PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK

COIMBATORE - 641 004

GENERAL CONDITIONS

1. Sealed Tenders in duplicates are invited by the Executive Director, PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK, Coimbatore-4 for the supply of Machineries/Equipments as specified in the schedule attached.

2. Tender documents can be downloaded from our website should be accompanied by demand draft of **₹ 1180/-** (Rupees One thousand one hundred and eighty only) for each item drawn **in favour of "PSG STEP" payable at Coimbatore** towards the cost of tender fee and Service Tax. **(Not Refundable)**

3. Only DGS & D suppliers / Government e-Marketplace (GeM) users / actual manufacturers, or their authorized agents and stockiest may tender. Sub-letting and assigning of contracts, except with the prior permission of the Executive Director, PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK, Coimbatore is prohibited.

4. The quotations should be sent separately for each item when there is more than one item, in the schedule in a sealed envelope superscribed as Tender No.....(for the supply of.....) to PSG STEP, due on **30.08.2019.** The sealed cover should be addressed to the Executive Director, PSG STEP , Coimbatore - 4 and sent by Speed Post/Courier so as to reach this office before 4.00 PM on **30.08.2019.**

5. Tenders will be opened by the Executive Director, PSG STEP, Coimbatore or by an Officer of the College authorized by him, on his behalf at 10.00 AM on **31.08.2019** in Board Room, PSG College of Technology, Coimbatore - 641 004.

6. All the tenders must be submitted in the prescribed form, they may be copied, if so desired, but even in that case the original forms should be returned with the quotation.

7. Prices: The prices should be quoted in Rupees for Indigenous items & in Foreign Currency (CIF Chennai) for imports. Sales Tax, if extra should be charged.

8. GST : Percentage of CGST/SGST/IGST should be clearly specified. GST Identification Number (GSTIN) should be furnished. Copy of the GST Registration Certificate also should be enclosed. **No GST / Customs Duty Exemption Certificate**, full tax may be Quoted.

9. Port of Destination : Chennai, India for imports. Customs clearance will be made through our clearing agent from Chennai Airport.

10. Payment: 100% of the cost of stores will be paid within a reasonable time after the receipt of the stores in good condition and in accordance with the specifications 100% payment against LC or Telegraphic Transfer for imports of equipments

11. Validity: The quotation should be valid at least for 90 days from the date of opening the tender and the term "the prices ruling at the time of delivery" will not be accepted.

12. The Loss or Damage: External damages or shortages that are prima facie the results of rough handling in transit or due to defective packing will be intimated within a fortnight from the receipt of the material. Internal defects, damages of any internal parts which cannot ordinarily be exhibited on a superficial inspection though due to bad handling and transit or defective packing would be intimated within two months from the date of receipt of the stores. In either case the damaged or defective stores should be replaced by you free of cost and the defective stores may be taken back at your cost and risk.

13. Guarantee: The supplier shall undertake to repair free of charge or replace any defective part of the equipment supplied due to defective materials or faulty design or bad workmanship during a period of one year following the date of commissioning of the equipment.

14. Leaflets and Descriptive Literature: Full descriptive particulars and drawings of the equipment offered should accompany the tender. Information regarding the country of manufacture or origin of materials used in the manufacture of the articles should be furnished.

15. Tests: Manufacturers certificate for the routine tests specified in the B.I.S. of latest issue or as per manufacturer's standard practice should be forwarded in duplicate. The materials will be rejected, if the test results are not satisfactory.

16. Acceptance: The College reserves the right to reject any Tender in full or in part without assigning any reasons there for.

17. Delivery: The delivery period should be specified.

18. **Earnest Money Deposit:**

Tender must be accompanied by Earnest Money Deposit (EMD) at the rate of 2% of total cost separately for each item that is being quoted for, in the form of Demand Draft in favour of **"PSG STEP"** payable at Coimbatore.EMD shall be paid in Indian currency only.

The EMD of unsuccessful bidders will be returned on or before the 30th day after the award of the contract.

The EMD of 2% for successful bidders will be returned after receiving the security / performance deposit.

19. **Security deposit and performance security :**

A security deposit at the rate of 5% of the total cost in the form of DD shall be collected from the successful bidder and shall be held back as security deposit till successful installation, trial and training and subsequently as performance security deposit till the end of warranty period. The amount shall be returned after 60 days after the completion of all contractual obligations including warranty obligations.

The EMD shall be forfeited if the tenderer withdraws his offer after the tender opening during the bid validity period or after the award of contract. PSG STEP shall not be liable for payment of any interest on EMD and security / performance deposit or any depreciation thereof. Any offer not accompanied with the EMD shall be rejected summarily as non-responsive

20. Penalty clause: The delivery should be guaranteed by you under our penalty clause mentioned hereunder.

Should delivery be delayed by strike, lockouts, fire accidents or any case whatsoever, beyond the reasonable control of the contractor and whether such delay or impediment occurs before or after the time or extended time for despatch or completion, a reasonable extension of time shall be granted.

If the contractor fails in due performance of his contract, within the time fixed by the contract or any extension thereof the contractor is liable at the discretion of the purchaser to a penalty up to 4% per month of the contract value of such portion only of the materials as cannot in consequence of the delay be used during each month between the appointed or extended time as the case may be and the actual time of acceptance, but such penalty/liability for the delay shall not in any case exceed 25% of the contract value of such portion of the materials.

21. Quotations without complete particulars will not be considered.

EXECUTIVE DIRECTOR

PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK
COIMBATORE - 641 004

i) Item : See schedule

ii) Name of the Tenderer :

iii) Specification : Specification of the equipment offered.

See schedule of items for item details.

Item Price :

iv) Amount of Excise duty/customs duty
(% age should be clearly mentioned) ₹

Amount of CGST/SGST/IGST
(% age should be clearly specified) ₹

Freight charges (F.O.R.) ₹

Discount if any ₹

Details of maintenance ₹

v) Warranty period ...

vi) Delivery time ...

vii) Payment terms

100% value of the stores will be paid after receipt in good condition and satisfactory installation.

(FIRM SEAL) **SIGNATURE OF REPRESENTATIVE OF THE FIRM**

NOTE:

1) Packing, forwarding and freight charges may be clearly mentioned for delivery of the stores at the institutional premises. Rate for F.O.R. Coimbatore may also be mentioned separately.

2) The tenders should be accompanied by the following declaration:

I/We hereby quote for the supply of stores of the rates specified in the underwritten in the manner and within the time as set forth in the terms and conditions attached thereto. The quotations furnished in the schedule below are subject to conditions set forth in the tender notice and tender forms and instructions to tender received by me/us.

Tender No. STEP/Bio NEST/ 01/2019

Lyophilizer

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Condenser temperature min. (°C)	- 85°C
3.	Lowest Shelf temperature range	-67 (50 Hz) to -70°C (60 Hz)
4.	Temperature sensor probe	Product Probes/Sensors should be available with the base unit with valid calibration certificates
5.	Shelf Temperature control range	-55°C to + 60°C
6.	Shelf Temperature uniformity	±0.1° C at 0° C
7.	Maximum deposition rate	0.08 L/hr or equivalent
8.	Compressor	Two compressors
9.	System Refrigeration	CFC free
10.	Display	To be provided to display process parameters and recording data Graphical user interface with touch screen facility
11.	Condenser cooling system	Air cooled
12.	Pre freezing system	Inbuilt pre freezing for trays
13.	Shelf Pull-Down from 20 °C to -40 °C (minutes)	≤ 45
14.	Microprocessor Process control	Wizard 2.0 workstation (or) LSC plus (or) equivalent process control.
15.	System	▪ Table top model, Programmable with prefreezing, primary drying & secondary drying steps/receipes ▪ Freezing and drying of samples in the same unit ▪ Allows the user to input and store freeze drying recipes ▪ Allows for manual or automatic recipe control and process recording function ▪ Should be suitable for aqueous and non-aqueous solvent samples ▪ Should contain product shelf for bulk/vial drying ▪ Removable SS rack and tray assembly ▪ Should contain vial stoppering configuration/ sealing device. ▪ Should contain system inbuilt manifold attachment (or) external attachment for drying samples in bottles/flasks ▪ Vacuum pump with oil mist eliminator/Exhaust Filter.

16.	Ambient temperature range for operation	15 to 25°C
17.	Alarm	Audible and visible, Error code display
18.	Bulk drying shelf area	970 cm2 = 0.097 m2 or above
19.	Vaccum pump & Vaccum sensor	To be provided
20.	Rate of vacuum	≤ 60 mT/hour (≤ .08 mbar/hour)
21.	Pneumatic clearance shelf clearance	117 mm or above
22.	Shelf construction	Aluminum Alloy Casting with Corrosion-Resistant Surface
23.	Vial stoppering	Manual or Automatic
24.	Defrosting	Hot gas
25.	Side manifold inbuilt in the system	Minimum 4 Nos Quickseal valves (or) equivalent attachment system for bottles.
26.	Agency approvals	CE
27.	Safety	Equipment should possess universal safety requirements
28.	Calibration certificates	Where ever necessary all the equipment parts/sensors/gauges/MOC should accompany with valid certificates.
29.	Warranty	Warranty with free parts replacement & onsite service for 3 years
30.	Instruction manual	Should be provided
31.	Installation	Should be done free of cost

Tender No. STEP/Bio NEST/ 02/2019

Real Time PCR

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Sample capacity	96
3.	Reaction volume	0.2 mL block
4.	Excitation source	White LED with CMOS camera
5.	Optical detection	5 excitation & 5 emission decoupled filters
6.	Excitation/detection range	450 - 680 nm/500-730 nm
7.	Multiplexing	Minimum up to 5 targets
8.	2D barcode reading	Yes
9.	Heating/cooling	Peltier/Rotary
10.	Block ramp rate	6.5 ° C/sec
11.	Temperature uniformity	0.4° C
12.	Temperature accuracy	0.25° C
13.	Dye Compatibility (by name)	FAM/SYBR Green, VIC/JOE/HEX/TET,ABY/NED/TAMRA/Cy3, JUN,ROX/Texas Red, Mustang Purple, Cy 5/LIZ, Cy5.5
14.	Feature to assist 21 CFR Part 11 compliance	Yes
15.	Detection sensitivity	1 copy/10 µl volume
16.	Sensitivity	Detect differences as small as 1.5 fold in target quantities in single reaction
17.	Software for	Data analysis High resolution melt curve analysis Primer express software
18.	System	• Open system capable of accepting any type of consumables and chemicals. • Able to run in Fast & Standard mode
19.	Certifications	CE & ISO
20.	Warranty	Warranty with free parts replacement and onsite service for 3 years
21.	Installation	Should be done free of cost
22.	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 03/2019

Homogenizer

S. No.	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Speed range	500 to 26000 rpm or more
3.	System tip speed	Maximum 32 m/s
4.	Working volume	3 ml to 10 L
5.	Dispersion aggregate	12 mm - 60 mm diameter
6.	Motor	Universal brushed motor
7.	Drive power	maximum 1700 W
8.	Operation temperature	0 - 40°C
9.	Noise level	82 db or less (without aggregate)
10.	System should have	▪ Instrument drive unit along with Electric plate stand with lifting telescopic bar for ease of use. Including up/down button and mat to prevent slipping ▪ Digital speed controller for long equipment life ▪ On/Off switch for easy operation with membrane keypad ▪ Drive coupling aggregate with F coupling ▪ Safety features - IEC/EN ▪ Be programmable ▪ Be of EMC standard
11.	Protection class	IP 20 or equal
12.	Certifications	CE
13.	Material of Construction	All contact parts should be made up of 316L SS
14.	Shafts with standard dispersion aggregates	▪ 3 ml to 250 ml ▪ 100 ml to 4 L ▪ 300 ml to 10 L
15.	Warranty	Warranty with free parts replacement & onsite service for 3 years
16.	Installation	To be provided free of cost
17.	Instruction manual	To be provided

Tender No. STEP/Bio NEST/ 04/2019

Multi-mode Reader

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Shaking motion	Linear and Orbital
3.	Light source	Xenon flash lamp and high-powered LED
4.	Temperature control	Ambient +4°C to 45 °C
5.	Plate format	6 - 384 well plate, Cuvette adapter and option to read Micro-Volume Microplate up to 64 samples
6.	System should have	• Silicon Photodiode detector for Absorbance detection & Super Cooled PMT Detector for Fluorescence & Luminescence detection. • 2 Monochromators across Excitation and 2 Monochromators across Emission wavelength range for wavelength selection • Auto intensity adjustment feature
7.	Applications	UV/Vis Absorbance, Fluorescence intensity Top/ Bottom and Luminescence
8.	Future upgradability	Western blot imaging, TRF, HTRF, Alpha screen, Fluorescence polarization, Automated cell imaging & cell counting and automated 2 channel reagent injector.
9.	**Absorbance mode**	
	Wavelength range	230 nm to 1000nm with 1 nm increment
	Wavelength selection	Monochromatic
	Wavelength measurement range	more than 4 OD
	Wavelength accuracy	±2 nm
	Wavelength reproducibility	less than 1nm
	Detector	UV silicon Photodiode
10.	**Fluorescence mode**	
	Wavelength range	From 250 nm across Excitation and 850 nm Emission for Fluorescence Top & Bottom reading
	Wavelength selection	monochromatic
	Sensitivity	Less than 1 pM fluorescein/384 wells - Top reading Less than 5 pM fluorescein/384 wells - Bottom reading
	Detector	Super cooled PMT for Fluorescence Top & Bottom
	Wavelength Accuracy	±2 nm

	Wavelength reproducibility	less than 1 nm
11.	**Luminescence mode**	
	Wavelength range	300nm to 850 nm with 1 nm increment
	Dynamic range	more than 6 orders of magnitude
	Luminescence sensitivity	less than 3 fmol ATP
	Detector	Super Cooled PMT
12.	Computer	PC with suitable configuration & Accessories
13.	Software features	▪ Should have 150-160 inbuilt protocols for Data Acquisition & Analysis. ▪ Should support discontinuous kinetics and Multitask kinetics ▪ Should have drag and drop function for assay sequence and data reduction which provides an automatic export of measurement parameters into result files in user specified formats
14.	Warranty	Warranty with free parts replacement & onsite service for 3 years
15.	Installation	Should be done free of cost
16.	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 05/2019
Biosafety cabinet

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Size of the cabinet	4 ft x 2 ft (LxW)
3.	Exhaust	100 %
4.	Average Air Flow Velocity	Inflow : 0.53 m/s (105 fpm) Downflow : 0.35 m/s (70 fpm)
5.	Noise level	Less than 58 dBA
6.	Fluorescent light intensity	>1400 lux
7.	Cabinet Construction	▪ Triple wall design ▪ Main Body: Electrogalvanized steel with white oven-baked epoxy antimicrobial powder coated finish ▪ Work zone: Stainless Steel 304 Interior work area formed of a single piece of stainless steel with large radius corners to simplify cleaning. ▪ Stainless Steel, one piece fabricated drain trough with open angles to channel spills to a common drain
8.	ULPA filter efficiency	Greater than 99.999 % for superior operator and product protection
9.	Exhaust HEPA filter efficiency	Greater than 99.99 % at 0.3 micron
10.	Standard Compliance	▪ Filter performance: EN-1822 (H14 & H13) Europe, IEST-RP-CC001.3 USA, IEST-RP-CC007 USA, IEST-RP-CC034.1 USA ▪ Electrical safety: UL 61010-1 USA, CAN / CSA- C22.2 No. 61010-1, EN 61010-1 Europe, IEC 61010-1 Worldwide ▪ ISO Class 3 air cleanliness in work zone.
11.	Validation document to be provided for	▪ Inflow / down flow velocity ▪ PAO Aerosol challenge for filter integrity ▪ Light, noise and vibration ▪ Airflow pattern visualization ▪ Electrical safety to IEC61010-1

12.	Additional features	▪ Negative pressure plenum should surround supply positive pressure plenum ▪ Microprocessor control with temperature compensated airflow sensor ▪ Antimicrobial coating on all painted surfaces ▪ Automatic speed control for blower / motor. ▪ Integral exhaust collar to connect with the ducting system ▪ Front armrest raised above the work zone to improve comfort and to ensure no airflow blockage ▪ Frameless, shatterproof sash for easier cleaning, and for larger, unobstructed viewing area ▪ Sash counterbalance shall be suspended on two high-strength cables, and the sash shall lock into position in the event one cable becomes detached
13.	Certifications	NSF 49, SFDA, UL, cUL, CE
14.	Accessories	▪ UV Lamp ▪ Electrical Outlet – 2Nos.(15 amps) ▪ Support Stand ▪ Service Fitting in Stainless steel ▪ 2 HP PP / FRP Exhaust Blower ▪ PP / FRP Ducting
15.	Warranty	Warranty with free parts replacement & onsite service for 3 years
16.	Installation	Should be done free of cost
17.	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 06/2019

CO_2 incubator

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Chamber Volume	165 litres approximately
3.	Material of Construction	Inner chamber: Stainless steel
4.	CO_2 Range	0.1 -20 %
5.	CO_2 Accuracy	0.1 %
6.	O_2 Range	1 -20 %
7.	O_2 Accuracy	0.1 %
8.	Temperature Range	Ambient + 3 to 55 ° C.
9.	Temperature Uniformity	± 0.3° C
10.	Temperature Accuracy	± 0.1° C.
11.	Sensor	IR sensor
12.	Air circulation	Forced air circulation
13.	Air filters	HEPA/ULPA
14.	Jacket	Air jacket
15.	Shelves	3 or more perforated polished stainless steel shelves
16.	Decontamination	▪ High Temperature decontamination. ▪ Decontamination cycle should complete within 12 -15 hours
17.	Humidity Pan	To be provided along with UV lamp for disinfection
18.	Gas regulator	▪ 2 Stage Gas Regulator for CO_2 & O_2 cylinder
19.	Additional features & accessories required	▪ Rounded corners for easy cleaning ▪ Antimicrobial coating on all painted surfaces ▪ All gas inputs to be filtered via 0.2 micron in-line filter ▪ Data logging software ▪ Display for Temperature, CO_2 level and O_2 level ▪ Alarms for deviation in temperature, $C0_2$ level, etc., ▪ Auto-stop function to disable fan operation when the door is open
20.	Certification	CE
21.	Warranty	Warranty with free parts replacement & onsite service for 3 years
22.	Installation	Should be done free of cost
23.	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 07/2019

Phase contrast microscope with digital camera & image analysis software

S No	Tender specifications	
1.	Operating power	220 V, 50 Hz
2.	Illumination source	LED
3.	System should have	Built in lens for uniform distribution of light
4.	Life expectancy of illumination source (LED light)	10,000 hours or more
5.	Photographic light illumination	Binocular tube (Siedentop-type), Light path selector of 100:0, 0:100
6.	Focus	Manual Focusing with Coarse motion torque adjustable with fine focus 1 microns.
7.	Objectives	▪ Achromatic 4X A, N.A. 0.10, W.D. 30.0mm. Long working distance objective with enhanced phase contrast facility of objective to remove the unwanted halo effect ▪ 10X N.A.0.25 ▪ 20X N.A.0.40 ▪ 40XC Cover glass correction N.A. 0.55, W.D. 2.7-1.8mm, Ph2, suitable for Bright Field/Phase Contrast.
8.	Eyepiece	WF 10X FOV 22/23 mm with diopter adjustment facility on both the eyepieces (or) integrated with high sensitivity monochromatic camera & colour LCD display
9.	Nose piece	Sextuple nosepiece with DIC prism slots
10.	Stage	Attachable Mechanical Stage with Universal holder to accept all types of specimen holder (Slide Glass, Hemocytometer, Petri Dish Microplate and Terasaki)
11.	Filters	Size: 45 mm, Green filter, Neutral Density filter and Blue filter
12.	Condenser turret assembly	6 positions or more
13.	LWD lens	N.A 0.52 or more
14.	Camera	Scientific Digital Color CCD/CMOS camera suitable for imaging in various observations, such as bright field, DIC, phase contrast and fluorescence observation. 5 Mega Pixels or more 12 bit, High Sensitivity Quantum efficiency more than 60% High-speed Live Display 30 FPS High-speed data transfer via USB 3.0 C- Mount adapter 0.55 X or better

15.	Computer	PC with suitable configuration & accessories
16.	Microscope, Digital Camera and Image Analysis software should be quoted from single manufacturer only for better synchronization and better service support	
17.	Image Analysis Software	Suitable for performing following functions ▪ Measurement ▪ Z stacks ▪ Time Lapse ▪ Multi Point experiments ▪ Image stitching ▪ Annotations ▪ Report Generation & different File formats
18.	Accessories	▪ Dust cover, all wires, cords, connectors and standard accessories needed for proper functioning of the microscope. ▪ Spare LED lamps - 2 Nos
19.	Warranty	Warranty with free parts replacement & onsite service for 3 years
20.	Installation	Should be done free of cost
21.	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 08/2019

Ultra low Freezer

S.No.	Tender Specifications	
1	Operating power	220 V, 50 Hz
2	Volume	480 to 530 litres
3	Temperature range	-50 to -86° C
4	Temperature increment	1° C
5	Cooling performance @ 35° C	-86° C
6	Outer panel	Galvanised steel with powder coating
7	Inner panel	Coloured steel
8	Control	Microprocessor based
9	Display	Digital display
10	Inner door	Independent and insulated inner doors with 3 gaskets to prevent cold air leakage
11	Shelves	3 or more Stainless steel shelves
12	Compartment	4 or more
13	Compressor	Hermetic, dual
14	Refrigerant	CFC free
15	Alarms	High / low temperature, Power failure, Filter check, Self diagnostics, Door check, Part replacement notification, remote alarm contact, battery check, status alert monitors, sms alerts
16	Energy consumption	11 kwh/day or better
17	Current rating	4.3 amps
18	Accessories	1 set of cryo safety gloves & Ice scraper 5 KVA stabilizer compatible with the freezer
19	Certifications	CE, UL
20	Warranty	Warranty with free parts replacement & onsite service for 3 years
21	Installation	Should be done free of cost
22	Instruction manual	Should be provided

Tender No. STEP/Bio NEST/ 09/2019

HPLC

S. No.	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	**Solvent delivery system (Pump)**	
	Number of solvents	4 or more
	Flow rate range	0.001 to 10 mL/min
	Flow Accuracy	Less than ±1% variation
	Elution type	Low pressure quaternary gradient pump to blend at a time1 to 4 solvents
	Gradient formation	10 (Inbuilt or user defined)
	Gradient composition precision	± 0.10% or better
	Maximum operating pressure	Greater or equal to 6000 psi at 1ml/min
	Online Vacuum Degasser	Flow lines- 05 or more
	Safety & Additional Features	▪ Leak Sensors & safe leak handling ▪ Mixer and all other necessary accessories ▪ GLP/FDA compliant with features like maintenance feedback for continuous tracking of instrument usage with user settable limits and feedback messages
3.	**Auto Sampler with Sample Cooler**	
	Injection procedure	Needle-in-flow path
	Injection volume range	0.1 to 100 µL as standard
	Linearity	> 0.9999
	Injection accuracy	±1.0%
	Carry over	0.0025%
	Injection reproducibility	RSD < 0.20% (5-20µL)
	No. of sample plates & vials	minimum 4 plate to hold upto 200 or more samples vials of 1.0/1.5mL which can support the injection from volume of minimum 5µL
	Sample Capacity	1.5 mL & 216 Nos
	Number of injections	1- 99 per sample
	Sample delivery precision	0.5 % RSD or better
	Sample Thermostat	4° C to 35° C, or more
	Needle Wash	auto cleaning after each injection
	Minimum sample required in vial	5µL residual
	Sample dilution & Reagent addition	Inbuilt facility of sample auto-dilution and reagent/internal standard addition
	Safety Feature	Auto leak sensors to prevent sample loss
	Accessories	Samples holding platform/tray, vials, inserts (if applicable) and cap/septa etc., - 500 Nos
4.	**HPLC Column Oven/Compartment**	
	Column Temperature Range	4°C to 90° C
	Heating and Cooling Method	Forced Air Circulation
	Column Temperature Stability	±0.8° C
	Column holding Capacity	minimum 3 columns (250mm)/06 columns (100mm) to be accommodated with temperature control (heating and cooling) facility and software

5.	**Dual Wavelength UV-VIS Detector**	
	Wavelength range	190-700nm
	Wavelength Accuracy	±1nm
	Spectrum Slit width	8 nm
	Linearity	upto 2.5 AU
	Baseline noise	± 3.0 x 10-6 AU or low
	Drift	1x10-3AU/Hour or less
	Flow cell path length	10 mm
	Flow cell volume	12 µL (Analytical- standard)
	Light source	Deuterium lamp
	Additional features	▪ Leak sensor, auto-calibration, and full diagnostic data capturing Software ▪ Detector should be able to perform Simultaneous Monitoring of any 2 wavelengths
6.	**Refractive Index Detector**	
	Refractive Index Range	1 to 1.75 RIU
	Noise level	2.5 × 10−9 RIU max
	Drift	1 × 10−7 RIU/h max
	Response	0.05 to 10 sec, 10 steps
	Temperature Control of Flow cell unit	30 to 60°C
	Cell Volume	9 µL. The cell should be able to withstand pressure upto 2 MPa
7.	**Fluorescence Detector**	
	Light source	Xenon lamp or equivalent
	Wavelength range	200 to 650 nm
	Bandwidth	20 nm
	Wavelength Reproducibility	0.2 nm
	S/N ratio for Raman water peak	Should be minimum 1000 nm
	Cell volume	12 µL. The cell should be able to withstand pressure upto 2 MPa

8.	**Software**	
	• Suitable software to control complete HPLC system in various format viz. MS-Word/Excel file format/Adobe acrobat file format etc. Original & licenced software for opening and editing of exported file formats should also be quoted with the system. • Premade templates, customizable data reports, online help and answer wizard embedded advanced, structured and relational database, report publisher, versatility for multitasking without multiple software package. • The software should have required regulatory compliance such as GLP, GMP and 21CFR Part 11 etc. • Software should be capable to compute the method validation parameters and can produce system suitability report as per current international guidelines such as USP, ICH etc. • Automated analysis including automatic system suitability test determination with reporting of results • Should provide real-time monitoring , automatic notification of instrument performance and diagnostic instructions for problem resolution • Facility of auto-validation function, facility to examine solvent delivery stability, wavelength accuracy, absorbance accuracy, gradient accuracy, any possible drift/noise etc. • Auto system check function should perform instrument usage, system self-diagnostic and a record of system like as the total solvent volume delivered by the delivery pump, the number of autosampler injections, and the number of hours the lamp usage	
9.	**Computer**	Branded PC with suitable configuration and required softwares
10.	**Column & Accessories**	
	RP-HPLC column- C18, 5µm (25cm-01)	
	NH_2 column for analysis of carbohydrates & Sugars	
	Guard column/cartridge holder-01	
	Sample vials - 200 Nos	
	Sample & solvent filtration kit with vacuum pump	
	Branded Ultrasonic Cleaner 3L capacity	
	Auto-sampler racks and reservoir tray and bottles (min. 2.0L capacity) to be provided	
11.	Installation	Should be done free cost
12.	Instruction manual	Should be provided
13.	Warranty	Warranty with free parts replacement & onsite service for 3 years

Tender No. STEP/Bio NEST/ 10/2019

Ultra filtration unit

S No	Tender Specifications	
1.	Operating power	220 V, 50 Hz
2.	Processing volume range	25 ml to 500 ml
3.	Reservoir capacity	500 ml
4.	System	Should include all the hardware, tubing and fittings needed to perform TFF process and complete the process quickly ▪ Peristaltic pump ▪ Pressure gauge ▪ Valves ▪ Reservoir with stir bar ▪ Built-in stir plate on a drip tray
5.	**Material of construction**	
	Reservoir	Polysulfone
	Reservoir Cover	Polypropylene
	Reservoir O-ring	Buna rubber (nitrile)
	Magnetic Stir Bar	PTFE coated
	Gauge Wetted Parts	Stainless steel 316L
	SS Fitting O-ring	EPDM rubber
	Gauge Mounting Block	Polypropylene
	Luer Fttings	Polypropylene and stainless steel
	Tubing	Pharmed 16
	Three-way Valves	Polycarbonate body, acetal core
	Drip Tray	Urethane
6.	Maximum Inlet Pressure	4.1 bar (410 kPa, 60 psi)
7.	Operating Temperature Range	0 - 50 °C (0-106 °F)
8.	Recirculation Flow Rate	10 - 240 mL/min
9.	Ultra filtration membrane Cassettes	Polyethersulphonate membrane filters Effective filtration area: 50 sq cm Cut off value: 30 kDa, 100 kDa & 300 kDa
10.	Process time	Should not exceed 1hr for 100 ml of sample volume
11.	Certification	CE
12.	Warranty	3 years with free parts replacement & onsite service
13.	Installation	Should be done free of cost
14.	Instruction manual	Should be provided

❖ **Common for all equipments**

1. The vendor must be registered in India and in operation at least for 5 years.
2. Original company literature with offered specifications should be enclosed with the bid, failing which the bid may not be considered.
