Bihar Medical Services & Infrastructure Corporation Limited, 2nd & 3rd Floor, Swasthya Bhawan, Behind IGIMS, Sheikhpura, Adjacent to State Health Society, Patna 800023, Phone/Fax: +91612 2283287,+ 91612 2283288

Corrigendum-III

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for supply, installation & commissioning of Medical Equipment on Turnkey Basis for IPHL (Integrated Public Health Laboratory) at 12 District Hospitals of Bihar was floated vide Tender No. BMSICL/2023-24/ME-310. During and after Pre-bid meeting various suggestions were received from different prospective bidders regarding amendment in technical specification of equipment which were discussed and deliberated on by the experts, who after due deliberation recommended certain amendments in the technical specification of the equipment, which are annexed as Annexure-I & Annexure-II of this corrigendum. In order to facilitate maximum participation of bidders the tender schedule is being revised as follows:-

Tender Reference No.	**BMSICL/2023-24/ME-310**
Last date and time of submission of online bids	**17th August 2023 till 17:00 Hrs.**
Last date and time of submission of original documents of EMD, Tender Fee and Document	**18th August 2023 till 14:00 Hrs.**
Date, Time and Place of opening of Technical Bid	**18th August 2023 (at 15:00 Hrs.) on the website of https:/eproc2.bihar.gov.in in the office of BMSICL**
Date and time of opening of financial Bids	**To be announced later on https:/eproc2.bihar.gov.in**

Note:-

1. **Bidders are advised to refer to the Annexure-I & Annexure-II of this corrigendum before submission of bid.**
2. **Those who have submitted their bids are requested to re-submit their bids in accordance with this corrigendum.**

Annexed:- As above

Sd/-
GM (Procurement)
BMSICL

Annexure-I

1. Name of Equipment: - CLASS-II BIOLOGICAL SAFETY CABINET			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Biosafety cabinets are used to provide primary containment in the laboratory when the investigator is using potentially infectious materials.	No Change
3	1.2	Used by Clinical Department/ward: Diagnostic Laboratory	No Change
4		**Technical Characteristics**	
5	2.1	Type: BIOSAFETY CABINET, CLASS II A2 (As per NSF guidelines)	No Change
6		The HEPA filter should have rated efficiency of 99.97% (or better) at 0.3 microns to provide product protection of Class 100 or exceeding Class 100 requirements of Federal Standards 209E or equivalent ISO within the work area	No Change
7		It should provide laminar airflow descending vertically downwards.	No Change
8		Air Velocity: Should not be more than 100 fpm over the work area.	No Change
9		The motor for the air flow should have automated setting for the air flow speed to ensure continuous safe working condition. Air flow should be as per BSF regulation (Class II A2)	No Change
10		Fluorescent lamp for lighting of the interior of the cabinet. Light Intensity: 650 lux or more over the entire work surface.	No Change
11		UV germicidal lamp intensity: > 40 microwatt/sq.cm over the entire work surface and should be programmable to allow specific exposure time from 0 to 24h with auto switch off and on during opening of the front panel.	No Change
12		Construction: Main body, side and rear panel: Electro - galvanized Steel or Mild Steel, oven baked epoxy powder coated finish. Worktable (surface): SS304 or SS316.	No Change
13		Front panels construction: Removable laminated safety and tempered glass for protection against leakage of UV rays and potential hazards materials	No Change
14		The front sash opening should range between 8-12 inches and should be Specified on the cabinet.	No Change
15		Alarm system: Audio visual Safety alarms/safety display for low air velocity, faulted exhaust fan and incorrect sash height	No Change

16		Switches and indicators: Individual switches and indicators lamps for blower motor, florescent lamp, and UV lamp.	No Change
17		Differential pressure gauge (scale display in Pascals). The cabinet should use a pressure sensor to detect pressure drop across the supply filter.	No Change
18		Other fittings required for Attaching auxiliary services: Electrical outlet socket (5 ampere rating) qty: 2 numbers	No Change
19		Pre-Filters: Filtration efficiency of 98% for all types of particle sizes 8 micron and larger	No Change
20		A data plate(s) indicating the following shall be readily visible on the front of the cabinet: o manufacturer's name and address o cabinet model o cabinet serial number o type classification and voltage requirements	No Change
21		The equipment should provide product, operator and environmental protection and must be certified to NSF/ANSI 49. The cabinet must have a data plate and NSF certification label	No Change
22		Dimensions of cabinet Method of field certification and allowable ranges for Down flow Velocity Inflow	No Change
23		The minimum average inflow velocity should be 100ft/min and down flow velocity 50-80ft/min, it may vary according to model	No Change
24		Installation Qualification (IQ), Operational Qualification (OQ), and Performance Qualification (PQ) certification and calibration- at the time of installation and annually during warranty period	No Change
25	2.2	Users Interface: Display for Various indicators	No Change
26	2.3	Software and/ or standard of communication (wherever required)-NA	No Change
27		**Physical Characterisitics**	
28	3.1	Dimensions (metric)- 4 feet width	No Change
29	3.2	Weights (lbs., kg)- NA	No Change
30	3.3	Noise (in dBA)- Noise level: < 60 dBA.	No Change
31	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	Deleted
32	3.5	Stationary lab Installation	No Change
33		**Energy Source (electricity, UPS, solar, gas, water, CO2)**	
34	4.1	Power requirements: 220VAC +/- 10%, 50 Hz.	No Change
35	4.2	Battery operated: UPS with a minimum backup time of one hour	No Change
36	4.3	Protection: 1. Resettable overcurrent breaker shall be fitted for protection 2. Voltage corrector/stabilizer of appropriate ratings.	No Change

37	4.4	Power consumption: to be specified by vendor	No Change
38		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
39	5.1	Exterior exhaust filter guard	No Change
40		Spare fluorescent lamp.	No Change
41		**Environmental and Departmental Considerations**	
42	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
43	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
44		**Standards and Safety**	
45	7.1	**Certificates (premarket, sanitary,); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
46		**Training and Installation**	
47	8.1	Pre- installation requirements: nature, values, quality, tolerance: As specified by manufacturer and compatible electric accessories as per standard Indian set-up.	No Change
48	8.2	Requirements for sign- off: 1. Supplier to perform installation, safety and operation checks before handover. 2. Lab In-Charge to affirm completion of installation	No Change
49	8.3	Satisfactory Training of users in operation and basic maintenance shall be provided on installation.	No Change
50		**WARRANTY AND MAINTENANCE**	
51	9.1	Warranty: 3 years, including all spares and calibration.	No Change
52		**Documentation**	No Change
53	10.1	Operating manuals, set manuals, other manuals: Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy)	No Change

		to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	
54	10.2	Other accompanying documents: List of essential spares and accessories, with their part number and cost;	No Change
55		**Notes**	
56	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided;	No Change
57	11.2	Recommendations or warnings: Any warning sign should be adequately displayed.	No Change

2. Name of Equipment: -CELL COUNTER AUTOMATIC (5 PART)			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
		Use	
1	1.1	Clinical Purpose: Automated 5-part differential blood count instrument are used to measure multiple parameters like white blood cell count (neutrophils, lymphocytes, monocytes, eosinophils and basophils) along with hemoglobin concentration and other hematology parameters.	No Change
2	1.2	Used by clinical department/ward: Analytical laboratories.	No Change
3		**Technical Characteristics**	
4	2.1	Five-part differential with reticulocyte count based on fluorescent flow cytometry LASER based technology.	Five Part differential without Reticulocyte Count Based on Fluorescent/Flowcytometry/ Optical Method/Tri angle laser Based technology.
5		Minimum 24 parameters, all different WBCs should be measured directly.	No Change
6		Parameters need to be mentioned.	No Change
7		Advanced, integrated self-cleaning system.	No Change
8		On-screen patient results trending	No Change
9		Stores minimum 25,000 test results with histograms and scatter grams.	No Change
10		Sample Material - EDTA blood with at least pre-diluted mode and whole blood mode.	No Change
11		Integrates with common practice management systems.	No Change
12		Maximum sample required 100 µL sample size permits whole blood analysis from venous collections.	No Change
13		Parameters Total Leukocytes (White Blood Cells) and Differential (in absolute numbers and %) for: Neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils.	No Change
14		Sample Material Capillary or venous (EDTA) whole blood.	No Change

15		Linearity of all parameters.	No Change
16		Measuring Time Within 60 Sec.	No Change
17		System must have throughput of at least 100 samples per hour in all discrete modes.	System must have throughput of at least 60 samples per hour in all discrete modes.
18		Should be equipped with automatic sample loading, mixing and testing. Also have manual mode and STAT modes along with Random access for individual samples.	No Change
19		Open system Integrates with common trouble-free practice management systems including cleaning of apertures, tube systems and calibration (both manual and automatic).	Open/Closed system Integrates with common trouble-free practice management systems including cleaning of apertures, tube systems and calibration (both manual and automatic).
20		Pre-diluted mode and whole blood mode	No Change
21		QC should be based on test parameters.	No Change
22		Provision for bi-directional LIS interface should be available.	No Change
23		Provision for Bar Code/QR code reading should be available.	No Change
24		The equipment should have in-built digital display unit and PC interface facility.	The equipment should have in-built digital display unit/ PC interface facility
25	2.2	**User's interface** Touch screen and PC	Touch screen or PC
26	2.3	Software and/or standard of communication (wherever required)-NA	No Change
27		**Physical Characteristics**	
28	3.1	Dimensions (metric)-NA	No Change
29	3.2	Weight (lbs,kg)-NA	No Change
30	3.4	Noise (in dBA)-NA	No Change
31	3.5	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism	No Change
32	3.6	Mobility, portability: Stationary lab installation.	No Change
33		**Energy Source (electricity, UPS, solar, gas, water, CO2)**	
34	4.1	Power Requirements: 220+-10% VAC, 50 HZ	No Change
35	4.2	Online UPS System for 30 minutes backup	No Change
36	4.6	Protection: N/A	No Change
37	4.7	Power Consumption-As specified by the manufacturer	No Change
38		**Accessories, Spare parts, Consumables**	
39	5.1	2D-Barcode/QR Code Scanner.	No Change
40		PC, Keyboard, Printer	No Change

41		Reagents: All the reagents required for 1000 tests should be supplied with the equipment along with one set of tri level control.	No Change
42		Online UPS System for 30 minutes back up	No Change
43		**Environmental and Departmental Considerations**	
44	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust ...):** Operating condition: Capable of operating continuously in ambient temperature of 15 to 45 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
45	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
46		**Standards and Safety**	
47	7.1	**Certificates (pre-market,sanitary,); Performance andsafety standards (specific tothe device type);Local and/or international** 1) Should be BIS approved 2) Should conform USFDA/ European CE, in case of non availability of BIS Standards 3) Should conform to ISO 13485 quality standards 4) Should conform to IEC 60601-1-Generalrequirements of Electrical Safety Standards	1) Should be BIS approved 2) Should conform USFDA/ European CE, in case of non-availability of BIS Standards 3) Should conform to ISO 13485 quality standards 4) Should conform to IEC 60601-1General requirements of Electrical Safety Standards
48		**Training and Installation**	
49	8.1	Pre-installation requirements: nature, values, quality, tolerance: as indicated by Manufacturer and compatible electrical accessories as standard Indian set-up	No Change
50	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
51		Lab In-Charge to affirm completion of installation.	No Change
52	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
53		**Warranty and maintenance**	
54	9.1	Warranty: 3 years, including all spares and calibration	No Change
55		**Documentation**	
56	10.1	Should provide 2 sets (hardcopy and soft copy) of: 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Service and operation manuals (original and copy) to be provided.	No Change

		4) Advanced maintenance tasks documentation. 5) Certificate of calibration and inspection;	
57	10.2	List of important spares and accessories, with their part numbers and cost;	No Change
58		**Notes**	
59	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
60	11.2	Recommendations: Any warning signs would be adequately displayed.	No Change

3. Name of Equipment :- CELL COUNTER SEMI-AUTOMATIC (3 PART)	**Not Required/Deleted**

4. Name of Equipment :-FULLY AUTOMATED BIOCHEMISTRY ANALYSER			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**Use**	
2	1.1	Clinical Purpose: The Fully automated Biochemistry Analyzer measures biochemical indexes by analyzing blood and other body fluid, then combines with other clinical information, to help diagnose disease, evaluate organ's function, identify disease gene and determine the norm for future therapy.	No Change
3	1.2	Used by clinical department/ward: Diagnostic laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	The equipment should be capable all Routine STAT and special Biochemical tests including specific protein, therapeutics, drugs of abuse and user defined applications	No Change
6		Throughput: minimum 400 tests/hour	Throughput: minimum 200 tests/hour
7		Open Ended system preferably	No Change
8		Optical System should have Wavelength range from 340 to 700 nm	No Change
9		Should have built in Cooled reagent Compartment with sample volume 2- 40 µl	Deleted
10		Auto diagnosis of machine errors with message and correction steps	No Change
11		Must have on board capacity for permanent and numbered cuvettes	Must have on board capacity for permanent/ semi disposable and numbered cuvettes/cuvette rotor
12		Separate reagent probe for reagents and sample	No Change
13		Laundry System with minimum 5 step washing	No Change
14		Minimum carryover of not more than 0.05 ppm	No Change
15		Should have external and internal probe cleaning facility	No Change

16		The system should be having the facility of both auto calibration and manual	No Change
17		Minimum 70 sample positions for routine and STAT Test with continuous loading facility for 100 or more	Minimum 50 to 70 sample positions for routine and STAT test with continuous loading facility for100 or more.
18		Should have solid state light source (LED Technology) with a split reference beam with working life of more than 10000 hrs	Should have suitable light source LED or Halogen with working life of at least 2000 hrs.
19		Should have minimum 50,000 Patient Result memory Storage	No Change
20		Online QC Tracking with Levy and Jennings Chart for up to 30 different points	No Change
21		Provision for bi-directional LIS interface should be available	No Change
22		Provision for Bar Code/QR code reading should be available	No Change
23		The equipment should have in-built digital display uni and PC interface facility	The equipment should have in-built digital display uni or PC interface facility
24	2.2	User Interface: Digital Display	No Change
25	2.3	Software and/or standard of communication: Built - in/Automatic/compatible, window based with data processing management system with complete back up of data base for calibration, control, patient sample results on daily basis.	No Change
26		**PHYSICAL CHARACTERISTICS**	
27	3.1	Dimension (metric) : N/A	No Change
28	3.2	Weight (lbs., kg) : N/A	No Change
29	3.3	Configuration: N/A	No Change
30	3.4	Noise (in dBA): N/A	No Change
31	3.5	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
32	3.6	Mobility, portability: Stationary laboratory Installation.	No Change
33		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
34	4.1	Power Requirements: 220VAC+-10%, 50 HZ	No Change
35	4.2	Battery operated: No	No Change
36	4.4	Protection: NA	No Change
37	4.5	Power Consumption-To be Specified by manufacturer	No Change
38		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
39		Suitable Water plant/Purification System on RO or any latest technology.	No Change
40	5.1	External printer.	No Change
41		UPS online pure sine wave for back up of system with PC and IT peripherals for half hour.	No Change
42		**Environmental and Departmental Considerations**	

43	6.1	Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
44	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
45		**STANDARDS AND SAFETY**	
46	7.1	**Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type); Local and/or international**1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
47		**TRAINING AND INSTALLATION**	
48	8.1	Pre-installation requirements: nature, values, quality, tolerance: as indicated by Manufacturer and compatible electrical accessories as standard Indian set-up	No Change
49	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
50		Lab In-Charge to affirm completion of installation.	No Change
51	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
52		**WARRANTY AND MAINTENANCE**	
53	9.1	Warranty: 3 years, including all spares and calibration	No Change
54		**DOCUMENTATION**	
55	10.1	Should provide 2 sets (hardcopy and soft copy) of: 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Service and operation manuals (original and copy) to be provided. 4) Advanced maintenance tasks documentation. 5) Certificate of calibration and inspection;	No Change
56	10.2	List of important spares and accessories, with their part numbers and cost;	No Change
57		**Notes**	

58	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
59	11.2	Recommendations: Any warning signs would be adequately displayed.	No Change

5. Name of Equipment :-SEMI-AUTOMATED BIOCHEMISTRY ANALYSER	**Not Required/Deleted**

6. Name of Equipment :-CHEMILUMINESCENT IMMUNOASSAY ANALYSER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Quantitative estimation of specific hormones, cardiac markers, cancer markers, Infectious Markers, and other special Immunoassays from clinical samples.	No Change
3	1.2	Used by clinical department/ward: Diagnostic laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
1	2.1	Fully Automated Immunodiagnostic system based on enhanced chemiluminescence technology or Electro Chemiluminescence technology or chemiluminescence in magnetic immunoassay (CMIA) technology	Fully Automated Immunodiagnostic system based on enhanced chemiluminescence technology or Electro Chemiluminescence technology or chemiluminescence. In magnetic immunoassay (CMIA) technology or Fluorescence technology.
2		The instrument should provide comprehensive process check that performs, monitors, and verifies each step throughput sample and assay processing	No Change
3		Continuous loading capacity of 30 or more samples	Continuous loading capacity of 25 or more samples.
4		Throughput of atleast 60 test per hour or more	Throughput of at least 35 tests per hour or more
5		The system should be able to read multiple barcode types or QR code	No Change
6		It should have capability to do the assay in continuous, random, batch & stat mode	No Change
7		Serum, plasma, urine, whole blood (assay-dependent) type of samples handling system	No Change
8		System to use latest mixing probe technology to mix the samples and reagents to have complete uniformity with clot detection facility	Disposable tips used with clot detection facility: Mixing probe technology will be for the system which are having needle probe for dispensing and this may

			give carryover effect, recommended to use disposable tips to avoid carryover.
9		It should have the facility for clot detection, bubble detection, check viscosity, sample level and short samples to ensure accuracy preventing erroneous results due to improper samples	No Change
10		It should have an ability to do on board dilution and reflex dilution for high and abnormal samples	No Change
11		It should have reusable probe or the disposable tips system to avoid reagent carryover	No Change
12		Should have onboard liquid waste container (4 litre), direct drain optional	No Change
13		Should be a microprocessor-controlled device with digital display	No Change
14		2-point re-calibration facility, switched mode power supply, Automated instrument calibration, User friendly and intelligent software	2-point/Multi Point calibration facility, switched mode power supply, Automated instrument calibration, User friendly and intelligent software
15		System should have software that automatically generates LJ charts for QC and have appropriate alerts	No Change
16		Provision for bi-directional LIS interface should be available	Provision for LIS interface should be available
17		Provision for Bar Code/QR code reading should be available	No Change
18		The equipment should have in-built digital display unit and PC interface facility	The equipment should have in-built digital display unit or PC interface facility
19		External USB storage available	No Change
20	2.2	User Interface: Facility for integration with PC	No Change
21	2.3	Software and/or standard of communication: NA	No Change
22		**PHYSICAL CHARACTERISTICS**	
23	3.1	Dimension (metric) : N/A	No Change
24	3.2	Weight (lbs., kg) : N/A	No Change
25	3.3	Noise (in dBA): N/A	No Change
26	3.4	Heat Dissipation: System should have on-board cooling facility to maintain the temperature of the reagents.	No Change
27	3.5	Mobility, portability: Stationary laboratory Installation.	No Change
28		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
29	4.1	Power Requirements: 220VAC+-10%, 50 HZ	No Change
31	4.2	Battery operated: Online UPS with minimum 30 min back up	No Change

32	4.3	Protection: Internal electrical protection.	No Change
33	4.4	Power Consumption-To be Specified by vendor	No Change
34		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
35	5.1	External Printer to take printout of patient results and QC reports.	No Change
36		Online UPS with minimum 30 min backup	No Change
37		**Environmental and Departmental Considerations**	
38	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
39	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
40		**STANDARDS AND SAFETY**	
41	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
42		**TRAINING AND INSTALLATION**	
43	8.1	Pre-installation requirements: nature, values, quality, tolerance: as indicated by Manufacturer and compatible electrical accessories as standard Indian set-up	No Change
44	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
45		Lab In-Charge to affirm completion of installation.	No Change
46	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
47		**WARRANTY AND MAINTENANCE**	
48	9.1	Warranty: 3 years, including all spares and calibration	No Change
49		**DOCUMENTATION**	
50	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams;	No Change

		2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	
51	10.2	List of essential spares and accessories, with their part number and cost;	No Change
52		**Notes**	
53	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
54	11.2	Recommendations: Any warning signs would be adequately displayed.	No Change

7. Name of Equipment :-CENTRIFUGE 16 TUBE			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: It is typically used to centrifuge various types of clinical specimens, either alone or after addition of reagents or other additives, for subsequent in vitro diagnostic analysis.	No Change
3	1.2	Used by clinical department/ward: Analytical Laboratories.	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Speed: Range 0-6000 RPM.	No Change
6		Minimum Capacity-16 tubes (5-15 ml)	No Change
7		Digital Timer and speed control panel.	No Change
8		Auto Lid interlock to prevent opening while running centrifuge with emergency lid lock release.	No Change
9		Safety feature-Integrates with common trouble-free practice management systems including cleaning of apertures, tube systems and calibration (both manual and automatic).	No Change
10		Microprocessor with digital display.	No Change
11		Dynamic brake for quick deceleration.	No Change
12		Stainless steel Chamber easy to clean.	No Change
13		Hinges to prevent door falling.	No Change
14		Rotor should be corrosion resistant.	No Change
15		Rotors should be autoclavable.	No Change
16	2.2	User Interface: Digital Display for time and Speed	No Change
17	2.3	Software and/or standard of communication: NA	No Change

18		**PHYSICAL CHARACTERISTICS**	
19	3.1	Dimension (metric) : N/A	No Change
20	3.2	Weight (lbs., kg) : N/A	No Change
21	3.3	Noise (in dBA): N/A	No Change
22	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
23	3.5	Mobility, portability: Portable	No Change
24		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
25	4.1	Power Requirements: 220+-10%VAC, 50 HZ	No Change
26	4.2	Battery operated: No	No Change
27	4.3	Protection: Internal electrical safety	No Change
28	4.4	Power Consumption-To be Specified by manufacturer/supplier	No Change
29		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
30	5.1	Rubber adapter should be provider for the use of vacutainer for 3ml and5ml.	No Change
31		**Environmental and Departmental Considerations**	
32	6.1	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
33	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
34		**STANDARDS AND SAFETY**	
35	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
36		**TRAINING AND INSTALLATION**	
37	8.1	Pre-installation requirements: nature, values, quality, tolerance: as indicated by Manufacturer and compatible electrical accessories as standard Indian set-up	No Change
38	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change

39		Lab In-Charge to affirm completion of installation.	No Change
40	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
41		**WARRANTY AND MAINTENANCE**	
42	9.1	Warranty: 3 years, including all spares and calibration	No Change
43		**DOCUMENTATION**	
44	10.1	Should provide 2 sets (hard copy and soft copy) of: 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Service and operation manuals (original and copy) to be provided. 4) Advanced maintenance tasks documentation. 5) Certificate of calibration and inspection	No Change
45	10.2	List of important spares and accessories, with their part numbers and cost;	No Change
46		**Notes**	
47	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
48	11.2	Recommendations: Any warning signs would be adequately displayed.	No Change

8. Name of Equipment :-CENTRIFUGE 8 TUBE	**Not Required/Deleted**

9. Name of Equipment :-COAGULATION ANALYZER IVD/Automated Coagulometer			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Coagulation Analyzers is a device that measure the clotting mechanisms of hemostasis; used primarily to detect clotting deficiencies. It is also used to monitor the effect of drugs such as heparin, oral anticoagulants, and thrombolytic and antiplatelet agents on whole blood.	No Change
3	1.2	Used by clinical department/ward: Clinical Hematology laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Blood Coagulation analyzer should be a fully automated (It should automatically aspirate, dispense, incubate and measure) with random access.	Blood Coagulation analyzer should be a Fully/Semi automated.
6		The system must be open for essential reagents.	No Change

7		Must have option for clotting, Chromogenic, turbidimetric, fluorogenic or immune assays as well.	No Change
8		Instrument should be able to detect automatically positive sample and reagent positions.	No Change
9		Possibility of Auto Rerun and Auto Redilution of samples should be available, positive sample and reagents level detection should be provided.	No Change
10		It should support a wide range of parameters including PT, APTT, Factor Assay, Protein C, Protein S, Fibrinogen, and Thrombin Time, ATIII, Heparin, PLG, LP (a), APCR, DDI, FDP, vWf. Factor VIII quantification.	No Change
11		Throughput: Must perform at least 50 tests (for APTT and PT) per hour.	No Change
12		Storage: It should have capacity of storing 1000 test results in its memory.	No Change
13		Availability of consumables and running cost: > It should have option to keep part of reagent on board, at cold temperature to avoid reagent deterioration. > Consumables like Cuvette should be readily available with the manufacturer or the distributor and should be very economical.	No Change
14		Instrument should have in-built Barcode reader for positive identification of sample and reagents i.e. name, stability, volume, position etc.	Instrument should have in-built or external Barcode reader for positive identification of sample and reagents i.e. name, stability, volume, position etc
15		UPS of suitable KVA with at least 1 hour back up must be provided with the machine.	No Change
16		Bidirectional interface with the current HIS software must be made functional at installation.	No Change
17		Company/firm must support the model for next 10 years (spare part and services).	No Change
18		Machine should provide patient analysis curve	Optional
19		Machine should have facility to store QC data (in Levey Jennings format)	No Change
20		Following rates must be provided in addition to cost of equipment. Cost of Consumables and cost as per test mentioned	No Change
21		Cost of consumables and reagents will be considered along with cost of Equipment for deciding Lowest Bidder (L-1)	No Change
22		Cost of ‘closed’ reagents and consumables (Cuvettes) must be freeze for at least five years	No Change
23		The firm should provide the details of after sales and service and application backup	No Change
24		Demonstration and onsite training of staff up to their satisfaction by the application experts is an absolute must	No Change

25		The firm must have an application specialist and service engineer in the respective state.	No Change
26		A certificate to be provided to the effect that shut down period of the machine must not exceed for more than 24 hours and back up option in case of equipment breakdown.	No Change
27		Original literature along with the user's list should be attached with the satisfactory report for the last three years from three users with contact detail.	No Change
28		Up time and penalty for delays in repair & maintenance: The firm will ensure uptime of 345 days in a year during warranty period & CMC period both machine as well as for UPS including battery. Whenever there is breakdown the firm will carry out the repair within 48 hours of receipt of such information (either by telephone or by any other means). If there is delay beyond 48 hours then the firm will be penalized at the rate of 1% of the cost of product per day.	No Change
29		The financial penalty can be waived off on recommendation of the user dept. if the reasons of delay are genuine the same are recorded & endorsed by the concerned dept. If the down time is exceeded in a year from 20 days then the warranty shall stand extended by double the number of days machine was out of order.	No Change
30		Information regarding merger / acquisition /takeover or any change in the production should be submitted at the time of tender by the principal firm. In such production should be specified who will provide the after sales service, CMC, supply of spare parts etc. failing which the firm shall not be considered for technical evaluation	No Change
31		Warranty: 3 years warranty without any exclusion from the date of installation for both equipment and UPS including battery +3 years comprehensive maintenance contract without any exclusion for both equipment and UPS including battery. The cost of the warranty will be included in the total cost of equipment for financial comparison.	No Change
32		The equipment should be able to run on the existing electrical provision	No Change
33	2.2	User Interface: LCD Display	No Change
34	2.3	Software and/or standard of communication: In built – to be provided by the manufacturer	No Change
35		**PHYSICAL CHARACTERISTICS**	
36	3.1	Dimension (metric) : N/A	No Change
37	3.2	Weight (lbs., kg) : N/A	No Change
38	3.3	Noise (in dBA): N/A	No Change

39	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
40	3.5	Mobility, portability: Stationary lab installation	No Change
41		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
42	4.1	Power Requirements: 220+-10%VAC, 50 HZ	No Change
43	4.2	Battery operated: Online UPS with minimum 30 min back up	No Change
44	4.3	Protection: Internal electrical protection	No Change
45	4.4	Power Consumption-To be Specified by manufacturer/supplier	No Change
46		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
47	5.1	All the consumables, controls and calibrators and any other reagents or items required for conducting 500 tests should be mentioned and supplied with the equipment.	No Change
48		Barcode/QR code Scanner	No Change
49		Built-in Thermal printer or provision for external printer	No Change
50		Online UPS for minimum 30 minutes back up	No Change
51		**Environmental and Departmental Considerations**	
52	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C (minimum range) and relative humidity of 30 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
53	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
54		**Additional Point**	
55	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
56		**TRAINING AND INSTALLATION**	
57	8.1	Pre-installation requirements: nature, values, quality, to lerance: Availability of online UPS with at least 30	No Change

		minute back up and compatible electric accessories as per standard Indian set-up.	
58	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
59		Lab In-Charge to affirm completion of installation.	No Change
60	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
61		**WARRANTY AND MAINTENANCE**	
62	9.1	Warranty: 3 years, including all spares and calibration	No Change
63		**DOCUMENTATION**	
64	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided. 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	No Change
65	10.2	List of essential spares and accessories, with their part number and cost;	No Change
66		**Notes**	
67	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
68	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

10. Name of Equipment :-ISE BASED ELECTROLYTE ANALYSER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Laboratory analyzers designed to measure some or all of the most common ions (e.g., sodium [Na+], potassium [K+], chloride [Cl-], Calcium [Ca++], Magnesium [Mg++], etc.) present in blood	No Change
3	1.2	Used by clinical department/ward: Biochemistry Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Should be able to measure sodium [Na+], potassium [K+], chloride [Cl-]) in blood, Ca++, Mg++ in blood (plasma and serum)	Should be able to measure sodium [Na+], potassium [K+], chloride [Cl-]) in blood, Ca++ in blood (plasma and serum)
6		Should base on measuring method of Ion Selective Electrode (ISE) (Direct Potentiometer)	No Change

7		Should have individual electrodes for sodium, potassium, chloride, Calcium and Magnesium	Should have individual electrodes for sodium, potassium, chloride, Calcium
8		Should have automatic Calibration	No Change
9		Should have a throughput of minimum 40 samples per hour	No Change
10		Should have a memory of at least 100 samples	No Change
11		QC should be based on test parameters	No Change
12		The equipment should have in-built digital display unit, PC interface facility and provision for printing of reports	The equipment should have in-built digital display unit or PC interface facility and provision for printing of reports
13		Provision for bi-directional LIS interface should be available	Provision for bi-directional / unidirectional LIS interface should be available.
14		Should have provision for barcode/ QR code reader	No Change
15	2.2	User's Interface : Touchscreen Display.	User's Interface: Touchscreen Display / Display with Keypad.
16	2.3	Software and/or standard of communication: In built – to be provided by the manufacturer	No Change
17		**PHYSICAL CHARACTERISTICS**	
18	3.1	Dimension (metric) : N/A	No Change
19	3.2	Weight (lbs., kg) : N/A	No Change
20	3.3	Noise (in dBA): N/A	No Change
21	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
22	3.5	Mobility, portability: Stationary lab installation	No Change
23		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
24	4.1	Power Requirements: 220+-10%VAC, 50 HZ	No Change
25	4.2	Battery operated: Online UPS with minimum 30 min back up	No Change
26	4.3	Protection: Internal electrical protection	No Change
27	4.4	Power Consumption-To be Specified by manufacturer	No Change
28		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
29	5.1	2D-Barcode/QR code Scanner	No Change
30		Built-in Thermal printer or provision for external printer.	No Change
31		All the consumables, controls and calibrators and any other reagents or items required for conducting 500 tests should be mentioned and supplied with the equipment.	No Change
32		Online UPS for minimum 30 minutes back up	No Change

33		**Environmental and Departmental Considerations**	
34	6.1	Operating Condition: Capable of operating continuously inambient temperature of 15 to 40 deg C (minimum range) andrelative humidity of 30 to 90% in idealcircumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
35	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
36		**STANDARDS AND SAFETY**	
37	7.1	**Certificates (pre- market, sanitary); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in caseof non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in caseof non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
38		**TRAINING AND INSTALLATION**	
39	8.1	Pre-installation requirements: nature, values, quality, tolerance: As specified by manufacturer and compatible electric accessories as per standard Indian set-up.	No Change
40	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
41		Lab In-Charge to affirm completion of installation.	No Change
42	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
43		**WARRANTY AND MAINTENANCE**	
44	9.1	Warranty: 3 years, including all spares and calibration	No Change
45		**DOCUMENTATION**	
46	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided. 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	No Change
47	10.2	List of essential spares and accessories, with their part number and cost;	No Change

48		**Notes**	
49	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
50	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

Name of Equipment :-LABORATORY SHAKER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: It is used to shake/stir samples or mixtures with a rapid and forceful movement and to provide a rapid mixing or to prevent substances comprised of different components from separation or sedimentation because of their different densities.	No Change
3	1.2	Used by clinical department/ward: Diagnostic laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Platform size- 300x300 mm which can take test tubes, slides, blood bottles and flask by spring holder	No Change
6		Single knob selects all operating conditions and quickly	No Change
7		Acceleration circuit to prevent sudden start and stop should be available	No Change
8		Timer 0.1 to 99.9 hours or continuous mode with digital display of RPM and timer desirable	No Change
9		Noiseless operation	No Change
10		Shaking variable speed upto 180 rpm or more with ± 2 rpm accuracy, heavy duty motor and timer	No Change
11	2.2	User Interface: Digital Display for RPM and timer	No Change
12	2.3	Software and/or standard of communication: NA	No Change
13		**PHYSICAL CHARACTERISTICS**	
14	3.1	Dimension (metric) : N/A	No Change
15	3.2	Weight (lbs., kg) : N/A	No Change
16	3.3	Noise (in dBA): Noiseless operation	No Change
17	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
18	3.5	Mobility, portability: Stationary lab installation	No Change
19		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
20	4.1	Power Requirements: 220VAC+-10%, 50 Hz	No Change
21	4.2	Battery operated: No	No Change
22	4.3	Protection: NA	No Change
23	4.4	Power Consumption-To be Specified by vendor	No Change

24		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
25	5.1	Test tube racks.	No Change
26		**Environmental and Departmental Considerations**	
27	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
28	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
29		**STANDARDS AND SAFETY**	
30	7.1	**Certificates (pre- market, sanitary); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
31		**TRAINING AND INSTALLATION**	
32	8.1	Pre-installation requirements: nature, values, quality, tolerance: As specified by manufacturer and compatible electric accessories as per standard Indian set-up.	No Change
33	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
34		Lab In-Charge to affirm completion of installation.	No Change
35	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
36		**WARRANTY AND MAINTENANCE**	
37	9.1	Warranty: 3 years, including all spares and calibration	No Change
38		**DOCUMENTATION**	
39	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation;	No Change

		5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	
40	10.2	List of essential spares and accessories, with their part number and cost;	No Change
41		**Notes**	
42	11.1	Service Support Contact details: Contact details of manufacturer, supplier and local service agent to be provided.	No Change
43	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

12. Name of Equipment :-BINOCULAR MICROSCOPE			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** Microscopic analysis of specimens helps diagnose diseases by looking at cellular morphology and presence of infectious agents and other microscopic structures. Binocular microscope is a microscope that lets the viewer use both eyes as it has 2 eye lenses. The use of double eye pieces microscope reduces the eyestrain and muscular strain that typically results from traditional monocular microscopes.	No Change
3	1.2	**Used by clinical department/ward:** Diagnostic laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Body-Single mold sturdy stand inclined Binocular body 30 °, 360 ° rotatable head without adjusting screws with interpupillary distance of 50-75mm	No Change
6		It should have LED light source with rechargeable battery system	No Change
7		Eyepieces-Highest quality 10 X/20mm wide angle antifungus field eyepiece. One with pointer. Dioptre adjustment must be present on both eye pieces	No Change
8		Objectives-Parfocal, antifungal coated 4x, 10x, 40x and 100x having numerical aperture 0.1, 0.25, 0.60-0.65 and 1.25-1.65 respectively oil immersion objective (100x) should be spring loaded. All objectives should be plan achromatic, antifungal coated infinity and color corrected. Objective should be well centered even if their position on turret is changed	Objectives - Parfocal, antifungal coated 4x,10x,40x and 100x having numerical aperture 0.1,0.25,0.60-0.65and1.25-1.65 respectively oil immersion objective(100x) should be spring loaded.All objectives should be Plan achromatic, antifungal coated infinity,and

			well centered even if their position on turret is changed
9		Condenser, numerical aperture (NA) 1.25 focusable with rack and pinion arrangement incorporating and spherical lens and iris diaphragm. It should have filter holder swing in/out blue filter	Condenser, numerical aperture (NA)1.25 focusable with rack and pinion arrangement
10		System should have built in illumination 3W LED with intensity control with inbuilt protective safety device which with sand fluctuations of voltage from 140 V-280V	No Change
11		LED illumination 3W with intensity control knob >10,000 Hrs. bulb lifespan with battery backup of 1 hrs. and charging indication	No Change
12		Focusing knob should have coaxial coarse and fine focusing knobs. Fine focusing movements should have sensitivity of 2 micron or less, coarse focus with torque adjustment stop safety arrangement should be there	No Change
13		Infinity Optical system Binocular head microscope- Infinity corrected	No Change
14		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 double slide holder	No Change
15		Substage-Abbe condenser focusable, continuously variable iris diaphragm	No Change
16		Illuminator-Built-in LED light source with white light with intensity control and LED life of more than 10, 000 Hrs	No Change
17		Finish-A durable textured acid resistant finish	No Change
18		Nose piece: Backward tilted revolving nose piece suitable to accommodate four objectives with click stop and rubber grip	No Change
19		Focusing: Coaxial, coarse and fine focusing knob, capable of smooth, fine focusing movement sensitivity	No Change
20		minimum: 300 microns; focusing stop for slide safety	No Change
21	2.2	**User Interface**: Manual	No Change
22	2.3	Software and/or standard of communication: NA	No Change
23		**PHYSICAL CHARACTERISTICS**	
24	3.1	Dimension (metric) : NA	No Change
25	3.2	Weight (lbs., kg) : NA	No Change

26	3.3	Noise (in dBA): NA	No Change
27	3.4	Heat Dissipation: NA	No Change
28	3.5	Mobility, portability: Stationary lab installation	No Change
29		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
30	4.1	Power Requirements: 220VAC+-10%, 50 Hz	No Change
31	4.2	Battery operated: No	No Change
32	4.3	Protection: NA	No Change
33	4.4	Power Consumption-To be Specified by vendor/manufacturer	No Change
34		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
35	5.1	Should be provided with wooden storage box, dust cover, immersion oil.	No Change
36		**Environmental and Departmental Considerations**	
37	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
38	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
39		**STANDARDS AND SAFETY**	
40	7.1	**Certificates (pre- market, sanitary); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
41		**TRAINING AND INSTALLATION**	
42	8.1	Pre-installation requirements: nature, values, quality, tolerance: As specified by manufacturer and compatible electric accessories as per standard Indian set-up.	No Change
43	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
44		Lab In-Charge to affirm completion of installation.	No Change
45	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change

46		**WARRANTY AND MAINTENANCE**	
47	9.1	Warranty: 3 years, including all spares and calibration	No Change
48		**DOCUMENTATION**	
49	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
50	10.2	List of essential spares and accessories, with their part number and cost;	No Change
51		**Notes**	
52	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change
53	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

13. Name of Equipment:- FLUORESCENCE LIGHT MICROSCOPE	**Not Required/Deleted**

14. Name of Equipment :-ELISA READER AND WASHER			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: The enzyme-linked immunosorbent assay (ELISA) is a popular format of "wet-lab" analytic solid phase enzyme immunoassay (EIA) to detect the presence of an antigen or antibody, in a liquid clinical specimen.	No Change
3	1.2	Used by clinical department/ward: Analytical laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	The device should be fully automated and easy to operate with 8 and 12 channel manifolds.	The device should be fully/ semi-automated and easy to operate with 8 and 12 channel manifolds.
6		It should be capable to wash flat, round and V bottom plates and strips.	Deleted

7		It should have large display along with more than 40- 50 program storage facility.	No Change
8		System should have calibration facility.	No Change
9		System should have warning/alarm for waste container full, wash bottle empty.	No Change
10		Residual volume after washing should be < 2ul.	Residual volume after washing should be < 3ul.
11		It should have specially designed peristaltic pump to dispense 50 - 400 µl.	No Change
12		It should be supplied with waste bottle, wash bottle and rinse bottle of capacity 2 liters with tubings.	It should be supplied with waste container, wash bottle and rinse bottle of capacity 1-2 liters with tubings
13		It should have option of washing cycles.	
14		Cross wise aspiration, overflow washing, bottom washing. Automatic manifold detection.	No Change
15		Equipment should be un-pressurized, capable of using any bottle or container for washing. It should be suitable for UV & flat bottom micro plate.	No Change
16		Bi-chromatic/Optics with six wavelengths.	No Change
17		Trichromatic Light source.	Trichromatic/Bichromatic
18		Internal Printer with port for external printer.	No Change
19		Should read ELISA Plate Horizontally A to Hand and vertically 1 to 12.	No Change
20		Photometric Accuracy should be ±3%.	No Change
21		Print Out of whole plate in Matrix Format.	No Change
22		Linear measurement range 0 to 4 Absorbance unit.	Linear measurement range 0 to 3.5 Absorbance unit.
23		Interference, filters.	No Change
24		Filters of 405, 450, 492, 630 nm with two extra positions	No Change
25	2.2	**User Interface:** Compatibility with external Printer	No Change
26	2.3	Software and/or standard of communication: NA	No Change
27		**PHYSICAL CHARACTERISTICS**	
28	3.1	Dimension (metric) : NA	No Change
29	3.2	Weight (lbs., kg) : NA	No Change
30	3.3	Configuration: NA	No Change
31	3.4	Noise (in dBA): NA	No Change
32	3.5	**Heat dissipation:** Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism.	No Change
33	3.6	Mobility, portability: Stationary lab installation	No Change
34		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
35	4.1	Power Requirements: 220VAC+-10%, 50 Hz	No Change
36	4.2	Battery operated: Online UPS with minimum 30 minutes back up	No Change
37	4.3	Protection: NA	No Change

38	4.4	Power Consumption-To be Specified by vendor	No Change
39		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
40	5.1	Paper rolls for printer- 10 nos.	No Change
41		Online UPS for minimum 30 minutes back up	No Change
42		**Environmental and Departmental Considerations**	
43	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C (minimum range) and relative humidity of 30 to 90% in ideal circumstance.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
44	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
45		**STANDARDS AND SAFETY**	
46	7.1	**Certificates (pre-market, sanitary, ...); Performance and safety standards (specific to the device type); Local and/or international**1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
47		**TRAINING AND INSTALLATION**	
48	8.1	Pre-installation requirements: nature, values, quality, tolerance: Availability of online UPS with at least 30 minutes back up and compatible electric accessories as per standard Indian set- up.	No Change
49	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
50		Lab In-Charge to affirm completion of installation.	No Change
51	8.3	Training of users in operation and basic maintenance shall be provided on installation.	No Change
52		**WARRANTY AND MAINTENANCE**	
53	9.1	Warranty: 3 years, including all spares and calibration	No Change
54		**DOCUMENTATION**	
55	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and	No Change

		Copy) to be provided; 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	
56	10.2	List of essential spares and accessories, with their part number and cost;	No Change
57		**Notes**	
58	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change
59	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

15. Name of Equipment :-LABORATORY REFRIGERATOR, BASIC			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Laboratory refrigerators are used to maintain the cold temperatures required for the storage of samples, specimens, cultures, and other laboratory preparations.	No Change
3	1.2	Used by clinical department/ward: Clinical Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Should be Vertical and single door	Should be Vertical and single/Double door, with convertible freezer compartment
6		Internal volume capacity minimum 340L (up to 450L) with minimum 5 shelves	No Change
7		Temperature range: adjustable range between 2°C-12°C ± 1°C	Temperature range: adjustable range between 2°C-8°C ± 1°C
8		Digital temperature indicator cum controller	No Change
9		Audio & Visual alarm for temperature excursions	No Change
10		Should be frost free	No Change
11		Should be CFC free	No Change
12	2.2	User Interface: Display display for temperature	No Change
13	2.3	Software and/or standard of communication: NA	No Change
14		**PHYSICAL CHARACTERISTICS**	
15	3.1	Dimension (metric) : NA	No Change
16	3.2	Weight (lbs., kg) : NA	No Change
17	3.3	Noise (in dBA): NA	No Change
18	3.4	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism.	No Change
19	3.5	Mobility, portability: NA	No Change
20		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	

21	4.1	Power Requirements: 220+-10% VAC, 50 Hz	No Change
22	4.2	Battery operated: No	No Change
23	4.3	Protection: Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings.	No Change
24	4.4	Power Consumption-To be Specified by vendor	No Change
25		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
26	5.1	Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings.	No Change
27		**Environmental and Departmental Considerations**	
28	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
29	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
30		**STANDARDS AND SAFETY**	
31	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international.** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards.	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards.
32		**TRAINING AND INSTALLATION**	
33	8.1	Pre-installation requirements: nature, values, quality, tolerance: As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
34	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
35		Local clinical staff to affirm completion of installation.	No Change
36	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
37		**WARRANTY AND MAINTENANCE**	
38	9.1	Warranty: 3 years, including all spares and calibration	No Change
39		**DOCUMENTATION**	

40	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	No Change
41	10.2	List of essential spares and accessories, with their part number and cost;	No Change
42		**Notes**	
43	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change
44	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

16. Name of Equipment :-DEEP FREEZER (-20 DEG C)			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Deep freezers are used to store samples, reagents & kits, reference materials at low temperature.	No Change
3	1.2	Used by clinical department/ward: Diagnostic laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Type of Insulation: PUF/polystyrene	No Change
6		Frost Free: Yes	No Change
7		Type of Cooling: Direct	No Change
8		Castor: Heavy Duty Lockable	No Change
9		Capacity: 250 L or higher	No Change
10		Shelves/ Drawers: Sealed 5-7 pullout drawers / shelves of different sizes that can be adjusted for storage flexibility	No Change
11		Material of Chamber Interior: Stainless steel, preferably 304 grades	No Change
12		Material of Chamber Exterior: Stainless steel, preferably 304 grades	No Change
13		Door Material: Stainless steel, preferably 304 grades	No Change
14		Finish: Powder coated exterior finish	No Change
15		Temperature Range: - 10 °C to -20°C	No Change

16		Temperature Uniformity in Degree Celsius: ±3°C or less	No Change
17		Temperature Stability of System in Degree Celsius: ±3°C	No Change
18		High Quality Door Seals	No Change
19		Lockable Outer and Inner Lids	No Change
20		Fully programmable microprocessor controlled with membrane keypad and eye level control panel	No Change
21		Easy to read, LED/LCD control panel and alarm status with integrated diagnostics	No Change
22		**Acoustic Safety alarms:** Should be equipped with for High/low temperature, door ajar and malfunction alarms, sudden power failure, system failure and battery low	No Change
23		**Temperature History:** Data logger for temperature and temperature history which can be downloaded via a USB port	No Change
24		CFC-Free, HCFC-Free non-inflammable refrigerants.	No Change
25	2.2	User Interface: LED/LCD Control panel	No Change
26	2.3	Software and/or standard of communication: NA	No Change
27		**PHYSICAL CHARACTERISTICS**	
28	3.1	Dimension (metric) : NA	No Change
29	3.2	Weight (lbs., kg) : NA	No Change
30	3.3	Noise (in dBA): NA	No Change
31	3.4	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through a cooling mechanism.	No Change
32	3.5	Mobility, portability: Stationary lab installation	No Change
33		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
34	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
35	4.2	Battery operated: No	No Change
36	4.3	Protection: Voltage stabilizer	No Change
37	4.4	Power Consumption-To be Specified by vendor	No Change
38		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
39	5.1	Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system): NA	No Change
40		**Environmental and Departmental Considerations**	
41	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances

42	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
43		**STANDARDS AND SAFETY**	
44	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case ofnon- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case ofnon-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
45		**TRAINING AND INSTALLATION**	
46	8.1	Pre-installation requirements: nature, values, quality, tolerance: As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
47	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
48		Lab In-Charge to affirm completion of installation	No Change
49	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
50		**WARRANTY AND MAINTENANCE**	
51	9.1	Warranty: 3 years, including all spares and calibration	No Change
52		**DOCUMENTATION**	
53	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
54	10.2	List of essential spares and accessories, with their part number and cost;	No Change
55		**Notes**	
56	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change

57	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

17. Name of Equipment :- DEEP FREEZER (-80 DEG C)	Not Required/Deleted

18. Name of Equipment :-VERTICAL AUTOCLAVE (for Sterilization/Disinfection) – 100L			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	**Audio- visual Alarm facility available for notifying:** Temperature Sensor with Range 100°C To 300°C, Unit Should Be Provided with A Low Water Alarm System as Well as Steam Release Valves and Safety Valves, Cut Off Automatically When the Autoclave Is Dry	**Audio- visual Alarm facility available for notifying:** Temperature Sensor range +123°C Unit Should Be Provided with A Low Water Alarm System as Well as Steam Release Valves and Safety Valves, Cut Off Automatically When the Autoclave Is Dry
2	1.2	**Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede the normal warranty in the catalog) (A)** 3.0	No Change
3	1.3	**Working Pressure of Chamber** 15.0	**Working Pressure of Chamber** 15.0 PSI
4	1.4	**Door sealing** By Elastomeric Rubber Gasket Suitable to Withstand Temperature Up to 140 Degree C & Pressure Up to 20-30 Psi By Neoprene Rubber Gasket	Door sealing Elastomeric Rubber Gasket Withstand Temperature Up to 121°C Degree C & Pressure Up to 17 Psi With Neoprene Rubber Gasket
5	1.5	**Type of Sterilizer Chamber Door** Heavy Duty SS 304, Hinged Door	No Change
6	1.6	**Sterilizer Chamber Type** Circular	No Change
7	1.7	**Sterilizer chamber capacity in L (usable volume)** 100L	No Change
8	1.8	**Accessories** Manual Water Filling & Removal, Water Inlet & Outlet Valves, Water Level Indicator, Automatic Pressure Control Switch, The Unit Have Heater Fitted at The Bottom and With Capacity of More Than 3 KW	No Change

9	1.9	**Working Temperature (C)** 121.0	No Change
10	1.10	**Range of Pressure Gauge** 30.0	**Range of Pressure Gauge** 30.0 PSI
11	1.11	**Compliance of Chamber** Chamber Pressure Equipment Directives (PED), EN 13445 norms	No Change
12	1.12	**Quality Compliance available for quality systems** EN ISO 13485:2003	No Change
13	1.13	**Quality standards & certification-** EUCE notified body with 4-digit number/USFDA	No Change
14	1.14	**Manufacturing standard** ISO 9001, IEC-13485	No Change

19. Name of Equipment :-VORTEX MIXER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: A vortex mixer, or vortexer, is a simple device used commonly in laboratories to mix small vials of liquid. It consists of an electric motor with the drive shaft oriented vertically and attached to a cupped rubber piece mounted slightly off-center. As the motor runs the rubber piece oscillates rapidly in a circular motion.	No Change
3	1.2	Used by clinical department/ward: Clinical laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Should have speed range of 0-300 rpm	No Change
6		Should have orbital type movement	No Change
7		Should have a heavy metal base with rubber feet	No Change
8		Should have variable speed control	No Change
9		Should have choice of continuous operation and touch activated operation.	No Change
10		Low speed operation should be possible in touch activated operation.	No Change
11		Should have attachments for flask, test tube and 1.5ml tubes.	No Change
12	2.2	User Interface: Manual	No Change
13	2.3	Software and/or standard of communication: NA	No Change
14		**PHYSICAL CHARACTERISTICS**	
15	3.1	Dimension (metric) : NA	No Change
16	3.2	Weight (lbs., kg) : NA	No Change
17	3.3	Noise (in dBA): Noise pressure level: ≤60 dbA.	No Change
18	3.4	Heat Dissipation: NA	No Change

19	3.5	Mobility, portability: Portable	No Change
20		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
21	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
22	4.2	Battery operated: No	No Change
23	4.3	Protection: NA	No Change
24	4.4	Power Consumption-To be Specified by Vendor	No Change
25		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
26	5.1	Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system): NA	No Change
27		**Environmental and Departmental Considerations**	
28	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
29	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
30		**STANDARDS AND SAFETY**	
31	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international.** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards.	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards.
32		**TRAINING AND INSTALLATION**	
33	8.1	Pre-installation requirements: nature, values, quality, tolerance: As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
34	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
35		Local clinical staff to affirm completion of installation.	No Change
36	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
37		**WARRANTY AND MAINTENANCE**	
38	9.1	Warranty: 3 years, including all spares and calibration	No Change
39		**DOCUMENTATION**	

40	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	No Change
41	10.2	List of essential spares and accessories, with their part number and cost;	No Change
42		**Notes**	
43	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change
44	11.2	Recommendations or Warnings: Any warning signs would be adequately displayed.	No Change

20. Name of Equipment :-URINE ANALYSER IVD, LABORATORY			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	Clinical Purpose: Used in biochemical labs for identification of specific bio- chemical marker in urine like Glucose, Ketones proteins pH etc. in clinical conditions like Diabetes, Renal failure Acidosis etc.	No Change
3	1.2	Used by clinical department/ward: Clinical Pathology Laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Should be able to analyses multiple Parameters: Leucocytes, Nitrite, Urobilinogen, Protein, pH, Blood Specific, gravity, Ketones, Bilirubin, Glucose	No Change
6		Should be portable, fully automated integrated urine analyzer.	Should be portable, fully/Semi automated integrated urine analyzer.
7		Should have 4 nos. of wavelength positions ranging from 520 – 660 nm.	Should have 3 or more nos. of wavelength positions ranging from 450 – 680 nm
8		Should have a throughput of minimum 100 samples / hour.	Should have a throughput of minimum 60 samples / hour.
9		Random access for individual samples	No change
10		Memory: patient test results minimum 1000 and QC test results: 50.	Memory: patient test results minimum 500 and QC test results: 50.
11		Provision for report printing	No Change

12		QC should be based on test parameters.	No Change
13		Provision for bi-directional LIS interface should be available.	Provision for LIS interface should be available.
14		Provision for Bar Code/QR code reading should be available.	No Change
15		The equipment should have in-built digital display unit and PC interface facility	The equipment should have in-built digital display unit or PC interface facility
16	2.2	User Interface: Display: touch-screen LCD	No Change
17	2.3	Software and/or standard of communication: Inbuilt / Should have interface for output to printer or transmitted to LIS / HIS.	No Change
18		**PHYSICAL CHARACTERISTICS**	
19	3.1	Dimension (metric) : NA	No Change
20	3.2	Weight (lbs., kg) : NA	No Change
21	3.3	Noise (in dBA): NA	No Change
22	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
23	3.5	Mobility, portability: Stationary Lab Installation	No Change
24		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
25	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
26	4.2	Battery operated: Yes	No Change
27	4.3	Protection: Internal electrical safety	No Change
28	4.4	Power Consumption-To be Specified by manufacturer	No Change
29		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
30	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)** 1) Thermal Paper 10 rolls. 2) 1000 test strips to be provided. 3) Calibration strip 2.	No Change
31		**Environmental and Departmental Considerations**	
32	6.1	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
33	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
34		**STANDARDS AND SAFETY**	

35	7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
36		**TRAINING AND INSTALLATION**	
37	8.1	Pre-installation requirements: nature, values, quality, tolerance: As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
38	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
39		Lab In-Charge to affirm completion of installation	No Change
40	8.3	Training of users in operation and basic maintenance shall be provided on installation.	No Change
41		**WARRANTY AND MAINTENANCE**	
42	9.1	Warranty: 3 years, including all spares and calibration	No Change
43		**DOCUMENTATION**	
44	10.1	Should provide 2 sets (hardcopy and soft copy) of: 1) User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams. 2) List of equipment and procedures required for local calibration and routine maintenance. 3) Service and operation manuals (original and copy) to be provided. 4) Advanced maintenance tasks documentation. 5) Certificate of calibration and inspection;	No Change
45	10.2	List of Important spares and accessories, with their part number and cost;	No Change
46		**Notes**	
47	11.1	Service Support Contact details : Contact details of manufacturer, supplier and local service agent to be provided.	No Change
48	11.2	Recommendations or Warnings: Any warning signs should be adequately displayed.	No Change

21. Name of Equipment :-ELECTRONIC ANALYTICAL BALANCE			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	

2	1.1	**Clinical Purpose:** Used in biochemical labs for identification of specific bio- chemical marker in urine like Glucose, Ketones proteins pH etc. in clinical conditions like Diabetes, Renal failure Acidosis etc.	No Change
3	1.2	**Used by clinical department/ward:** Clinical Pathology Laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Should have automatic calibration program.	No Change
6		Should have automatic zero setting.	No Change
7		Should have stability indicator.	No Change
8		Should have single weighing mode.	No Change
9		Should have capacity range from 0.1 mg to 210g.	No Change
10		Should have readability 0.00001g.	No Change
11		Should have repeatability (std dev) 0.000015g.	Should have repeatability (std. dev) 0.000025g.
12		Should have linearity +/- 0.00002g.	No Change
13		Should have stabilization time 3 seconds.	No Change
14		Leveling should be Automatic.	No Change
15		High resolution color touch screen.	Deleted
16	2.2	**User Interface:** Digital Display	No Change
17	2.3	**Software and/or standard of communication:** NA	No Change
18		**PHYSICAL CHARACTERISTICS**	
19	3.1	Dimension (metric) : NA	No Change
20	3.2	Weight (lbs., kg) : NA	No Change
21	3.3	Noise (in dBA): NA	No Change
22	3.4	Heat Dissipation: NA	No Change
23	3.5	Mobility, portability: Portable	No Change
24		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
25	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
26	4.2	Battery operated: Yes	No Change
27	4.3	Protection: NA	No Change
28	4.4	Power Consumption-To be Specified by vendor	No Change
29		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
30	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** 1. Balance table with vibration bumpers, preferably granite isolator. 2. Protective dust cover. 3. Optional: Weighing scoop, 90 mm, stainless steel.	No Change
31		**Environmental and Departmental Considerations**	No Change

32	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
33	6.2	As indicated by Manufacturer.	No Change
34		**STANDARDS AND SAFETY**	
35	7.1	**Certificates (pre-market, sanitary, ..); Performanceand safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
36		**TRAINING AND INSTALLATION**	
37	8.1	**Pre-installation requirements: nature, values, quality, tolerance**:As specified by manufacturer and standard electrical accessories as per Indian set-up.	No Change
38	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
39		Local clinical staff to affirm completion of installation.	No Change
40	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
41		**WARRANTY AND MAINTENANCE**	
42	9.1	Warranty: 3 years, including all spares and calibration	No Change
43		**DOCUMENTATION**	
44	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	No Change
45	10.2	List of essential spares and accessories, with their part number and cost.	No Change
46		**Notes**	

47	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
48	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change

22. Name of Equipment :-FORCED-AIR LABORATORY OVEN			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** It is used for laboratory procedures that involve drying, heating, and sterilizing objects.	No Change
3	1.2	**Used by clinical department/ward:** Clinical Laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
1	2.1	Thermostatically controlled, temperature range ambient to 250°C with fine and coarse adjustment, with fan, digital display	No Change
2		Volume of interior housing: Approx.- 180-400 liters	No Change
3		Housing: preferably stainless steel	No Change
4		Heat and Corrosion resistant, good quality, durable	No Change
5		Metal housing care	No Change
6		Stainless steel (SS-304) interiors with supports on three sides, adjustable slots and removable three shelves	No Change
7		Fan convection to ensure uniform temperature, fitted with load indicator and safety thermostat take over indicator lamp	No Change
8		Built-in timer with temperature control for to set the sterilization cycle	No Change
9		Temperature variation +/-1 deg C, LCD/LED indicator	No Change
14	2.2	**User Interface:** Digital Display	No Change
15	2.3	**Software and/or standard of communication:** NA	No Change
16		**PHYSICAL CHARACTERISTICS**	No Change
17	3.1	Dimension (metric) : NA	No Change
18	3.2	Weight (lbs., kg) : NA	No Change
19	3.3	Noise (in dBA): NA	No Change
20	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism	No Change
21	3.5	Mobility, portability: Stationary Installation	No Change
22		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	

23	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
24	4.2	Battery operated: No	No Change
25	4.3	Protection: Internal Electrical Safety	No Change
26	4.4	Power Consumption-To be Specified by manufacturer	No Change
27		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
28	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):**Racks with different sizes, Gloves different sizes, Mercury Thermometer.	No Change
		Environmental and Departmental Considerations	
10	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
11	6.2	As specified by manufacturer	No Change
32		**STANDARDS AND SAFETY**	
33	7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case ofnon- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case ofnon- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
34		**TRAINING AND INSTALLATION**	
35	8.1	**Pre-installation requirements: nature, values, quality, tolerance**:As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
36	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
37		Local clinical staff to affirm completion of installation.	No Change
38	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
39		**WARRANTY AND MAINTENANCE**	
40	9.1	Warranty: 3 years, including all spares	No Change
41		**DOCUMENTATION**	
42	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with	No Change

		machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Certificate of calibration and inspection, 5. Satisfactory certificate for any existing installation from government hospital.	
43	10.2	List of essential spares and accessories, with their part number and cost.	No Change
44		**Notes**	
45	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
46	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change

23. Name of Equipment :-HOT PLATES			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** Tabletop devices designed to heat substances (i.e., solid, liquids) in containers placed on them. These devices typically consist of a flat surface that is heated by electrically powered heating coils or, less frequently, by gas-fueled flames. Hot plates are available in single-, double-, and multiple-burner configurations; they are intended for a variety of uses such as laboratory warming/heating of solutions (typically in glassware containers), nurse station procedures.	No Change
3	1.2	**Used by clinical department/ward:** Clinical Laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Heating range 40-110 degree C, 220 volts with temperature controller.	No Change
6		Top plate should be either ceramic or aluminum, chemical and scratch resistance	No Change
7		Heating Surface area should be at least 400 cm^2	No Change
8		Spill trough to deflect spills away from electronic and control knobs with LCD/LED indicator, hot indicator light whenever hot plate is above 50 degrees.	No Change
9	2.2	**User Interface:** Control knobs with LCD/LED indicators	No Change
10	2.3	**Software and/or standard of communication:** NA	No Change
11		**PHYSICAL CHARACTERISTICS**	
12	3.1	Dimension (metric) : 1 ft X 1 ft	No Change

13	3.2	Weight (lbs., kg) : NA	No Change
14	3.3	Noise (in dBA): NA	No Change
15	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism	No Change
16	3.5	Mobility, portability: Portable	No Change
17		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
18	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
19	4.2	Battery operated: No	No Change
20	4.3	Protection: NA	No Change
21	4.4	Power Consumption-To be Specified by vendor	No Change
22		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
23	5.1	**Accessories,(mandatory, standard, optional);Spare parts (mainones); Consumables/reagents (open, closed system** Set of Heating & cooling element (Twoin number)	Remove
24		**Environmental and Departmental Considerations**	
25	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
26	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
27		**STANDARDS AND SAFETY**	
28	7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
29		**TRAINING AND INSTALLATION**	
30	8.1	**Pre-installation requirements: nature, values, quality, tolerance**: Standard electrical accessories as per Indian set-up.	No Change
31	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
32		Local clinical staff to affirm completion of installation.	No Change

33	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
34		**WARRANTY AND MAINTENANCE**	
35	9.1	Warranty: 3 years, including all spares	No Change
36		**DOCUMENTATION**	
37	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
38	10.2	List of essential spares and accessories, with their part number and cost.	No Change
39		**Notes**	
40	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
41	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change

24. Name of Equipment :-COMPUTER WITH SCANNER PRINTER			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
	1	**Desktop Computer**	
1	1.1	Processor- Intel core i3-10th Generation or latest configuration/AMD equivalent latest configuration, 6MB or higher Cache	No Change
2	1.2	Chipset- Compatible Set configuration OEM Mother board	No Change
3	1.3	Memory- 8GB DDR4 or latest configuration RAM with expandability up to 32GB with 1 free slot after population	No Change
4	1.4	Hard Disk Drive- 1TB SATA 7200rpm	No Change
5	1.5	Monitor- 47cm or larger (19.5inch or larger) TFT/LED Digital colour monitor TCO-8.0 or higher certified	No Change
6	1.6	Keyboard- 104 keys with USB interface	No Change
7	1.7	Mouse- Optical with USB interface	No Change

8	1.8	Ports- 8 USB ports or more out of which minimum4 Should be version 3.1 (with minimum 4 USB ports in the front) 1 Display port or VGA and HDMI port	No Change
9	1.9	Cabinet- Mini tower/Small form factor	No Change
10	1.10	Ethernet- 100/1000 on-board integrated network Port with remote booting facility remote system installation	No Change
11	1.11	Operating system- Preloaded MS windows 10, 64 Bit Professional from OEM	No Change
12	1.12	Productivity Tool- Liber office opensource	No Change
13	1.13	Certification- Windows Certified, Linux certified, linux compatible - Energy star certified/EPEAT registered/BIS certified	No Change
14	1.14	Power Management- Screen Blanking, Hard Disk and system idle mode in power on, set up password, Power supply SMPS surge protected power management with 90% efficacy or better	No Change
15	1.15	Antivirus software- Desktop Antivirus with internet security latest version with free updates for 3 years onsite. Note: Antivirus should not default provided by operating system provider	No Change
16	1.16	Warranty- 3 Years onsite	No Change
	2	**Mono Laser Printer (Automatic Duplex)**	
17	2.1	Recommended Monthly print volume- 1500 or above	No Change
18	2.2	Duty Cycle (Monthly, A4)- 5000 or above	No Change
19	2.3	Processor speed- 256MHz or above	No Change
20	2.4	Memory- 64Mb or above	No Change
21	2.5	Toner Technology- Composite Toner	No Change
22	2.6	Print Speed- A4:25 ppm or above in simplex	No Change
23	2.7	Duplex printing- Automatic Duplex printing	No Change
24	2.8	Print resolution- 600 x 600 dpi or better	No Change
25	2.9	Input Tray- 150 sheets or above	No Change
26	2.10	Output Tray- 100 Sheets or above	No Change
27	2.11	Multi-purpose Tray- 1 sheet or above	No Change
28	2.12	Paper Sizes- A4, B5, A5, legal, Letter, Executive and Envelope	No Change
29	2.13	Paper types- Palin paper, transparency, Label, Envelope, Index card, Cardstock, Postcard	No Change
30	2.14	Interface- Printing with USB 2.0 High speed Ethernet and wireless	No Change

31	2.15	Operating systems support- Windows 8.X(32/64 bit), Windows 10 (32/64bit), Linux or lates	No Change
32	2.16	Operating Temperature- 15 deg C to 40 deg C	No Change
33	2.17	Power- 220-240V, 50/60Hz	No Change
34	2.18	Accessories- Should be supplied with power chord (Indian), USB Connector	No Change
35	2.19	Certification- RoHS compliant, Energy star/EPEAT India/UL/BIS	No Change
36	2.20	Warranty- 3 Years onsite	No Change
	3	**Barcode writer/printer**	
37	3.1	Print Method- Thermal, Transfer approx., more than 6 months viability); wax ribbon type; normal paper/label2	No Change
38	3.2	Resolution- 203 dpi (8 dots/mm)	No Change
39	3.3	Print Speed- 5IPS and above	No Change
40	3.4	Print Width- 4.09” (104 mm) or above	No Change
41	3.5	Print Length- Max. 1000 mm or higher	No Change
42	3.6	Processor- 32-bit RISC CPU or better	No Change
43	3.7	Processor speed- 350MHz or higher	No Change
44	3.8	Memory- 8MB flash Drive (4MB for user storage)/ 64 MB SDRAM or Higher	No Change
45	3.9	Sensor Type- Adjustable reflective sensor, fixed trans massive sensors	No Change
46	3.10	Ribbon Types- Should support ribbon type of 300 meters on 1” core. 1:4 one ribbon roll per 4 rolls of media (300 meter)	No Change
47	3.11	Power- Auto-switching 110-240v AC, 50-60Hz	No Change
48	3.12	Interface Types- USB, Serial and Parallel	No Change
49	3.13	Warranty- 3 Years onsite	No Change
50	3.14	Compliance- BIS	No Change
51	3.15	Environmental Spec- Should operate in 40-Degree F/ 5-degree C-105 Degree F/41-degree C 20% to 90% non-condensing R.H	No Change
	4	**Barcode reader**	
52	4.1	Interface Types- USB	No Change
53	4.2	Indicator Buzzer- Programmable Tone	No Change
54	4.3	Indicator LED- For Good read	No Change
55	4.4	Power Consumption- 55mA¬120mA(max) or better	No Change

56	4.5	Light Source- Optical-Red LED (610nm-640nm)	No Change
57	4.6	Resolution- Up to 4 mil scannable from Min. 10” inch	No Change
58	4.7	Processor- Intel 80C3I or equivalent	No Change
59	4.8	Scanning engine- 100scans/sec or higher	No Change
60	4.9	Warranty- 3 Years onsite	No Change
61	4.10	Certification- BIS	No Change
62	4.11	Print Contrast- Min 20% and above	No Change
63	4.12	Ambient Light immunity- Should be operational in 3000 lux to 5000 lux	No Change
64	4.13	OEM service center- Should have authorised service centre in Bihar	No Change

25. Name of Equipment :-INCUBATOR			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** Incubators designed to provide the appropriate environmental conditions (e.g., temperature, humidity, gas concentration) necessary for long-term laboratory tests or procedures.	No Change
3	1.2	**Used by clinical department/ward:** Clinical Laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Inner chamber made up of Stainless steel make of SS-304 grade, full length inner acrylic security glass door.	No Change
6		Inner Chamber Capacity: Minimum 120 L	No Change
7		Heat and Corrosion resistant, good quality durable metal housing care.	No Change
8		Triple wall with special grade glass wool insulation.	No Change
9		Temperature range, ambient to 80°C, ±0.1°C resolution.	No Change
10		Controller/Digital indicator for Temperature and time.	No Change
11		Adjustable over-temperature protection controller to ensure that the Incubator does not go beyond the set temperature automatically gets cutoff after attaining the set temperature.	No Change

12		Programs stored on power failure so that when power is restored, equipment continues to function on the previous program.	No Change
13	2.2	**User Interface:** Digital Display	No Change
14	2.3	**Software and/or standard of communication:** NA	No Change
15		**PHYSICAL CHARACTERISTICS**	
16	3.1	Dimension (metric) : Inner Chamber Capacity: Minimum 120 L	No Change
17	3.2	Weight (lbs., kg) : NA	No Change
18	3.3	Noise (in dBA): NA	No Change
19	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism	No Change
20	3.5	Mobility, portability: Stationary lab installation	No Change
21		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
22	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
23	4.2	Battery operated: No	No Change
24	4.3	Protection: Internal Electrical Safety	No Change
25	4.4	Power Consumption-To be Specified by vendor	No Change
26		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
27	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** Gloves different sizes. 2 or 3 shelves made of stainless steel	No Change
28		**Environmental and Departmental Considerations**	
29	6.1	Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
30	6.2	Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover	No Change
31		**STANDARDS AND SAFETY**	
32	7.1	**Certificates (pre-market, sanitary, ..); Performanceand safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General

			requirements of Electrical Safety Standards
33		**TRAINING AND INSTALLATION**	
34	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
35	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
36		Local clinical staff to affirm completion of installation.	No Change
37	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
38		**WARRANTY AND MAINTENANCE**	
39	9.1	Warranty: 3 years, including all spares	No Change
40		**DOCUMENTATION**	
41	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
42	10.2	List of essential spares and accessories, with their part number and cost.	No Change
43		**Notes**	
44	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
45	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change

26. Name of Equipment :-DIGITAL THERMOMETER			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Features: Wide temperature range Stainless steel probe Auto power off °F/°C switch Plastic sheath with metal pocket clip	No Change
2	1.2	Measurement Range: -58° to 302°F (-50° to 150°C)	No Change
3	1.3	Measurement Accuracy: ±1.8°F (±1°C) between -4° and 248°F (-20° and 120°C); ±3.6°F (±2°C) elsewhere	No Change

4	1.4	Measurement Resolution: 0.1° (F or C)	No Change
5	1.5	Probe Length: 8.38 in. (213mm)	No Change
6	1.6	Response Time: 1 second	No Change
7	1.7	Auto Power Off Trigger: 1 hour of front-panel inactivity	No Change
8	1.8	Operating Temperature: 14° to 122°F (-10° to 50°C)	No Change
9	1.9	Power Source: 1 “LR44” battery (included)	No Change

27. Name of Equipment :-NEEDLE DESTROYER			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Should have lightweight portable and compact.	No Change
2	1.2	Housing should be molded type, shock Proof and made of ABS powder costed Stainless steel 304 grade.	No Change
3	1.3	Should provide removable discharge tray made for easy disposal of syringe hubs.	No Change
4	1.4	Should have the provision to burn the needle and to cut the syringe tip.	No Change
5	1.5	Should have the hardened Steel plate to cut the syringe.	No Change
6	1.6	Should be able to destroy needle of type up to 18 G.	No Change
7	1.7	Should be able to destroy minimum of 5 injections on continuous operation.	No Change
8	1.8	Should a heavy-duty transformer and work on 220 – 240 vac/50 Hz electric.	No Change

28. Name of Equipment :-NEUBAUER’S COUNTING CHAMBER			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Inside cell of Chamber: An area of 9 Sq. mm (3x3 sq.mm) divided into 9 squares of one mm side by means of triple lines. The central small square is further divided by triple lines into 5x5 = 25 smaller squares each with side 1/5 of a mm. Each of the squares is further divided into 4 x 4 = 16 smallest squares with side equal to one twentieth of a mm. Thus, Dimension of individual cell of 0.05 x 0.05 = 0.0025 mm2	No Change
2	1.2	Gap between cover: 0.1 mm. Slip and grid area	No Change
3	1.3	Pipettes: RBC and WBC pipettes	No Change

4	1.4	Accessories: Rubber suckers for RBC & WBC pipettes	No Change
5	1.5	Cover slips: 22 x 25 mm one box	No Change
6	1.6	Wooden Box: Inside dimensions approx. 100 x 175 x 30 mm	No Change
7		**Accessories, spares and consumables**	
8	2.1	Additional two RBC & WBC pipettes each with every Neubauer Chamber.	No Change
9		**Standards and Safety**	
10	3.1	Manufacturer should be ISO certified for quality standards.	No Change

29. Name of Equipment :-HIGH PERFORMANCE LIQUID CHROMATOGRAPHY ANALYSER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** It is used for the qualitative and quantitative invitro screening and identification of HbA1c, Thalassemia and other Hemoglobinopathies in clinical specimen based on High Performance Liquid Chromatography (HPLC) technology. Pressurized liquid solution containing clinical sample of consideration is made to pass through a narrow column containing column fillings to separate components based on their chemical/physical properties while interacting with column filling. Subsequently substances exiting the column are detected and identified electronically or spectrometrically	Deleted
3	1.2	**Used by clinical department/ward:** Hematology laboratory and Blood Bank	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	It should be able to screen and quantitate Hb A2, Hb A, Hb F, and Hb A1c hemoglobin, in addition to that it should also be able to identify prevalent abnormal hemoglobin's like Hb S, Hb D, Hb E, Hb C, Hb Q-India etc. and other rare abnormal hemoglobin.	It should be able to screen and quantitate Hb A2,Hb A, Hb F, and Hb A1c hemoglobin, in addition to that it should also be able to identify prevalent abnormal hemoglobin's like Hb S, Hb D, Hb E & Hb C.
6		System should be able to load a minimum of 10 samples at a time.	No Change
7		Time of analysis per sample should not be more than 8 minutes.	No Change

8		Should provide two level controls for Hb A2, Hb F and Hb S and provide quality control program to help compare results with similar users.	No Change
9		The system should have a feature of rack & sample position identification to avoid error in case of faulty barcode/QR code reader.	No Change
10		The system should have a visible alarm system for low buffer level in mobile phase reservoirs, low level of cartridge injection and overfill of the waste tank, and a built-in calibration failure alarm.	No Change
11		The waste tank should be sufficiently large, to reduce frequent user interference	No Change
12		The System should be NGSP (National Glycohemoglobin Standardization Program) Certified and verifiable to IFCC reference method.	Deleted
13		The system should offer both NGSP & IFCC value reporting on the same patient report, control & calibrator report.	No Change
14		QC should be based on test parameters.	No Change
15		Provision for bi-directional LIS interface should be available.	No Change
16		Provision for Bar Code/QR code reading should be available. The equipment should have in-built digital display unit and PC interface facility.	Provision for Bar Code/QR code reading should be available. The equipment should have in-built digital display unit or PC interface facility.
17	2.2	**User Interface:** Digital Display	No Change
18	2.3	**Software and/or standard of communication:** 1. Graphical and user-friendly design of the software. 2. Software should be able to control all modules of the HPLC system	No Change
19		**PHYSICAL CHARACTERISTICS**	
20	3.1	Dimension (metric) : NA	No Change
21	3.2	Weight (lbs., kg) : NA	No Change
22	3.3	Noise (in dBA): NA	No Change
23	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism	No Change
24	3.5	Mobility, portability: Stationary lab Installation	No Change
25		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
26	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
27	4.2	Battery operated: Online UPS with minimum one-hour backup.	No Change
28	4.3	Protection: Internal Electrical Protection	No Change
29	4.4	Power Consumption-As per Manufacturer/Supplier specified	No Change

30		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
31	5.1	**Accessories, (mandatory,Standard, operational);Spare parts (main ones)Consumable/reagents(open, closed system)**1. Equipment should be provided with Online UPS with at least one-hour backup.2. Basic required repair tools and spare parts for regularmaintenance needs to be provided.3. Color Laser Jet Printer with Scanner4. A Computer system with latest configuration (i5 processor with 3.2 GHz processor, 8 Gb RAM, 1 Tb hard disc, or better) and with operating system compatible with the dedicated software should be provided along with the system.5. All consumables including controls, calibrators, regents etc. required for testing of 100 HbA1C & 100HbVariants analysis.	1. Equipment should be provided with Online UPS with at least one-hour backup.2. Basic required repair tools and spare parts for regularmaintenance needs to be provided.3. Color Laser Jet Printer with Scanner4. A Computer system with latest configuration (i5 processor with 3.2 GHz processor, 8 Gb RAM, 1 Tb hard disc, or better) and with operating system compatible with the dedicated software should be provided along with the system.5. All consumables including controls, calibrators, regents etc. required for testing of 100 HbA1C & 100HbVariants analysis.
32		**Environmental and Departmental Considerations**	
33	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust ...):** Optimally functional within the temperature range of 15- 40 ° C and relative humidity between 15 % to 90 %	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
34	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** As indicated by Manufacturer	No Change
35		**STANDARDS AND SAFETY**	
36	7.1	**Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards

37		**TRAINING AND INSTALLATION**	
38	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
39	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
40		Lab In-Charge to affirm completion of installation.	No Change
41	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
42		**WARRANTY AND MAINTENANCE**	
43	9.1	Warranty: 3 years, including all spares and calibration.	No Change
44		**DOCUMENTATION**	
45	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
46	10.2	List of essential spares and accessories, with their part number and cost.	No Change
47		**Notes**	
48	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
49	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change
50		Item - HIGH PERFORMANCE LIQUID CHROMATOGRAPHY ANALYSER IVD	No Change

30. Micropipette 0.1-2 µl, multi-Channel pipette (Octa pipette) 120-1200 µl	**Not Required/Deleted**

31. Name of Equipment :- Micropipette 1- 10µl, Micropipette 5-50 µl, Micropipette 50-200 µl, A2:D21Micropipette 200- 1000µl,			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USES**	
2	1.1	Microliter pipettes are used for molecular biology procedures; a set of different volumes is required such as micropipette 0.1-2 µl, Micropipette 1- 10µl, Micropipette 5-50 µl Micropipette 50-200 µl,	Microliter pipettes are used for molecular biology procedures; a set of different volumes is required such as micropipette 1- 10µl,

		Micropipette 200- 1000µl, Micropipette (Octa pipette) 200- 1000µl.	Micropipette 5-50 µl Micropipette 50-200 µl, Micropipette 200- 1000µl
3		**Technical Specification**	
4	2.1	Micropipette should be adjustable with ultra- light weight and fully autoclavable.	No Change
5	2.2	Piston System: Ultra-light system made of fort on.	No Change
6	2.3	It should be highly resistant to heat, acids and alkalis, mildew, bleaches, aging, sunlight and abrasion.	No Change
7	2.4	It should have a Button to control very low operating force, Color indicates pipette volume, Positioned for perfect Ergonomics.	No Change
8	2.5	Volume Display: Four-digit display and 2 Button operations	No Change
9	2.6	Volume adjustment: Only a few turns to reach from maximum to minimum volume.	No Change
10	2.6	Spring loaded tip cone enables improved ergonomics to reduce stress without sacrificing tightness.	No Change
11	2.7	Ejector: Very low ejection force and positioned for perfect ergonomics.	No Change
12	2.8	Quick connection clip: Remove lower part easily.	No Change
13	2.9	Viable calibration seal to indicate factory calibration not changed.	No Change
14	2.10	Vendors should have NABL calibration facility. The proof for the same must be enclosed along with the Tender, each micropipette should be supplied with a factory calibration certificate. Multichannel should have 8 channels and each channel should be removable and space adjusted for different user preferences. Pipette for Range Increment 0.1 to 2 µL 1 to 10 µL 5 to 50 µL 50 to 200 µL 200 to 1000 µL0.1 µ Increment 0.1 µL 1 µL 1 µL 5 µL Accuracy At least ±5.0–1.0% ±3.0-1.0% ±1.8-0.4% ±1.8-0.6% ±1.0-0.6% Precision At least 3.0–0.4% 2.5-0.4%	No Change

		0.7 to 0.2% 0.7 to 0.2% 0.7 to 0.2%	
15	2.11	In accuracy, first value applies to smallest volume, last one to the largest volume in the stated range in precision, first value applies to smallest volume, last one to the largest volume in the stated range.	No Change
16	2.12	Three defined stops (single-button operation preferred): • take-up from the first stop • dispensing and blow out. • tip ejection. • Easy and safe tip ejection mechanism. Fixation of adjusted volume. • Slim pipette shaft. • Cone for standard tips.	No Change
17		**Manufacturer's certificate**	
18	3.1	The manufacturer must have a management system certified to ISO 9001. One certificate to state that the pipette has been calibrated at the factory.	No Change
19	3.2	Quality and safety standards met by the product must be listed.	No Change
20	3.3	Operation, maintenance and installation Operation and maintenance manual	No Change
21	3.4	At least one set of operation, maintenance, and service manuals for each microlitre pipette, written in English.	No Change
22		**Installation and maintenance**	
23	4.1	The supplier to provide an after-sale service that covers the whole country. The service to have competent staff, adequate infrastructure and sufficient spare parts to be able to respond to any complaints and to repair or replace the microlitre pipette within 14 days.	No Change
24		**Standard maintenance tools**	
25	5.1	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication material, to be included in the offer. Bidders to specify the quantity of every item included in their offer (including items not specified above). A maintenance kit, with full documentation and tools for in-laboratory calibration according to ISO 9000, are part of the procurement. - Spare parts - Gaskets.	No Change

		- Lubricants. - Each microliter pipette to be accompanied by an authorized list of accessories and spare parts.	
26	5.2	Warranty: Three years.	

32. Name of Equipment :-pH METER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** It is used for the qualitative and quantitative in vitro determination of the pH of a clinical specimen (i.e., its degree of acidity or alkalinity) by measuring hydrogen ion concentration.	No Change
3	1.2	**Used by clinical department/ward:** Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	pH range 0-14 with digital display and stand by and calibration mode.	No Change
6		Temperature compensation should be provided	No Change
7		Calibration with at least three standard calibration buffers (pH 4.0, 7.0, 10.0)	No Change
8		Resolution: up to 3 decimal places	No Change
9		Should provide simultaneous read-out of pH and temperature, preferably in an LCD display	No Change
10		Automatic and manual buffer selection	No Change
11		Bidirectional interface in LIMS and PC printer.	No Change
12		Accuracy: ±0.01 pH units.	No Change
13		No. of Display Digits: Three	No Change
14		A certificate to state that the pH meter has been calibrated at the factory.	No Change
15	2.2	**User Interface:** Digital Display	No Change
16	2.3	**Software and/or standard of communication:** NA	No Change
17		**PHYSICAL CHARACTERISTICS**	
18	3.1	Dimension (metric) : NA	No Change
19	3.2	Weight (lbs., kg) : NA	No Change
20	3.3	Noise (in dBA): NA	No Change
21	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism	No Change
22	3.5	Mobility, portability: NA	No Change
23		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
24	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
25	4.2	Battery operated: No	No Change

26	4.3	Protection: NA	No Change
27	4.4	Power Consumption-To be specified by Vendor	No Change
28		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
29	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** Provision of spare electrode.	No Change
30		**Environmental and Departmental Considerations**	No Change
31	6.1	**Atmosphere/Ambience (air conditioning, humidity, dust …):** Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
32	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** As specified by manufacturer	No Change
33		**STANDARDS AND SAFETY**	
34	7.1	**Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
35		**TRAINING AND INSTALLATION**	
36	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** Availability of 5 Amp/15 Amp. Electrical Socket.	No Change
37	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
38		Lab In-Charge to affirm completion of installation.	No Change
39	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
40		**WARRANTY AND MAINTENANCE**	
41	9.1	Warranty: 3 years, including all spares and calibration.	No Change
42		**DOCUMENTATION**	
43	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams;	No Change

		2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	
44	10.2	List of essential spares and accessories, with their part number and cost.	No Change
45		**Notes**	
46	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
47	11.2	**Recommendations or Warnings:** Any warning signs should be adequately displayed.	No Change

33. Name of Equipment :-ERYTHROCYTE SEDIMENTATION RATE (ESR) ANALYSER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** Electro-Medical device meant to be used to determine the erythrocyte sedimentation rate (ESR) of red blood cells in an anticoagulated whole blood specimen.	No Change
3	1.2	**Used by clinical department/ward:** Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	The instrument should carry out automated ESR analysis directly from closed ESR tubes or EDTA vacutainers using the principle of sedimentation of red blood cells (Westergren Method).	The instrument should carry out automated ESR analysis directly from EDTA/ Sodium Citrate ESR tubes or vaccutainers using the principle of sedimentation of redblood cells (Westergren Method).
6		Should be able to load minimum 10 samples at a time. Both batch and continuous.	No Change
7		Measuring range in mm: 1-140 using optical sensor.	No Change
8		Throughput should be at least 60 samples/hr.	No Change
9		ESR controls should have long shelf life (minimum 6 months).	No Change
10		Should have an inbuilt Bar code Reader and printer.	No Change
11		Should have auto mixing facility as per ICSH & CLSI requirements.	No Change
12		Have provision for internal temperature correction at 18°C or 37° C	No Change
13		Should have feature of haemocrit HCT correction	Deleted

14		Should offer random access testing	No Change
15		Data storage capacity: upto 1000 test results.	No Change
16		Internal Quality Control Management with minimum two level of controls should be provided.	No Change
17		Should have facility for calibration and should comply with National/International quality standards	No Change
18		Provision for bi-directional LIS interface should be available.	No Change
19		Provision for Bar Code/QR code reading should be available.	No Change
20		The equipment should have in-built digital display unit and PC interface facility.	The equipment should have in-built digital display unit or PC interface facility.
21	2.2	**User Interface:** Microcontroller based LCD/LED Display Unit	No Change
22	2.3	**Software and/or standard of communication:** All software installations or updates should be done free of cost during warranty period.	No Change
23		**PHYSICAL CHARACTERISTICS**	
24	3.1	Dimension (metric) : NA	No Change
25	3.2	Weight (lbs., kg) : NA	No Change
26	3.3	Noise (in dBA): NA	No Change
27	3.4	Heat Dissipation: NA	No Change
28	3.5	Mobility, portability: Stationary Lab Installation	No Change
29		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
30	4.1	Power Requirements: 220 VAC+-10%, 50 Hz	No Change
31	4.2	Battery operated: Yes	No Change
32	4.3	Protection: Internal Electrical Safety	No Change
33	4.4	Power Consumption-As per Manufacturer/Supplier specified	No Change
34		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
35	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** 1. Reagents and consumables to carry out minimum 200 tests 2. One additional set of RS 232 cables 3. Other Standard accessories.	No Change
36		**Environmental and Departmental Considerations**	
37	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust ...):** Optimally functional within the temperature range of 15-40°C and relative humidity between 15 % to 90 %	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances

38	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
39		**STANDARDS AND SAFETY**	
40	7.1	**Certificates (pre- market, sanitary, ..) ;Performance and safety standards (specific to the device type);Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirementsof Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirementsof Electrical Safety Standards
41		**TRAINING AND INSTALLATION**	
42	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
43	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
44		Lab In-Charge to affirm completion of installation.	No Change
45	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
46		**WARRANTY AND MAINTENANCE**	
47	9.1	Warranty: 3 years, including all spares and calibration.	No Change
48		**DOCUMENTATION**	
49	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
50	10.2	List of all the important spares and accessories, with their part numbers and cost needs to be submitted.	No Change
51		**Notes**	
52	11.1	**Service Support Contact details:** Contact details of Vendor and local service agent needs to be provided.	No Change

53	11.2	**Recommendations or Warnings:** Any specific recommendation or warning to be followed for ensuring optimal and safe utilization of medical device needs to be mentioned.	No Change

34. Name of Equipment :- AUTOMATED AGAROSE GEL – ELECTROPHORESIS SYSTEM IVD	**Not Required/Deleted**

35. Name of Equipment :-GAS SUPPLY			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
	1	**Gas burner**	
1	1.1	Burner Tube made of Brass.	No Change
2	1.2	Mounted on pressed steel powder coated base	No Change
3	1.3	Suitable for LPG/Butane Gas	No Change
4	1.4	Tube Diameter - 12mm; Height - 130 mm; Weight; 160g; Base dia. - 80 mm	No Change
	2	**Stand**	
5	2.1	The laboratory stand is a three-leg platform used to support beakers and conical flasks	No Change
6	2.2	It is made up of cast iron with good balance used in laboratory for basic heating experiments with Bunsen burner or Gas Burner	No Change
7	2.3	We provide a combo of tripod stand and wire gauge as a kit to perform experiments in physics chemistry biology science lab	No Change
8	2.4	size 6x4 inches	No Change

36. Name of Equipment :-Bunsen Burner			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Burner Fast flame Bunsen burner, Stainless Steel, For use with natural and cylinder gases	No Change
2	1.2	15cms height	No Change
3	1.3	Head diameter 13 mm	No Change
4	1.4	Nickel plated with stopcock	No Change

37. Name of Equipment :-RT-PCR SYSTEM	**Not Required/Deleted**

38. Name of Equipment :- REFRIGERATED MICROCENTRIFUGE	**Not Required/Deleted**

39. Name of Equipment :-PCR WORKSTATION	**Not Required/Deleted**

40. Name of Equipment :-BLOOD CULTURE ANALYSER IVD			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** The devices are used for the qualitative or quantitative in vitro determination of microorganism growth in a blood culture preparation or other clinical specimen, with or without subsequent identification of the organism.	No Change
3	1.2	**Used by clinical department/ward:** Pathology Laboratory.	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Fully automated modular system capable of culturing of blood, sterile body fluids for bacteria, mycobacterium yeast and fungi.	No Change
6		Capacity: Minimum 25 bottle positions. Every cell (bottle position) should have its own optics and detection device.	No Change
7		System should have optimized recovery of organism with continuous agitation.	No Change
8		System should be based on sensitive fluorescence/colorimetric technology for interpretation of results.	No Change
9		The system should be modular with possibility of expansion on requirement.	No Change
10		The culture media must have strong resin based Antibiotic Removal devices to minimize chances of false negatives due to high antibiotics in specimens	No Change
11		System must have Lab Quality requirements for automated analytics of Blood Volumes	No Change
12		The system should be capable of processing both adult and pediatric samples.	No Change
13		QC should be based on test parameters.	No Change
14		Provision for bi-directional LIS interface should be available.	No Change
15		System should have sample accession facility using bar code/ QR code reader.	No Change
16		Should have PC interface facility.	No Change
17	2.2	**Software and/or standard of communication:** Within the warranty period needs to cover free of cost upgradation and re-installation	No Change
18		**PHYSICAL CHARACTERISTICS**	
19	3.1	Dimension (metric) : NA	No Change
20	3.2	Weight (lbs., kg) : NA	No Change
21	3.3	Noise (in dBA): NA	No Change
22	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change

23	3.5	Mobility, portability: Stationary lab installation	No Change
24		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
25	4.1	Power Input: 220 VAC+-10%, 50 Hz	No Change
26	4.2	Power Consumption- As per Manufacturer/Supplier specified	No Change
27		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
28	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** The system should be supplied in a complete system with all accessories, hardware's like computer, printer etc and the required software.	No Change
29		**Environmental and Departmental Considerations**	
30	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust...):** Optimally functional within the temperature range of 15-40 ° C and relative humidity between 15 % to 90 %	Operating condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C and relative humidity of 20 to 85% in ideal circumstances
31	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** As indicated by Manufacturer	No Change
32		**STANDARDS AND SAFETY**	
33	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
34		**TRAINING AND INSTALLATION**	
35	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As specified by manufacturer and compatible electric accessories as per standard Indian set-up.	No Change
36	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
37		Lab In-Charge to affirm completion of installation	No Change
38	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
39		**WARRANTY AND MAINTENANCE**	
40	9.1	Warranty: 3 years, including all spares and calibration.	No Change
41		**DOCUMENTATION**	

42	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
43	10.2	List of all the important spares and accessories, with their part numbers and cost needs to be submitted	No Change
44		**Notes**	
45	11.1	**Service Support Contact details:** Contact details of Vendor and local service agent needs to be provided	No Change
46	11.2	**Recommendations or Warnings:** Any specific recommendation or warning to be followed for ensuring optimal and safe utilization of medical device needs to be mentioned.	No Change

41. Name of Equipment :-MICROORGANISM IDENTIFICATION/ANTIMICROBIAL- SUSCEPTIBILITY ANALYSER IVD			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** It is used for the identification of bacteria and/or yeast isolated from clinical specimens and for the determination of their antimicrobial susceptibility profile using morphology, substrate utilization and/or biochemical reactivity and by monitoring growth rates and/or determining endpoint growth, against a range of antimicrobials.	No Change
3	1.2	**Used by clinical department/ward:** Molecular biology/Cell biology /Hematology laboratory	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	System should be fully automated for microbial identification and sensitivity along with the values right from inoculation of standard suspension to interpretation of final analysis results	No Change
6		The system should have capacity of minimum 25 bottles positions	No Change
7		The system should have a bar code/QR code scanning device for test card identification and specimen number entry	No Change

8		System should have susceptible panel for GN, GP, Fungal, and Mycobacteria	No Change
9		The system should have customized cards containing antibiotics most frequently used and prescribed in Indian Hospitals	No Change
10		The system should have minimum steps required to set up AST cards	The System should have first step of preparing bacterial suspensions, system should not have any further hands-on processing steps-like standardization of inoculum , reagent addition, oil overlay or other supplementary steps. system should provide a streamlined workflow
11		The System should have database of at least 3000 reference phenotypes	No Change
12		The system uses Safe, self-contained closed card system versus open panels	The System should have Starting from testing, reagent additions, to interpretation of results should be completely automated.
13		The software must have the following capabilities - Workflow management. - Data storage. - Test quality control management. - Test result validation capability and ability to detect antibiotic resistant bacteria	No Change
14		The system must have the ability to check the quality of test results and result comes with % confidence for the results reported	No Change
15		The system should have flexibility to use CLSI guideline for AST/MIC interpretation	No Change
16		The system software must have the ability to alert to any unusual resistance mechanism including emerging ones	No Change
17		Should have Separate panels for ID & AST	Should have Separate & combo panels for ID & AST
18		The system should provide flexibility of auto- release of completed results to HIS (subject to fulfilment of set criteria)	No Change
19	2.2	**Software and/or standard of communication:** Software upgradation and installation needs to be free within warranty period	No Change
20		**PHYSICAL CHARACTERISTICS**	
21	3.1	Dimension (metric) : NA	No Change
22	3.2	Weight (lbs., kg) : NA	No Change
23	3.3	Noise (in dBA): NA	No Change

24	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
25	3.5	Mobility, portability: Stationary lab installation	No Change
26		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
27	4.1	Power Input: 220 VAC+-10%, 50 Hz	No Change
28	4.2	Power Consumption- As per Manufacturer/Supplier specified	No Change
29		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
30	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** Suitable UPS power Backup for 4 hours	No Change
31		**Environmental and Departmental Considerations**	
32	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust...):** Optimally functional within the temperature range of 15-40 ° C and relative humidity between 15 % to 90 %	Operating condition: Capable of operating continuously in ambient temperature of 20 to 26 deg C and relative humidity of 20 to 80% in ideal circumstances
33	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** As indicated by Manufacturer	No Change
34		**STANDARDS AND SAFETY**	
35	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the devicetype); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
36		**TRAINING AND INSTALLATION**	
37	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As indicated by Manufacturer	No Change
38	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
39		Lab In-Charge to affirm completion of installation	No Change
40	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
41		**WARRANTY AND MAINTENANCE**	
42	9.1	Warranty: 3 years, including all spares and calibration.	No Change
43		**DOCUMENTATION**	

44	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
45	10.2	List of all the important spares and accessories, with their part numbers and cost needs to be submitted	No Change
46		**Notes**	
47	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided;	No Change
48	11.2	**Recommendations or Warnings:** Any warning sign should be adequately displayed.	No Change

42. Name of Equipment :-BLOOD GAS ANALYSER IVD, LABORATORY			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical Purpose:** ABG analyzers are used for measuring partial pressure of carbon dioxide (PCO2) and oxygen (PO2), usually in arterial whole blood specimens.	No Change
3	1.2	**Used by clinical department/ward:** Clinical Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5		Essential Measured parameters; pH, pCO2, pO2, tHb, Barometric Pressure, Na+, K+, Ca++, Cl-. All these parameters should be measured simultaneously	Essential Measured parameters; pH, pCO2, pO2, tHb, Barometric Pressure, Na+, K+, Ca++, Cl-, Glucose, Lactate. All these parameters should be measured simultaneously
6	2.1	Should have minimum 15 calculated parameters including SaO2, Bi carbonate (HCO3), Standard HCO3, Base Excess of Blood (BE), Base Excess of extra cellular fluid.	No Change
7		Should be open system and have the flexibility to accommodate reagents from third party.	Deleted
8		Sample volume-less than 100ul.	No Change
9		Should have minimum process time (less than 5 min).	No Change
10		Warm up time should be less than 30 minutes.	No Change
11		Maintenance free electrodes	No Change

12		Fully automatic liquid calibration of all parameters at user-defined intervals.	No Change
13		Should work on whole blood and should have syringe and capillary sampling.	No Change
14		Should be with numeric keypad, graphic / LCD display, and inbuilt printer. Should have interface for PC compatibility.	Should be with numeric keypad, graphic / LCD/ Touch Screen display, and inbuilt printer. Should have interface for PC compatibility.
15		QC should be based on test parameters	No Change
16		Automatic result processing, test ordering and provision for bi-directional LIS interface should be available.	No Change
17		Automatic data archiving and customizable layout.	No Change
18		Should have provision for data backup.	No Change
19	2.2	**User's Interface:** LCD/Graphical Display	No Change
20	2.3	**Software and/or standard of communication:** Inbuilt	No Change
21		**PHYSICAL CHARACTERISTICS**	
22	3.1	Dimension (metric) : NA	No Change
23	3.2	Weight (lbs., kg) : NA	No Change
24	3.3	Noise (in dBA): Noise pressure level: ≤60 dbA.	No Change
25	3.4	Heat Dissipation: Should maintain nominal temperature and the heat should be disbursed through a cooling mechanism.	No Change
26	3.5	Mobility, portability: Portable	No Change
27		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2)**	
28	4.1	Power Input: 220 VAC+-10%, 50 Hz	No Change
29	4.2	Battery Operated: Yes atleast 30 minutes backup	No Change
30	4.3	Protection: NA	No Change
31	4.4	Power Consumption- To be specified by vendor	No Change
32		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
33	5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system):** Reagents for minimum 200 tests should be provided along with the machine. Electrodes for all the parameters specified -01 set Quality control tools/reagents for minimum 200 tests or as per requirement.	No Change
34		**Environmental and Departmental Considerations**	
35	6.1	**Atmosphere /Ambiance (air conditioning, humidity, dust...):** Operating Condition: Capable of operating continuously in ambient temperature of 15 to 40 deg C	Operating condition: Capable of operating continuously in ambient temperature of 20 to 26 deg C and relative humidity of

		and relative humidity of 15 to 90% in ideal circumstances.	20 to 80% in ideal circumstances
36	6.2	**User's care, Cleaning, Disinfection & Sterility issues:** Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.	No Change
37		**STANDARDS AND SAFETY**	
38	7.1	**Certificates (pre- market, sanitary,); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non- availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards
39		**TRAINING AND INSTALLATION**	
40	8.1	**Pre-installation requirements: nature, values, quality, tolerance:** As indicated by Manufacturer and compatible electrical accessories as per standard Indian set-up.	No Change
41	8.2	Supplier to perform installation, safety and operation checks before handover.	No Change
42		Lab In-Charge to affirm completion of installation	No Change
43	8.3	Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
44		**WARRANTY AND MAINTENANCE**	
45	9.1	Warranty: 3 years, including all spares and calibration.	No Change
46		**DOCUMENTATION**	
47	10.1	Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
48	10.2	List of all the important spares and accessories, with their part numbers and cost needs to be submitted	No Change
49		**Notes**	

50	11.1	**Service Support Contact details:** Contact details of manufacturer, supplier and local service agent to be provided;	No Change
51	11.2	**Recommendations or Warnings:** Any warning sign should be adequately displayed.	No Change

43. Name of Equipment :-FLOW CYTOMETRY ANALYSER IVD	**Not Required/Deleted**

44. Name of Equipment :-ALCOHOL THERMOMETER	**Not Required/Deleted**

45. Name of Equipment :-Alarm Clock			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Stop-Watch	No Change
2	1.2	Digital	No Change
3	1.3	Count down timer	No Change
4	1.4	Four digits (MM: SS)	No Change
5	1.5	Programmable for max. 99 minutes	No Change
6	1.6	Alarm at 00	No Change
7	1.7	Memory function	No Change

46. Name of Equipment :- Binocular Microscopes LED with Camera (Desirable)	**Not Required/Deleted**

47. Name of Equipment :- NAAT Machine	**Not Required/Deleted**

49. Name of Equipment :- HISTOPATHOLOGY EQUIPMENT (DESIRABLE)			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
	1	**Tissue embedding system**	
1	1.1	Unit to comprise a stainless-steel processed tissue storage tank, which can be easily removed for tissue collection and reuse of wax	No Change
2	1.2	The heated base mould storage area to be large enough to allow a wide range of base moulds to be stored separately.	No Change
3	1.3	To have a 5.2 L wax storage reservoir with a removable filter to ensure purity of wax.	No Change
4	1.4	The reservoir to be thermostatically controlled between 45-60 degrees C	No Change
5	1.5	The dispensing system to be controlled either by finger switch or footplate	No Change
6	1.6	The illuminated hot plate to be controlled between ambient and 90 degrees C.	No Change
7	1.7	The cold plate to give a good working area	No Change
8	1.8	To be supplied complete with illuminator, forceps warmer and magnifier	No Change

9	1.9	To be supplied with a starter set of base moulds and lids to include 40 various size moulds	No Change
	2	**Automatic tissue processor**	
10	2.1	Unit to be an enclosed tissue-processing center, to be supplied in modular form to allow the unit to expand as the laboratory needs enlarge.	No Change
11	2.2	To consist of a "command" module, a reaction module and a storage module	No Change
12	2.3	The command module to operate the original units and up to 4 further units	No Change
13	2.4	The command module to have a user-friendly VDU display with a choice of 9 program in up to 6 languages. To be able to program in real time and to have various alarm conditions to be displayed on the screen	No Change
14	2.5	The reaction chamber to have a capacity of 200 cassettes with two individually heated wax baths	No Change
15	2.6	The storage module to hold 12 2.25 liter polypropylene reagent bottles all to plug directly into the rear of the module	No Change
16	2.7	To be supplied with a complete start-up kit to allow the machine to be demonstrated and set up on site	No Change
	3	**Open tip cryostat**	Deleted
17	3.1	Automatic open top rotary retracting cryostat microtome with a temperature range of ambient to 35 degrees C with automatic programmable defrosts	
18	3.2	Cabinet to be manufactured of rust proof steel finished in a special PVC coat	
19	3.3	The inner chamber to be polished stainless steel	
20	3.4	Quick freezing of specimens to be accommodated by thermal switch	
21	3.5	Rotary microtome to give sections of 0.5 to 30um thickness with a block size of50 x70mm, to incorporate a self-aligning anti-roll plate with micro adjustment togive constant sections. The retraction to be incorporated in the return stroke of themicrotome, the unit to be sealed with lubricant impregnated bearings forminimum maintenance	
22	3.6	The window to incorporate a de-mist system to allow excellent visibility at all times	
	4	**Rotary Microtome (Semi-Automatic)**	
23	4.1	Rotary shaker with durable steel body which provides gentle and adjustable angle rocking suitable for blotting or staining and distaining gels	No Change
24	4.2	With Non-skid platform and edge on all four sides	No Change
25	4.3	Background of the platform should be preferably white in color for easy viewing of test material	No Change
26	4.4	Adjustable rocking angle from 10-15 degrees from horizontal	No Change

27	4.5	Adjustable rocking angle from 10-15 degrees from horizontal	No Change
28	4.6	Electronic speed control from 0 to 100 cycles/min	No Change
29	4.7	The instrument should operate on 230±10 volts 50Hz power supply	No Change
	5	**Cyto-centrifuge**	
30	5.1	24 place rotor, semi-automatic, microprocessor controlled	12 place rotor, semiautomatic, microprocessor controlled.
31	5.2	RPM 2000-6000, swing out rotor	RPM 1000-2200, swing out rotor
32	5.3	Instructions entered by keypad	No Change
33	5.4	Self-diagnosis of program faults	No Change
34	5.5	Wash cycles selectable 1 to 4	Deleted
35	5.6	Volume saline 0.5 to 5.5ml	No Change
36	5.7	Timer 1 to 999 seconds	No Change
37	5.8	Auto agitation	Deleted
38	5.9	Integrated cleaning system	No Change
	6	**Automatic slide strainer**	Deleted
39	6.1	Slide staining trough glass with lid	
40	6.2	Slide staining rack to hold 25 slides of 76x26mm size	
	7	**Backup microtome (Manual)**	
41	7.1	Manual microtome. Sturdy, compact design, adjustable block holder, easy to operate and clean	No Change
42	7.2	With counter balancing wheel, aluminium hinged cover. Base plate to be fitted with heavy rubber pads for better grip. Uniform serial sectioning adjustable from 1 to 50 microns	No Change
43	7.3	To be supplied with microtome knife, having back and handle in wooden box, 6 block holders, one bottle of lubricating oil and Rexene cover. Knife sharpener to be quoted as optional	No Change
	8	**Balance for grossing room**	Deleted
44	8.1	Stainless steel table, Sink & Tap, metric ruler, shelf, drawers and storage compartment under the table. Towel/Tissue paper stand must be included along with waste bin. Work area sides to be made from acrylic	
45	8.2	Built in blowers for sucking out vapors. Size: 4’ 3’x 3’ (L*W*H). To be suppliedwith the following accessories: Built in germicidal UV Light; Exhaust duct up to6’	
	9	**Instrument tray for grossing**	
46	9.1	Made of stainless-steel grade 304. With cover. Size: 310 x 195 x 63 cm (Approx.)	No Change
47	9.2	Made of anodized aluminium for keeping twenty slides 75 × 25 mm in flat position	No Change
	10	**Slide trays**	No Change

48	10.1	Made of anodized aluminium for keeping twenty slides 75 × 25 mm in flat position	No Change
	11	**Grossing Station**	No Change
49	11.1	2 ventilation options	No Change
50	11.2	High-quality stainless-steel construction	No Change
51	11.3	Vacuum breaker-protected water supply	No Change
52	11.4	½ horsepower disposal	No Change
53	11.5	Polyethylene dissecting board	No Change
54	11.6	Magnetic instrument holder	No Change
55	11.7	Dissecting area rinse	No Change
56	11.8	Shelving	No Change
57	11.9	Spray hose assembly	No Change

50. Name of Equipment :- TISSUE HOMOGENIZER	**Not Required/Deleted**

51. Name of Equipment :- MICRO-INCINERATOR			
SI. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1	1.1	Heating element of ceramic surrounded by isolating cover.	No Change
2	1.2	Quick infrared Heating to temperatures ≥800 ºC for fast sterilization.	No Change
3	1.3	Stand with suction-cup feet (or equivalent) for stable, safe operation.	No Change
4	1.4	Possibility to fix the incinerator to a Stand at different angles.	No Change
5	1.5	Electricity requirements: Supply voltage: 230 ± 10 V, AC, 50/60 Hz. Voltage and plugs to be adapted to meet the country requirements. The line cord / Power cord supplied with the equipment shall be of acceptable durability, length, and current carrying capacity complying with Indian Standards.	No Change
6	1.6	Power consumption: 2000 W.	No Change
7	1.7	Protection class (in accordance with EN 60529).	No Change
8	1.8	Designed not to interfere with circuit radio (in accordance with EN 55014).	No Change
9		**Documentation**	
10	2.1	Manufacturer's certificate	No Change
11	2.3	The manufacturer must have a management system ISO 9001.	No Change
12	2.4	The manufacturer must have a management system ISO 9001.	No Change
13	2.5	Quality and safety standards met by the product must be listed.	No Change
14		**Accessories**	No Change
15	3.1	Attached loop holder.	No Change
16	3.2	Operation, installation and maintenance	No Change

17	3.3	Operation and maintenance manual: At least one set of operation, maintenance and service manuals, written in English.	No Change
18	3.4	Warranty: Three years.	No Change

52. Name of Equipment :- MECHANICAL MICROPIPETTE IVD			
Sl. No	**Cl. No.**	**Technical Specification as per tender**	**Amendment**
1		**USE**	
2	1.1	**Clinical purpose** Measuring pipettes designed to measure and deliver multiple different amounts of liquid whose graduations continue down into the pipette's tip.	No Change
3	1.2	**Used by clinical department/ward** Clinical Lab	No Change
4		**TECHNICAL CHARACTERISTICS**	
5	2.1	Single channel microliter pipettes.	No Change
6		Fully autoclavable (121 °C); UV-resistant material.	No Change
7		Three defined stops (single-button operation preferred): - take-up from the first stop - dispensing and blow out - tip ejection.	No Change
8		Should have volume range of 1 µl to 50 ml.	No Change
9		Easy and safe tip ejection mechanism.	No Change
10		Fixation of adjusted volume.	No Change
11		Slim pipette shaft.	No Change
12		Cone for standard tips	No Change
13	2.2	**User's interface** Manual	No Change
14	2.3	**Software and/ or standard of communication (wherever required)** N/A	No Change
15		**PHYSICAL CHARACTERISTICS**	
16	3.1	**Dimensions(metric)** N/A	No Change
17	3.2	**Weight (lbs., kg)** N/A	No Change
18	3.3	**Noise (in dBA)** N/A	No Change
19	3.4	**Heat dissipation** N/A	No Change
20	3.5	**Mobility, portability** Portable	No Change
21		**ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ….)**	No Change
22	4.1	**Power requirements** N/A	No Change

23	4.2	**Battery operated** N/A	No Change
24	4.3	**Protection** N/A	No Change
25	4.4	**Power consumption** N/A	No Change
26		**ACCESSORIES, SPARE PARTS, CONSUMABLES**	
27	5.1	Disposable Tips (different volume comparator)	No Change
28		**Environmental and Departmental Considerations**	No Change
29	6.1	NA	No Change
30	6.2	Sterilization required.	No Change
31		**STANDARDS AND SAFETY**	
32	7.1	**Certificates (pre- market, sanitary); Performance and safety standards (specific to the device type); Local and/or international** 1. Should be BIS approved. 2. Should conform USFDA/ European CE, in case of non-availability of BIS Standards. 3. Should conform to ISO 13485 quality standards. 4. Should conform to IEC 60601-1-General requirements of Electrical Safety Standards	No Change
33		**TRAINING AND INSTALLATION**	
34	8.1	**Pre- installation requirements: nature, values, quality, tolerance** N/A	No Change
35	8.2	**Requirements for sign-off** N/A	No Change
36	8.3	**Training of staff (medical, paramedical, technicians)** Satisfactory training of users in operation and basic maintenance shall be provided on installation.	No Change
37		**WARRANTY AND MAINTENANCE**	
38	9.1	3 years, including all spares and calibration.	No Change
39		**DOCUMENTATION**	

40	10	**Operating manuals, set manuals, other manuals** Should provide 2 sets (hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and Copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection, 6. Satisfactory certificate for any existing installation from government hospital.	No Change
41	10	**Other accompanying documents** List of essential spares and accessories, with their part number and cost;	No Change
42		**Notes**	
43	11	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)** Contact details of manufacturer, supplier and local service agent to be provided.	No Change
44	11	**Recommendations or warnings** Any warning sign should be adequately displayed.	No Change

Note:-

(i) Turnkey means all the medical equipment (mentioned in the bid) shall be supplied, installed and commissioned by a single bidder. Bidder has to provide other necessary items if required for functioning of the lab for testing.

(ii) The bidder has to provide all the reagents required for the test conducted by each medical equipment installed at each IPHL for first five years.

(iii) The bidder has to provide required consumables/reagents/others with each machine to perform the test for fifteen (15) days as start-up kits.

Annexure-II

List of Equipment's under IPHL Lab (IPHL Guidelines)

Sr. No.	Name of the Item	No. Equipment as per IPHS & List of Essential diagnostics, Bihar 2023	District Name	Required Qty.	Remark
1	Bio Safety cabinet class II A2	4	Banka	2	No Change
			Muzaffarpur	4	
			Buxar	1	
			Nalanda	4	
			Bhojpur	4	
			Saharsa	4	
			Supaul	2	
			Aurangabad	3	
			Khagaria	2	
			Arwal	1	
			Sitamarhi	2	
			East Champaran	0	
2	Cell counter automatic (5 part)	1	Banka	1	No Change
			Muzaffarpur	0	

	for hematology (Desirable)		Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
3	Cell counter semi-automatic (3 part) for hematology (Essential)	1	Banka	0	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	0	
			Saharsa	1	
			Supaul	0	
			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
4	Fully automated biochemistry analyzer with ISE module (Minimum through put of 60 samples/hour) (Desirable)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
5	Semi-automated Biochemistry analyzer (Essential)	1	Banka	0	Not Required/Deleted
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	1	
			Supaul	0	

			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
6	Automated Hormone Analyzer (CLIA Based)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
7	Centrifuge (fixed head) table-top 16 tubes. Up to 6000 RPM	4	Banka	4	No Change
			Muzaffarpur	4	
			Buxar	3	
			Nalanda	4	
			Bhojpur	3	
			Saharsa	4	
			Supaul	3	
			Aurangabad	3	
			Khagaria	4	
			Arwal	2	
			Sitamarhi	4	
			East Champaran	4	
8	Centrifuge tabletop (swing out) with 8 tubes. Up to 6000 RPM		Banka	0	Not Required/Deleted
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	0	
			Supaul	0	
			Aurangabad	0	
			Khagaria	1	
			Arwal	0	
			Sitamarhi	0	

			East Champaran	0	
9	Automated Coagulometer	2	Banka	2	No Change
			Muzaffarpur	2	
			Buxar	2	
			Nalanda	2	
			Bhojpur	2	
			Saharsa	2	
			Supaul	2	
			Aurangabad	2	
			Khagaria	2	
			Arwal	2	
			Sitamarhi	2	
			East Champaran	2	
10	ISE based Electrolyte analyser	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	0	
			East Champaran	1	
11	VDRL rotator/shaker	1	Banka	0	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	0	
			Aurangabad	1	
			Khagaria	1	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
12	Binocular Microscopes	4	Banka	3	No Change
			Muzaffarpur	2	
			Buxar	3	

			Nalanda	3	
			Bhojpur	0	
			Saharsa	0	
			Supaul	2	
			Aurangabad	0	
			Khagaria	3	
			Arwal	1	
			Sitamarhi	0	
			East Champaran	0	
13	Fluorescent Microscope (Desirable)		Banka	0	Not Required/Deleted
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	1	
			Arwal	0	
			Sitamarhi	1	
			East Champaran	1	
14	ELISA reader with washer	1	Banka	0	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
15	Refrigerator 400 liters	7	Banka	5	No Change
			Muzaffarpur	7	
			Buxar	6	
			Nalanda	5	
			Bhojpur	7	
			Saharsa	5	
			Supaul	7	
			Aurangabad	7	

			Khagaria	6	
			Arwal	6	
			Sitamarhi	5	
			East Champaran	7	
16	Deep freezer (-20 deg C)	3	Banka	0	No Change
			Muzaffarpur	3	
			Buxar	0	
			Nalanda	2	
			Bhojpur	2	
			Saharsa	2	
			Supaul	3	
			Aurangabad	2	
			Khagaria	2	
			Arwal	1	
			Sitamarhi	2	
			East Champaran	3	
17	Deep freezer (-80 deg C) (Desirable)		Banka	0	Not Required/Deleted
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	0	
			Supaul	0	
			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	1	
18	Vertical Autoclave (for Sterilization /Disinfection) 100L	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	

19	Vortex mixer	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	0	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	0	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	0	
20	Urine analyzer	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
21	Electronic balance up to 3 decimal places	1	Banka	1	No Change
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
22	Hot Air oven (medium size)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	

			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	0	
			Sitamarhi	1	
			East Champaran	0	
23	Hot Plate for culture media preparation	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
24	Computer with scanner, printer, UPS	3	Banka	3	No Change
			Muzaffarpur	0	
			Buxar	3	
			Nalanda	3	
			Bhojpur	0	
			Saharsa	3	
			Supaul	3	
			Aurangabad	2	
			Khagaria	3	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
25	Incubator (2 medium-sized)	3	Banka	3	No Change
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	2	
			Khagaria	2	
			Arwal	0	

			Sitamarhi	1	
			East Champaran	2	
26	Digital Thermometer	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	0	
			East Champaran	0	
27	Needle destroyer	1	Banka	0	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	0	
			Supaul	0	
			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	1	
			East Champaran	1	
28	Neubauer's Counting Chamber	1	Banka	0	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	0	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
29	HPLC machine/automated	1	Banka	1	No Change
			Muzaffarpur	1	

	system for haemoglobinopathies / HbA1C (Desirable)		Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
30	Micropipette 0.1-2µl, Multi-Channel pipette (Octa pipette) 200-1000µl	1	Banka	0	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	0	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
31	Micropipette 1-10µl, Micropipette 5-50 µl, Micropipette 50-200 µl, A2:D21Micropipette 200- 1000µl	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	0	
			Supaul	0	
			Aurangabad	0	
			Khagaria	0	
			Arwal	1	
			Sitamarhi	0	
			East Champaran	1	
32	pH meter	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	

			Aurangabad	1	
			Khagaria	0	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
33	Automated ESR analyzer	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
34	Electrophoresis unit (horizontal)	1	Banka	1	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
35	Gas supply	3	Banka	3	No Change
			Muzaffarpur	2	
			Buxar	2	
			Nalanda	3	
			Bhojpur	2	
			Saharsa	3	
			Supaul	3	
			Aurangabad	3	
			Khagaria	3	
			Arwal	1	
			Sitamarhi	3	

			East Champaran	1	
36	Bunsen burner	3	Banka	0	No Change
			Muzaffarpur	3	
			Buxar	3	
			Nalanda	3	
			Bhojpur	3	
			Saharsa	3	
			Supaul	3	
			Aurangabad	3	
			Khagaria	3	
			Arwal	3	
			Sitamarhi	3	
			East Champaran	1	
37	Real Time PCR machine	1	Banka	0	Not Required/Deleted
			Muzaffarpur	0	
			Buxar	0	
			Nalanda	0	
			Bhojpur	0	
			Saharsa	0	
			Supaul	0	
			Aurangabad	0	
			Khagaria	0	
			Arwal	0	
			Sitamarhi	0	
			East Champaran	0	
38	Micro centrifuge machine (up to 16,000 rpm)	5	Banka	0	Not Required/Deleted
			Muzaffarpur	5	
			Buxar	5	
			Nalanda	5	
			Bhojpur	5	
			Saharsa	5	
			Supaul	5	
			Aurangabad	5	
			Khagaria	4	
			Arwal	4	
			Sitamarhi	5	
			East Champaran	5	
39	PCR workstation	1	Banka	0	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	

			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	0	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
40	Automated system for Blood culture (Desirable)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
41	Automated system for Bacterial Identification and sensitivity (Desirable)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
42	Blood gas analyzer	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	

			Khagaria	1	
			Arwal	1	
			Sitamarhi	0	
			East Champaran	0	
43	Flow cytometer (for CD4/CD8 counts) (Desirable)	1	Banka	1	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	0	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
44	Alcohol thermometer	1	Banka	1	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
45	Alarm clock	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	

46	Binocular Microscope LED with camera (Desirable)	1	Banka	0	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	0	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	0	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	
47	NAAT machine	2	Banka	0	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	0	
			Saharsa	1	
			Supaul	2	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	2	
48	Histopathology equipment (Desirable)	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	0	
49	Tissue Homogenizer (Desirable)	1	Banka	1	Not Required/Deleted
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	

			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	0	
50	Micro-incinerator for inoculating loops and needles	1	Banka	1	No Change
			Muzaffarpur	1	
			Buxar	1	
			Nalanda	1	
			Bhojpur	1	
			Saharsa	1	
			Supaul	1	
			Aurangabad	1	
			Khagaria	1	
			Arwal	1	
			Sitamarhi	1	
			East Champaran	1	