

Short specification for Quotation

Vortex Mixer

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Vortex Mixer		
	Manufacturer:		
	Brand:		
	Type / Model:		
	Country of Origin:		
	Technical Specifications		
	Speed range: 0-3000 rpm. Touch or continuous operation mode. Rapid mixing of samples It shall be suitable for range of tubes and flasks, minimum 4 tubes and small flask. It shall have soft touch key operation modes. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Refrigerator

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Refrigerator		
	Manufacturer		
	Brand		
	Type/Model		
	Country of Origin		
	Technical Specifications		
	Digital Temperature Controller Monitor for temperature with alarm, visual and sound, for high/low temperature, tropicalized. Interior light to operate when door is opened. Locking door supplied with minimum two keys. Auto defrosting. Adjustable shelves. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Autoclave

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Autoclave		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		

<p>Single door high pressure steam sterilizer with double wall. Chamber capacity: approx.50L. Sterilizer chamber SS 304 Transfer trolley: MS, epoxy powder coated Door Gasket: Silicon or better Insulation: fiber glass resin bonded wool or better Insulation cover: SS sheets Operating temperature 121 °C- 138 °Cpressure 1.1 to 2.2 kg/ cm2 of steam pressure. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.</p>		
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ELISA Reader with Printer

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	ELISA Reader with Printer		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Microplate Reader:		
	<p>Should have at least 10-inch color LCD Display with touch panel. Through put: min 1 plate (96 well microplate) per run. Must have wavelength range from 300- 800 nm Wavelength accuracy should be ± 2 nm or better Wavelength selection have filters up to at least 6 filters Bandwidth should be 8 nm or better Measuring modes: End point mode, dynamics (kinetics), single/dual wavelength testing mode and etc. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.</p>		

Digital Refractometer

	Purchaser' Specifications	Unit rate in NRS without VAT	Remarks
	Digital Refractometer		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>Digital Hand Refractometer with Automatic Temperature Compensation (ATC). Should have Large backlit display. Dual temperature conversion</p>		

<p>Range 0-45% with resolution 0.01%</p> <p>Accuracy: ±0.2%</p> <p>Refractive Index: 1.3330 -1.4098 or better</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		
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Ultra Low Freezer (-80°C or below)

Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
Ultra Low Freezer (-80°C or below)		
Manufacturer		
Brand		
Type / Model		
Country of Origin:		
Technical Specifications		
<p>Internal minimum capacity 300 litres.</p> <p>Digital display of set and actual temperature, with audio visual alarm.</p> <p>Upright door with limit door hinge prevents collision when door opens.</p> <p>Removable inner door for user to defrost and clean</p> <p>Temperature: -40~-86 °C</p> <p>3 Drawers</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Ultra Low Freezer (-40°C or below)

Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
Ultra Low Freezer (-40°C or below)		
Manufacturer		
Brand		
Type / Model		
Country of Origin:		
Technical Specifications		
<p>Internal minimum capacity 300 litres.</p> <p>Digital display of set and actual temperature, with audio visual alarm.</p> <p>Upright door with limit door hinge prevents collision when door opens.</p> <p>Removable inner door for user to defrost and clean</p> <p>Temperature: -40 °C</p> <p>R4001 (CFC Free) Refrigerant shall be used as cooling system.</p> <p>Digital display</p> <p>3 Drawers</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Micro Centrifuge

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Micro Centrifuge		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications Must have Max Speed 15,000 RPM Must be maintenance free brushless motor. Must have Acc / Dec of at least 10 types. LCD display for RCF, Time and Speed. Micro controller-based program Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Centrifuge Machine

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Centrifuge Machine		
	Manufacturer:		
	Brand:		
	Type / Model:		
	Country of Origin:		
	Technical Specifications Maximum Capacity: 100ml×4 Max Speed: 16500 RPM or above Various safety features are incorporated, including over speed protection, door protection, and imbalance protection, ensuring the safety of both the user and the Machine Timer: 0~99h 59min 59s It shall have digital speedometer and timer with 5" HD touch Screen It should include three rotors with 1.5/2 mL, 15 mL and 45 mL tubes adjustable LED display with a user-friendly interface Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Refrigerated Centrifuge machine

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Refrigerated Centrifuge machine		
	Manufacturer:		
	Brand:		
	Type/Model:		
	Country of Origin:		
	Technical Specifications		
	<p>Maximum speed shall be 15000 rpm or above. Temperature range: -20 °C to 40 °C. Rotor Capacity: It should include 3 rotors- 1.5/2mL tube, 15 mL and 50mL Centrifuge/conical tubes Brushless induction motor. Max RF: 21380×g, increment: 10×g Time setting: 30sec-99min continuous Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.</p>		

Gel Documentation Imaging and Analysis System

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Manufacturer:		
	Brand:		
	Type / Model:		
	Country of Origin:		
	Technical Specifications		
	<p>Gel Documentation imaging and analysis system with multiple filter option to meet specific wavelength. System should have easy operation with large touch screen at least 10-inch display System should have Camera shall have 5M pixel with pixel size of atleast 2.2µm and camera lens atleast 5mm. System should have Image Resolution of 12 bit or more System must support three imaging: UV, Blue light and visible System should have UV light built-in draws type UV transilluminator with wavelength of atleast 300 nm System should have all important features such as safety UV door, UV cut off switch function. System should support optical and amber filters as per availability of variety of applications Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.</p>		

Gel Electrophoresis System

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Gel Electrophoresis System		
	Manufacturer:		
	Brand:		
	Type / Model:		
	Country of Origin:		
	Technical specification		
	<p>Compatible DC Power supply: The Gel Electrophoresis System should come with power supply system with LED display.</p> <p>Should have Output voltage of approx. 10-500V/1V</p> <p>Should have Output current of approx. 1-400mA/1 mA</p> <p>Timmer should have 999 (min) with alarm/Continuous</p> <p>Should have two pairs of outlet terminals</p> <p>Gel tank made of durable, chemical-resistant material</p> <p>Transparent UV-compatible gel tray.</p> <p>Compatible with both agarose and polyacrylamide gels.</p> <p>Gel casting trays with multiple comb options, it should be At least single row of 12 sample wells</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Rotary Shaker for Agglutination Test

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Rotary Shaker for Agglutination Test		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>Analog Rocking shaker.</p> <p>Tilt angle min. $\pm 7^\circ$</p> <p>Speed Up to 80 rpm.</p> <p>Maintenance free DC Motor.</p> <p>noise level <50dB.</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Portable Digital Refractometer

	Purchaser' Specifications	Unit rate in NRS without VAT	Remarks
	Portable Digital Refractometer		
	Manufacturer		
	Brand		

	Type / Model		
	Country of Origin		
	Technical Specifications		
	Range: 0.0 to 0.85% or above Accuracy: Brix: $\pm 0.5\%$ Resolution: 0.1% Accuracy: $\pm 0.5/\pm 0.0005$ Automatic Temperature Compensation (ATC) Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Handheld NIR Spectrophotometer (Feed Analyser)

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Handheld NIR Spectrophotometer (Feed Analyser)		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Wavelength Range: 310–1,100 nm Spectral Sampling Interval: 3 nm Spectral Resolution: 8–13 nm Optical Components: Light Source: Xenon tungsten lamp Lens: Glass, coated to enhance NIR transmission Shutter: Gold-plated reference standard Display and Interface: Screen: Sunlight-visible transfective LCD PC Interface: USB and SD card Data Handling: Recorded Data per Measurement: Raw data, reflectance, absorbance, first derivative absorbance, second derivative absorbance Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.		

Darkfield Microscope

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Darkfield Microscope		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<ul style="list-style-type: none"> Camera: The system includes an integrated high sensitivity monochrome at least 5 MP (2048 x 1536) monochrome CMOS sensor with 3.45 μm pixel 		

	<p>resolution.</p> <ul style="list-style-type: none"> • A 4x, A PH 10x (phase contrast) and SPL pH Ox (phase contrast) with large working distance. • Objectives: The system can accommodate a minimum of 5 objectives at once and should be quoted with LWD, PH 10x, 20x and 40x objectives and 60X LWD FL objective and 100 X Oil objective. • Illumination unit swivels for contrast adjustment: The system includes independent high output LED illumination cubes (light cubes) with integrated hard coated fluorescence band-pass excitation and emission filters for each cube with computer-controlled movement and independent intensity controls. • System must be provided with GFP, RFP, DAPI LED illumination source with integrated filter cubes with a lifetime of at least 50,000 hours at 100% power. • Vessel compatibility: system is compatible with microscope and chamber slides; hemocytometers; 6-, 12-, 24-, 48-, 96-,384 well microplates; 35-, 50-, 60-, 100 mm petri dishes; T- 25, T-75, T-175 flasks, • Must submit ISO 9001/13485 or/and CE for medical devices • Comprehensive warranty for 1 year after acceptance. 		
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Electrolyte analyzer for Veterinary application.

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Electrolyte analyzer		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>Measurement Principle: Electrolyte analyzer based on advanced ion selective electrode (ISE) technology. Sample volume: maximum of 130 µL. Throughput (approx.): Minimum of 30 samples per hour. Calibration: two-point calibration Sampling type: Whole blood, serum, plasma and urine. Should have user friendly software with LCD touchscreen facilities. System should have incorporated printer and RS232 serial port. It should use closed package reagent with waste bag. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 year after acceptance.</p>		

Somatic cell counter

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks

	Somatic cell counter		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>Application Measurement of somatic cell count (SCC) in raw milk for mastitis detection</p> <p>Measurement Principal Fluorescence flow cytometry or impedance-based counting</p> <p>Measuring Range 0 – 10,000,000 cells/mL</p> <p>Accuracy ±10%</p> <p>Repeatability Coefficient of variation (CV) < 5% at standard SCC levels</p> <p>Sample Volume 0.5 – 2 mL</p> <p>Analysis Time 30 seconds – 2 minutes per sample</p> <p>Display Digital display LCD with touchscreen facilities.</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Rotary Microtome

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Somatic cell counter		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>Section Thickness Range 0 – 60 µm</p> <p>Section Thickness Settings: 0–2 µm: 0.5 µm increments, 2–10 µm: 1 µm increments, 10–20 µm: 2 µm increments, 20–60 µm: 5 µm increments</p> <p>Trimming Thickness 0 – 60 µm</p> <p>Minimum Sectioning Thickness 0.5 – 1 µm</p> <p>Specimen Retraction Manual</p> <p>Specimen Orientation X/Y Axis ±8°</p> <p>Vertical Stroke 60 – 70 mm</p> <p>Horizontal Feed 28 – 30 mm</p> <p>Blade Holder Lateral movement, optional high/low-profile</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 year after acceptance.</p>		

Portable Operating Light with battery backup

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Portable Operating Light with battery backup		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Technical Specifications		
	Illumination Intensity at 1m: at least 160000 ±10% LUX Size of light fields from at least 120-300mm Diameter of light at least 500mm No. of LED at least 126 Colour rendering index:85-100 Ra Variable colour temperature:4000-6000K Average LED life span:50000 hours Brightness Control must be capacitive Touch Panel It should Have Memory Function Body must be made of high-quality polymer OT Light Must be on Mobile Heavy Duty Stand on Hinge Arm with Heavy Foot Stand with Lockable wheels. System should have Battery Backup of at least 30minutes Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 2 years after acceptance.		

Operating Light Ceiling Type Double Dome (LED)

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Operating Light Ceiling Type Double Dome (LED)		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	System Configuration		
	Ceiling mounted, Double Dome multi-color latest LED Technology.		
	Technical Specifications		
	Illumination Intensity at 1m: atleast 160000 LUX Diameter of light fields from atleast 120-200mm Depth of Illumination: minimum 500mm L1+L2 depth of illumination: approx. 850mm Colour rendering index from 85-100 Ra Red colour rendering index: approx. 95 Ra Number of LEDs: More than 30 for main light and 30 LEDs for satellite Variable colour temperature:3000-4000k Average bulb life span:50000 hours Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 2 years after acceptance.		

Hot Air Oven

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Hot Air Oven		
	Manufacturer		
	Brand		

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Capacity Atleast 120 lit Inner chamber size Not less than 550x550x450mm Temperature range Ambient +10°C to 300°C or wider range Heating system Forced air convection Temperature precision Not above $\pm 0.5^{\circ}\text{C}$ Temperature uniformity $\pm 2.5\%$ at maximum temperature Timer ranges from 0~9999 min or wider range No. of trays/shelves At least 3 height adjustable and wire mesh trays Display Must have LCD display Internal chamber must be made of high-quality stainless steel-304 Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Biological Trinocular Microscope

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Biological Trinocular Microscope		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	System Configuration		
	Biological Trinocular Microscope with standard complete accessories.		
	Technical Specifications		
	Optical system Standard DIN 160mm system Illumination Should have Built-in transmitted Koehler illumination with field diaphragm. High intensity LED light. Intensity of light must be adjustable as per user requirements. Eyepieces Must have 10x wide field eyepieces with at least 18mm diameter Objectives Have Achromatic 4x of 0.1; 10x of 0.25; 40x of 0.65; 100x of 1.25 Focusing knob Have Coarse and fine coaxial knobs on both sides Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Water Distillation unit

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Water Distillation unit		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Type Single distillation, Table top. Design Should have small footprint and can be kept in small place Water Output At least 4L/Hours. Material Stainless steel Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Stereo Zoom Microscope with Camera system

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Stereo Zoom Microscope with Camera system		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Eyepieces Must have 10x wide field eyepieces with at least 20mm diameter Illumination 3W LED with adjustable intensity for transmitted and Reflected illumination. Objectives Zoom should not less than 0.7X - 6.3X Magnification ratio Should be 1:9 or better Total Magnification Should be from 7X – 63X or better Focusing knob should have Coarse and fine coaxial knobs on both sides		
	Photographic Camera for Microscope with software		
	Sensor Resolution At least 12MP Sensor type colour CMOS or better sensor make by Sony, Nikon, Canon or equivalent Sensor Size 1/1.8" or better Pixel size Must be in between 2-2.4µm or better Exposure time 0.1 millisecond or lower but not highest than 15 second Exposure control Must have automatic and manual control system Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

10 LPM Flow Oxygen Concentrator with Humidifier

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	10LPM Dual Flow Oxygen Concentrator with Humidifier		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications Flow Oxygen concentrator O2 flow capacity should be 10LPM (Litre per minute). On board O2 sensor monitors the level of oxygen On and off switch with Automatic circuit breaker Adjustable Output flow: 1-10l/min Flow meter range: 1 to 10l/min. Output pressure: 0.04-0.07 MPa. Oxygen Purity level: 95% +/- 3% Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Cadavers Injector

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Cadavers Injector		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications The system should be user-friendly operations, fail-safe performance and durable life. The Outer of machine is sturdy & thick SS or MS powder coated The incorporated latest reciprocator pressure unit is efficient performance. The machine is fully covered and mounted on trolley for easy movement. The unit consists of one air compressor connected with SS 10-liter tank for storing injecting solution The completely noiseless and vibration free machine supplied with pressure gage, rubber tubing and having provision for injection. Shall have 4 antistatic swivel casters, 2 with brakes Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Plethysmometer

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Plethysmometer		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>The system should be user-friendly operations, better performance and durable life.</p> <p>The system should have Stable & comfortable reading on LED display</p> <p>The unit Accuracy should have ± 0.01 ml</p> <p>The unit Resolution should have 0.01 ml</p> <p>The unit should have Multiuser model with Same immersion tube for mouse and rat</p> <p>The unit Works on normal water</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 years after acceptance.</p>		

Digital Analgesiometer

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Digital Analgesiometer		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	<p>The system should be user-friendly operations with better performance</p> <p>The system should have Micro-controller based Digital Temperature Indicator controller to set surface temperature.</p> <p>The unit temperature ranges between 30° to 80° C.</p> <p>The unit should have heating surface with perpex enclosure and solid-state temperature controller with indicating galvanometer</p> <p>The unit should have hot Plate consisting of approx. 25x25 cms</p> <p>Must submit ISO 9001/13485 or/and CE for medical devices</p> <p>Comprehensive warranty for 1 years after acceptance.</p>		

Infusion pump for Veterinary application

	Purchaser's Technical Specifications	Unit rate in NRS without VAT	Remarks
	Infusion Pump for Veterinary application		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	System Configuration		
	Infusion pump with battery backup alarm and with complete accessories		
	Technical Specifications		
	Should come factory calibrated with at least 2 types of commonly used infusion set. Should have option of onsite calibration of at least 3 types of different infusion set. Shall be compatible with most of the IV set Shall have a LED/LCD display with backlight and graphical display of infusion Should be able to set two infusions programmed It shall have facility of audible and visual alarm for occlusion pressure, air alarm, door open, empty, low battery. Infusion Rate 1ml/hr. to 1000ml/Hr. or more. Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 1 years after acceptance.		

Real Time PCR Machine

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Real Time PCR Machine		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Technical Specifications		
	Technology Peltier-based or rotary system Format 72/96-well plate or more Reaction Volume 10–100 µL Ramp Rate Up to 5°C/sec or better Multiplexing Capacity 5 channels or more Supported Dyes FAM, HEX, VIC, ROX, Cy5, Quasar, etc. Detection System Photodiodes/PMT/LEDs Temperature Uniformity ±0.4°C or better Temperature Accuracy ±0.2°C or better Optics Design Fixed or moving or rotor for each well Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 2 years after acceptance.		

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	The bidders should provide application training to end user and service person training in country of origin.		

High-performance liquid chromatography (HPLC) system

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	HPLC System		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	System Configuration		
	<p>HPLC with complete standard accessories. System must be a Modular System having each module independent 4 Solvent Bottle of 1 liter with solvent indication mark for 4 mobile phases, 1 needle wash function and 1 seal wash or pump wash function Should also provide tubing for solvent flow, needle wash and seal wash or pump wash. The tubing should contain filters for filtering function</p> <p>Technical specification</p> <p>Pump Pump Type Quaternary Pump Number of Solvent 4 Independent Solvent Lines Solvent Delivery System Dual pistons with servo-controlled variable stroke drive design and smooth motion control for active damping Flow Rate Range 0.001 mL/min to 5.00 mL/min in 0.001 mL/min increments Degasser: Built in online or separate degassing module for at least 4 Solvent Lines</p> <p>Auto sampler Injection Method Total Volume or variable volume sample injection system Auto sampler Pressure range of ≥ 800 bar (11,600 psi) or more Injection range 0.1 – 100 μL in 0.1 μL increments with 100 μL up to 80 MPa</p> <p>Column Temperature Temperature Setting Range 4 °C to 85 °C Temperature Precision ± 0.05 °C Temperature Accuracy ± 0.5°C Column Accommodation Capability 4 columns of up to 300mm length</p>		

Column type Thermostat Peltier control			
DAD / PDA Detector			
Light Source Deuterium and Tungsten Detection type 1024-element diode array Number of signals Simultaneous acquisition of up to 8 compound specific wavelength Wavelength range Wavelength range must be at least 190 – 950 nm or more settable in 1 nm increments RFID technology to track Cell and Lamp Details like Cell Volume, Path Length, UV Burn Hour, Number of Ignition etc.			
Column			
L-1 (C18)	<ul style="list-style-type: none"> • 4.6mmx100mmx 5um-1 Pc • 4.6mmx150mmx 5um-1 PC • 4.6mmx250mmx 5um-1 Pc • 3.0mmx100mmx2.7um-1 Pc 		
L-7 (C8)	4.6mmx250mmx5um- 1 Pc		
L13	4.6mmx250mmx5um- 1 Pc		
Must submit ISO 9001/13485 or/and CE for medical devices Comprehensive warranty for 2 years after acceptance.			
The bidders should provide application training to end user and service person training in country of origin.			

Gas Chromatography System

	Purchaser's Specifications	Unit rate in NRS without VAT	Remarks
	Gas Chromatography System		
	Manufacturer		
	Brand		
	Type / Model		
	Country of Origin		
	Gas Chromatograph <ul style="list-style-type: none"> • Microprocessor Control: Fully automatic, microprocessor-controlled GC with extensive self-diagnostic features. • Carrier Gas Flow Control: Auto-adjustment of carrier gas flow to compensate for variations in ambient temperature and pressure. • Multiple Detectors/Injectors: Capable of supporting at least two detectors and two injectors simultaneously, with the ability to add more in the future. 		
	System Configuration		

<p>Gas Chromatography with complete accessories. Must be able to support 2 or more detectors and 2 or more injectors at a time System must be supplied with the detectors, injectors and columns according to the specification mentioned below System must be able to support addition of detectors and injectors in the future when required according to the required application System must be capable of supporting split/splitless injectors if needed to add injectors in the future with system supplied with the injector as per the specification</p>		
<p>Technical Specifications</p>		
<p>Oven:</p> <ul style="list-style-type: none"> • Temperature Range: Ambient to 450°C • Oven Capacity: At least 13.5 L • Heating Rate: Maximum up to 120 °C/min • Cooling Rate: 450°C - 50°C in not more than 4 minutes • Column capacity in oven: 2 or more 		
<p>Software:</p> <ul style="list-style-type: none"> • Compliance: Fully compliant with GLP/GMP standards. • Data Analysis & Control: Capable of data analysis, calibration, blank correction, and reporting. • Automation: Full automation of system start/stop, including injector control, through the software. 		
<p>Injectors:</p> <ul style="list-style-type: none"> • Injection Mode: Split/splitless mode with split ratio of at least 7500:1. • Temperature Range: Injector port temperature capable of reaching up to 450°C. • Pressure Settings: Range from 0 to 1035 kPa. • Flow Settings: Total flow for all gases 		
<p>Autoloader/Autoinjector:</p> <ul style="list-style-type: none"> • Must have facility for Autoloader capable of loading at least 25 samples • Injection speed: Selectable between normal, fast and slow • Linearity of injection amount must be less than 0.5% with Cross contamination of <10⁻⁴ 		
<p>Programmable Split mode Capillary Column:</p> <ul style="list-style-type: none"> • Polar phase polyethylene glycol, 0.25 µm X 250 µm diameter, at least 60 m in length – 2pc • Nonpolar 100% dimethyl polysiloxane, 0.25 µm X 250 µm diameter, at least 30 m in length – 1 pc 		
<p>Detector Type: Flame Ionization Detector (FID)</p> <ul style="list-style-type: none"> • Maximum Operating range: 450 °C • Minimum Detectable Quantity: <1.2 pg C/s dodecane or tridecane or equivalent • Automatic Flame out detection and recognition 		
<p>Gas and Gas Cylinder Set</p> <ul style="list-style-type: none"> • Carrier Gas: 99.99% pure nitrogen or helium in 47L cylinders, with double-stage pressure regulators. • Trappers: Moisture, hydrocarbon, and oxygen trappers for gas purification. 		

	<ul style="list-style-type: none"> • Compressor: Compressed air compressor for FID. <p>Hydrogen Gas Generator (Proton Exchange Membrane to create the Hydrogen Gas from Deionized Water)</p> <ul style="list-style-type: none"> • Modular generator with touch screen HMI display for ease of lab operations and upgradable software/hardware • Automatic water loading pump • Minimum 3 years cell warranty in hydrogen cell • Power Consumption: 309-422 watts with up to 1000 BTU/hr heat output. • Leak Detection: Internal leak detection with automatic shutdown. <p>Standards and Safety Requirements</p> <p>Must submit ISO13485 or ISO 9001 certificate Must submit CE or USFDA approved product certificate. Comprehensive warranty for 2 years after acceptance.</p> <p>User Training</p> <p>Must provide user training (including how to use and maintain the equipment) on GC-FID. The bidders should provide application training to end user and service person training in country of origin.</p>		
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