (yellow); Peek Tubing 1/16" 0.01"/0.25mm, 5 meters ; Finger tight Peek fittings 10/pk- Qty 2; Bioinert /Stainless steel Solvent inlet filter, 20 μm- Qty 10; Tube Cutter -Qty 2; Connector- Qty 4; Tool Kit – Qty 1; Wrenches of different sizes to tighten the columns-2 sets of each size SCX column, 2.1×150 mm, 5 μm - Qty 4 RP Column- C18 , 4.6 × 50 mm, 5 μm- Qty 2 Protein A column- 5.2 mm id × 4.95 mm - Qty 2 ConA column- 5x50mm, 5 μm- Qty 2	
11.	International regulatory Certifications: CE certified	
12.	Branded Computer with Latest Configuration with minimum of 1 TB hard disk suitable for HPLC system with Laser printer (black and white, duplex printer)	
13.	A branded compatible online UPS suitable for HPLC instrument. Onsite installation and training should be provided.	
14.	Power supply upto 230V /50 Hz	
15.	The instrument should be provided with 3 years comprehensive warranty and 2 non-comprehensive warranty and 5 year AMC after warranty period	